THE MISSING LINK BETWEEN CSR AWARDS AND FINANCIAL PERFORMANCE: AND THE WINNER IS…

Amal Aouadi[1]

December 2016

Abstract

The aim of this paper is to address the conditions and mechanisms under which corporate responsibility (CR hereafter) awards may improve financial performance. Specifically, we argue that investor attention as measured by stock popularity is relevant for the relationship between CR awards and financial performance. Using a balanced panel of 879 firms from 25 countries over the 2005-2014 period, linear OLS regression first suggested that there is no significant relationship between CR awards and Tobin's Q, even after controlling for investor attention. We went beyond this result and implemented a panel-threshold regression (PTR) analysis to study whether there is an optimal investor attention level which may result in threshold effect and asymmetrical responses of the financial performance to CR awards. Interestingly, empirical results show that returns on CR awards are either not significant or negative below the threshold but then become significantly positive above it. Our results remain robust under several different proxies, estimation methods and sample compositions. Overall, this study indicate that CR awards enhance financial performance indirectly through improved firm visibility, but only from a point at which investor attention is optimal.

Keywords: Corporate responsibility awards, Financial performance, Investor attention, Panel threshold regression.

EFM Classification Codes: 120, 200, 210, 750, 760.

---

[1] E-mail : amel.el_aouadi@udamail.fr

Université Clermont Auvergne, Université d'Auvergne, EUM, CRCGM EA 3849, 11 Bd Charles de Gaulle, 63008 Clermont-Ferrand Cedex 1, France

1. Introduction

Despite the well-documented shareholder wealth effects, there is little consensus about the underlying dynamics associated with additional benefits of corporate social responsibility (CSR hereafter). For example, it remains unanswered whether stock market reactions to favorable social performance are solely attributable to the positive information content or to additional effects. The first motivation of this research is to investigate the relative effectiveness of investor attention as a channel through which corporate responsibility (CR hereafter) awards may affect corporate financial performance (CFP hereafter). This intuition is derived from studies that analyze investors' delayed and biased reactions to information (Grossman and Stiglitz 1980). An assumption often made by these studies is that, if investors have limited resources and ability to collect, interpret, and finally trade on value-relevant information, we would expect asset prices to incorporate information only gradually, and as investor attention intensifies. We therefore echo the intuition of Madsen and Rodgers (2015) suggesting that firms will benefit from effective stakeholder management when stakeholders are paying attention to firm activities. As firms engage in community-centric responses, they attract positive attention from stakeholders that can, in turn, benefit the firm. CR awards are defined as prizes awarded to the company for its social, ethical, community, or environmental activities or performance. Our aim is to test threshold and interaction effects in the relationship between CR awards, Tobin's Q (Servaes and Tamayo 2013; Jiao 2010), and investor attention.

From an instrumental standpoint, CSR commitment is a form of investment, entailing initial costs for future financial benefits (Branco and Rodrigues 2006). The environmental dimension has been one of the greatest interests in terms of the market's attitude toward CSR (Bird et al. 2007; Flammer 2013; Krüger 2015). For example, Klassen and McLaughlin (1996) suggest that improved financial performance is a result of environmental performance as proxied by environmental awards. Similarly, Kassinis and Vafeas (2006) and Welford et al. (2008) find the environment to be one of the most important concerns for stakeholders in a company's CSR efforts. Recently, a growing stream of literature focuses on the social dimension of CSR policies. Edmans (2011, 2012) provides evidence that there are benefits to being in the top level of employee satisfaction. He constructs a value-weighted portfolio of

the "100 Best Companies to Work For in America" and shows that this portfolio significantly outperforms industry benchmarks.

Regarding research design, some scholars have used cross-sectional data to study the relationship between socially responsible activities and financial performance, but have recognized the limitations of using such procedure to establish causal effects, especially in an international context (McWilliams and Siegel 2000; Rodriguez et al. 2006). Recent studies rather suggest that the relationship between CSP and CFP may not be linear depending on other underlying factors and mechanisms. For example, H. Wang et al. (2008) show that benefits of corporate philanthropy will increase more slowly with each additional rise in philanthropic contributions.. More recently, relying on the regression discontinuity design, Flammer (2015a) find evidence that CSR has decreasing marginal returns. Similarly, using the path analysis, Harjoto et al. (2015) show that higher CSR commitment reduces firm risk at a decreasing rate indirectly through its effect on institutional ownership.

These studies strongly suggest a non-linear relationship between CSR commitment and financial benefits. The empirical approaches are various but one common premise of these studies suggest that CSR improves financial performance, which is consistent with the view that CSR is a valuable resource for firms (O. Hart 1995; Russo and Fouts 1997; Branco and Rodrigues 2006; Aragon-Correa and Sharma 2003). That being said, the "stock" of CSR resources that is already in place may influence the benefits having a CR award which in turn enhances financial performance. In the present paper, we propose the use of threshold regression techniques to examine whether any relationship between CSR and financial performance may depend upon a third conditioning threshold variable. We moved away from evidencing a non-linear CSP-CFP relationship (Barnett and Salomon 2012) and attempted to respond to a call for the use of new empirical settings in CSR research who noted the premise of using alternative methodologies (Rupp et al. 2006; Rupp et al. 2013; Flammer 2015a).

The general approach of comparing outcomes just above and below a threshold is known as "Panel threshold regression" (PTR) in the economic literature. In our setting, the discontinuity arises because, around a particular threshold in investor attention, high values lead to a discrete change (i.e., a discontinuity) in the impact of CSR awards on corporate value. This paper explores if there exists an optimal level of investor attention, which may result in threshold effect and asymmetrical responses of the firm value to CR awards. It also could be assumed that CR awards only affects financial performance once a "critical value" of investor attention is reached, in which case the relationship is positive.

Relying on a sample of 8,790 firm-year observations from 25 countries and from a range of industries from 2005 to 2014, we assume that such sample would be helpful in demonstrating CSR outcomes in a worldwide context. This is important to account for different regulatory frameworks since CSR has not yet been adequately addressed and literature yields confounding results. Elsewhere, we use the setting of Hansen (1999) to support the non-linear relationship between CR awards and financial performance. As previously mentioned, investor attention is defined as the threshold variable, and is used to split the sample into two groups, which we may call regimes. Indeed, the presence of thresholds is found to be determined by two regimes of investor attention. In particular, the threshold approach allows for the conclusion that the effect of CR awards on financial performance is stronger for firms with relatively higher levels of investor attention.

Empirical results argue that firms can *"do well by doing good",* in line with a number of empirical studies documenting a positive relationship between CSR activities and financial performance (Waddock and Graves 1997; Margolis and Walsh 2003; Orlitzky et al. 2003; Barnett and Salomon 2006, 2012; Choi and Varian 2009; Kacperczyk 2009; Eccles et al. 2014; Flammer 2015a; Minor and Morgan 2011; Margolis et al. 2009). In particular, we add to this literature by highlighting the role of investor attention in shaping the positive impact of CR awards on financial performance. Therefore, this study echo the view of CSR as a valuable resource, in line with the resource-based view of the firm (S. L. Hart 1995; Russo and Fouts 1997), the instrumental stakeholder theory (Jones 1995) and the shared value argument (Porter and Kramer 2006, 2011). Additionally, this reasoning bears on stakeholder-theory research suggesting that firms' ability to buttress stakeholder's support through CSR depends on stakeholder perceptions of the social benefits of such behavior (Godfrey et al. 2009). Since we emphasize that the relationship between CR awards and financial performance is not linear, we argue that CSR pays off only after a certain threshold of investor attention. Before this point is reached, additional CSP is either decreasing financial performance or is not significant. Finally, our findings would partially constitute a counter-point to a long-standing contention that corporate pro-social behavior reduces both corporate and societal welfare (Friedman 1970).

This paper contributes to previous literature in distinctive aspects. First, we deviate from the classical debate on the CSP-CFP relationship and move towards elucidating the mechanisms through which CR awards can influence financial performance (Flammer 2013; Servaes and Tamayo 2013). We also contribute to an emerging literature which has made strides in applying empirical techniques to better control for factors potentially endogenous to social

responsibility when examining the valuation effects of CSR (H. Wang et al. 2008; M. Wang et al. 2011; Flammer and Luo 2014; Flammer 2015a, 2015b). In contrast with the traditional linear model, the non-linear threshold model can describe the "trade-off" between the reputational benefits of CR awards and the disadvantages of costs from additional CSR expenditure that may damage the corporate value. Second, to the best of our knowledge, this paper provides the first evidence that positive returns to CR awards start from an optimal level of investor attention. However, it is also worth noting that under the threshold CR awards are negatively related to corporate value, in line with the agency cost theory (Jensen and Meckling 1976; Aupperle et al. 1985; Marsat and Williams 2013; Boyle et al. 1997) as well as in support to the limited investor attention evidence (Tetlock 2011; Da et al. 2014). Third, instead of operationalizing social responsibility as an aggregated construct, we isolate the effects of distinct types of CSR (Chen and Delmas 2011; Mattingly and Berman 2006; Rowley and Berman 2000) such as environmental awards and social labels. This paper's evidence is mixed and reveals that corporate value is positively connected to social labels above an optimal level of investor attention, while environmental awards are not relevant for financial performance in both attention regimes. Finally, we maintain that there are positive financial payoffs to CSP that are associated with the acquisition of critical resources controlled by shareholders such as their attention. These benefits are, however, subject to gradual level off because obviously, CSR benefits cannot increase indefinitely but most importantly, investor attention is a scarce and valuable resource (Kahneman 1973). Given that firms with higher levels of investor attention benefit from CR awards, as opposed to low-attention firms, CSR commitment may influence corporate value at certain levels of investor attention. Regardless of today's information dissemination technology, news fail to grab everyone's attention at the same time. Instead, it diffuses gradually across networks of investors. An important reason for such gradual diffusion is limited investor attention. To the best of our knowledge, the potential existence of an attention threshold effect in financial literature has not yet been empirically studied. So far, only one paper focuses on the impact of investor attention on the valuation of CSP. Madsen and Rodgers (2015) show, among other pieces of evidence, that CSR benefits increase as the attention devoted to social activities among stakeholders is higher.

The remainder of the paper is organized as follows. Section 2 discusses prior literature and develops relevant hypothesis. Section 3 briefly presents the sample selection and the regression variables used in the study, whereas section 4 explains the econometric

methodology and reports empirical results. Section 5 tests the validity of results which are discussed in Section 6. Section 7 sets forth concluding remarks.

2. Literature review and hypotheses development

Although stakeholders' theory (Freeman 1984) provides enough good reasons why CSR adds value, empirical evidence is rather divergent in this regard (Margolis et al. 2009) Before we propose the main hypotheses, some discussion of prior literature needs to be addressed first. We began by highlighting the previous literature on the CSP-CFP relationship and discuss the channels through which such link may be plausible. Then, we specifically focus on the relevance of investor attention as a key mediator of the CSP-CFP relationship.

2.1. CSP does not matter

The first impression drawn from the CSR literature is that there are mixed results regarding the CSP-CFP relationship. Earlier literature found a neutral relationship (Abbott and Monsen 1979; Aupperle et al. 1985; McWilliams and Siegel 2000). For example, M. A. Cohen et al. (1995) and Fogler and Nutt (1975) do not find any significant relation between environmental policies and financial performance. Similarly, Seifert et al. (2004) investigate the relationship between corporate philanthropy and profitability while controlling for ownership concentration, differentiation, and industry and find no significant evidence. More recently, Cheung (2011) investigated the stock market reaction to announcements of index additions (deletions) to (from) the Dow Jones Sustainability World Index (DJSWI) from 2002 to 2008. Empirical results do not find any significant impact on the stock returns of U.S. firms that are included or excluded from the DJSWI. Thus, the first hypothesis is as follows:

Hypothesis 1. Corporate responsibility awards are not linked to financial performance.

2.2. CSP as a cost

Another strand of literature argues that there is a cost involved by CSR practices which may be reflected in firm financial performance. For example, Friedman (1970) and Jaffe et al. (1995) posit that CSR presumes higher direct and indirect costs, which would further burden a firm's financial performance and competitiveness. Gray and Shadbegian (1993) also show that stringent environmental practices can have a negative effect on a firm's productivity. Similarly, Lioui and Sharma (2012) find a negative direct relationship between a firm's market value and environmental KLD scores and suggest that investors perceive

environmental strengths as an additional cost or penalties. In a related vein, Oberndorfer et al. (2013) show that inclusion of German corporations in Dow Jones STOXX sustainability index as well as the Dow Jones sustainability world index leads to negative stock returns. This leads to the following hypothesis:

Hypothesis 2. Corporate responsibility awards are negatively and directly linked to financial performance.

2.3. CSP as a valuable resource

One of the oldest and important questions in CSR literature is whether "*doing good*" pays off. As previously discussed, earlier literature has first supported a negative relationship between social responsibility and financial performance (Aupperle et al. 1985; Friedman 1970) However, subsequent research emphasizes the potential value of CSR. Sustainability practices can, for example, improve financial performance as a result of market gains and cost savings in the firm's operations (Klassen and McLaughlin 1996). Accordingly, because of confounding results, investigating the relationship between CSR and CFP becomes an active area of research.

Changes in CSP lead to subsequent changes in value, and firms are seen to be acting in the best interests of shareholders when improving the level of engagement with CSR (Kim et al. 2012; Gregory and Whittaker 2013). In the spirit of Freeman's (1984) stakeholder theory, CSR can be defined as the set of practices that firms adopt towards the interests of everyone who can substantially affect, or be affected by the welfare of the company (Agle et al. 2008). In particular, the instrumental view of stakeholder theory argues that CSR efforts are initiatives taken to benefit stakeholders with the ultimate goal of benefiting shareholders (Jones 1995). Furthermore, the conflict-resolution view of CSR argues that firms with high CSP allow managers to gain greater stakeholder commitment and loyalty, leading to a more efficient use of financial resources (Jo and Harjoto 2011, 2012; Harjoto and Jo 2011; Jiraporn and Chintrakarn 2013) and thus to increase shareholders' wealth. Indeed, high levels of CSP may mitigate the tension between managers and stakeholders, and decrease opportunistic behaviors in firms (Jones 1995). For example, investors could consider that managers of socially responsible firms use financial resources more efficiently because they can more easily focus on maximizing firm value. Furthermore, for high CSR firms, decision-making is facilitated because CSR policies reduce the likelihood of lawsuits, media campaigns, or boycotts. However, Barnett (2007) suggests that effective stakeholder relationships are not

build instantaneously, arguing that only those firms with a real commitment to CSR activity are likely to realize the long term benefits of such investment.

Elsewhere, even though the agency-view theory (Jensen and Meckling 1976) argues that entrenched managers in a firm with strong corporate governance may use CSR activities to get higher managerial discretion and extract private benefits, the corporate governance role of CSR was also found to be effective in reducing the agency problems associated with many decisions namely, the cash holdings decision (Arouri and Pijourlet 2015). This justifies studies such as Verwijmeren and Derwall (2010), Bae et al. (2011) and Girerd-Potin et al. (2011), which suggest that firms should pay particular attention to relationships with their stakeholders in their financial decisions in order to exploit the financial benefits related to the implementation of CSR policies.

Among others, a seminal meta-analysis of Margolis et al. (2009) report that 167 studies have focused on the CSR-CFP link between 1972 and 2007. Typically, this literature often regress measures of CFP (e.g., Tobin's Q, operating performance, etc.) on proxies of CSR (e.g., the CSP scores) and the majority of these studies conclude that the correlation between CSR and CFP is positive but small. Beyond traditional measures of financial performance, Dhaliwal et al. (2011) find that the voluntary disclosure of CSR activities leads to a reduction in a firm's cost of capital, higher institutional investor ownership, and broader analyst coverage. Most prior studies in the CSR literature deal exclusively with environmental performance and its financial consequences (Al-Tuwaijri et al. 2004; Barth and McNichols 1994; Clarkson et al. 2004; Moneva and Cuellar 2009; Flammer 2013; Capelle-Blancard and Laguna 2010). Corporate environmental performance could be defined as the firm ability, relative to its peers, in reducing its impact on the environment (Klassen and McLaughlin 1996). Based on a sample of 140 events between 1987 and 1991, Klassen and McLaughlin (1996) find a positive market reaction to the announcements of environmental awards. Specifically, the authors find significantly positive (negative) associations between CAR and strong (weak) environmental management, indicating that better environmental performance improves future stock market performance (CAR). The authors find abnormal returns of 0.82% around the announcement of environmental awards. Similarly, Flammer (2013) finds abnormal returns of 0.84% around the announcement of eco-friendly news. Eccles et al. (2014) also show a positive link between a firm's financial and sustainability performance and Derwall et al. (2005) suggest that portfolios of companies with strong environmental responsibility generate risk-adjusted excess returns. Elsewhere, Edmans (2011) finds risk-adjusted excess returns for portfolios with high CSR levels, but as measured by high employee satisfaction. In a very close setting,

Edmans (2012) shows that firms listed in the "100 Best Companies to Work For in America" experience 2.3% to 3.8% higher abnormal returns per year from1984 to 2011.

Another important area of corporate social performance that draws significant stakeholder attention is corporate philanthropy. Philanthropy is a part of CSR initiatives that differs in kind and degree from the mandatory conformance with economic, legal, or ethical dimensions of CSR (Carroll 1979). This discretionary manifestation of CSR has progressively gained greater legitimacy (Margolis and Walsh 2003; Sharfman 1994) and investors are more willing to invest in firms that are known for their corporate philanthropy (Barnett and Salomon 2006; Graves and Waddock 1994; Johnson and Greening 1999).

Finally, it may be worth noting that short run cash flows are somehow adversely affected while the impact on the long run future cash flows is positive. For instance, Russo and Fouts (1997) draw attention to the short run financial risk of investing in pollution prevention technology when the company expects long run rewards. Barnett and Salomon (2012) support this assumption by providing similar evidence. However, although there may be a short term negative impact on profitability, investors will reward firms with serious commitment to a CSR agenda and value those firms accordingly. This reward represents higher valuations despite negative short term profits. This leads to our first hypothesis:

Hypothesis 3. Corporate responsibility awards are positively and directly associated with financial performance (signaling hypothesis).

2.4. How CSP pays off: The channels

As can be noticed, although most studies conclude to a positive correlation, the CSP-CFP relationship appears complex and results are inconclusive. It may be that this is due to the omission of intervening (mediators and moderators) variables in prior literature.

CSR commitment has a number of non-financial outcomes which in turn enhance financial performance. For example, it may help firms improve the effectiveness of the marketing policies (C. J. Fombrun 2005), attract and retain high quality employees (Greening and Turban 2000), gain greater employee satisfaction (Albinger and Freeman 2000; Greening and Turban 2000; Peterson 2004; Pfeffer 1994; Vogel 2005; Turban and Greening 1997), increase demand for products and services (Navarro 1988), provide superior access to valuable resources (Cochran and Wood 1984) and foster the use of more efficient technologies or processes (e.g., environment-friendly technologies). A common premise of these studies is that CSR allows firms to have stronger social capital because they tend to have better

relationships with stakeholders, providing insurance like protection that can mitigate harm from negative events (Flammer 2013) and negative regulatory or legislative action (Hillman and Keim 2001).

In light of the resource-based view (RBV) of the firm, companies may engage in CSR in order to increase their efficiency through improved reputation and greater legitimacy and trust (Barney 1991; S. L. Hart 1995; Porter 1991; Porter and Kramer 2006, 2011; Russo and Fouts 1997; Peloza 2006; Varadarajan and Menon 1988). Such actions may thus attract new "green" customers, increase the companies' financial performance, and enhance their competitive advantage (Porter and Kramer 2006, 2011). Evidence has also revealed that improved reputation and competitive advantage induce higher levels of customer satisfaction (Anderson and Sullivan 1993; Matzler and Hinterhuber 1998; Walsh et al. 2006), a finding confirmed by Galbreath and Shum (2012) who agree that reputation is an outcome of customer satisfaction. Furthermore, Dowling (2004) argues that reputational capital associated with favorable CSR policies can help insulate and protect firms in tough economic times.

In line with economic intuition, recent developments in microeconomic theory suggest a non-linear relationship between CSP and CFP (Manasakis et al. 2013, 2014; García-Gallego and Georgantzís 2009), which has thinly been tested. Recently, Flammer (2015a) argues that CSR has decreasing marginal returns; i.e., the CSR–CFP relationship is concave. In other words, as companies keep increasing their social performance, the returns from an additional CSR initiative may decrease. They further examine the channels through which CSR increases shareholder value and find that shareholders CSR proposals improve job satisfaction and help companies cater to customers that are responsive to sustainable practices.

Considering reputational benefits as well agency costs simultaneously, H. Wang et al. (2008) propose an inverted U-shaped relationship between corporate philanthropy and financial performance. Similarly, Barnett (2007) suggests that only firms with high levels of investment in CSR make net benefits, with a lower degree of commitment failing to generate benefits greater than costs, resulting in a U-shaped relationship between CSP and financial performance. Fisman et al. (2008) also suggest that there is a non-linear relationship between CSR and financial performance through product differentiation and advertising. Building on this evidence, we propose the following hypothesis.

Hypothesis 4. Corporate responsibility awards are positively and indirectly related to financial performance.

2.5. Investor attention as a mediator

As mentioned above, it could be that the returns to socially responsible behavior are captured through the reputation of the firm (C. Fombrun et al. 2000). Underlying the positive returns of CR awards is the idea that the firm's various stakeholders will further reward it for behaving responsibly, so that a firm that receives a CR award may enjoy stronger and lasting relationships with these stakeholders inducing lower costs and higher quality inputs (Freeman 1984; S. L. Hart 1995; Jones 1995; Porter and Van der Linde 1995; Godfrey 2005; Porter and Kramer 2006; Barnett 2007; T. Wang and Bansal 2012). Empirical work has provided consistent evidence with this, given the benefits of a strong relationship between the firm and its stakeholders such as consumers (Casadesus-Masanell et al. 2009; Fosfuri et al. 2015), employees (Turban and Greening 1997), suppliers (Hillman and Keim 2001), investors (Mackey et al. 2007; Cheng et al. 2014), analysts (Ioannou and Serafeim 2015; X. Luo et al. 2015), activists and communities (Baron 2001; Baron and Diermeier 2007; Henisz et al. 2014), and regulators (Koh et al. 2014), with these benefits being stronger, the greater the attention to and salience of social activities among stakeholders (Lev et al. 2010; Flammer 2013; Servaes and Tamayo 2013; Madsen and Rodgers 2015; Aouadi and Marsat 2016).

A substantive implication of this evidence is that firms should not only consider CSR as an element of corporate strategy policies but investigate the channel through which CSR efforts are willing to be more visible. Most importantly, firms will benefit from effective stakeholder management only when stakeholders are paying attention to firm activities (Madsen and Rodgers 2015). This finding dates back to Copeland and Galai (1983) which reveal that investors intensify their engagement and liquidity increases as more information about the firm is publically available. Barber and Odean (2008) also show that investors are more likely to buy a stock that previously caught their attention. They develop a model of decision making and suppose that agents face many different investment alternatives and demonstrate that investors consider primarily those alternatives that first caught their attention. Similarly, a vivid example is given in Huberman and Regev (2001), who conducted a case study on the price discovery of EntreMed, a biotech company. The authors document that stock returns more than tripled in May 1998 as a consequence of seemingly breaking news made public on a front-page article in the New York Times. Anecdotally, this article was based on stale news and the substance of the story had already been released months earlier - in a less attention-grabbing manner in the less widely read scientific magazine "*Nature*". Therefore, attention-based stock demand through increased media presence could push stock prices, affect buying

behavior and generate additional trading volume. Another argument which can be cited to relate CSR policies with investor attention is the impact of CSR on brand preference and brand loyalty (Rust and Oliver 2000; Holt et al. 2004). Du et al. (2007) report that favorable CSR policies lead to stronger brand recognition, brand loyalty, and brand advocacy. Therefore, we argue that CSR commitment translates into increased loyalty from customers and even other stakeholders towards a firm.

Although shareholders' perceptions of a firm's corporate philanthropy are not directly observable, evidence (Godfrey et al. 2009; Muller and Kräussl 2011; Flammer 2013; Madsen and Rodgers 2015) reveals that financial markets incorporate the impact of socially responsible activities on a broad set of stakeholders' attitudes and behavior and, thus, on the future cash flows and value of the firm (see Mackey et al. 2007 for a further discussion). As firms receive CR awards, they attract positive attention from stakeholders that can benefit the firm (Madsen and Rodgers 2015; Muller and Kräussl 2011; Aouadi and Marsat 2016).

Considering an indirect relation between CR awards and market value, a non-linear association through investor attention is quite plausible. However, while investor attention is expected to be a necessary condition for perceptions of CR awards to arise, it is not likely to be sufficient. Although theories related to the threshold effect of shareholder attention on the CSP-CFP relationship are inexistent, limited investor attention has been widely documented in the context of financial information (Tetlock 2011; Da et al. 2014), earnings announcements (Engelberg 2008; DellaVigna and Pollet 2009; Hirshleifer et al. 2009), economic shocks (L. Cohen and Frazzini 2008), and investment choices (Barber and Odean 2008; Solomon et al. 2014). Furthermore, Sims (2006) emphasizes that attention constraints may be nonlinear. A number of papers have applied the Sims' (2006) view of rational inattention to a variety of different decision problems, not only to price setting problems (Maćkowiak and Wiederholt 2015; Y. Luo 2008).

Because investors are limited in their ability to attend to the various actions of organizations (Madsen and Rodgers 2015; Kahneman 1973), we should thus expect that returns on CR awards would be greater for firms whose actions do not only attract greater investor attention or that operate under greater stakeholder scrutiny, but above the required threshold. In the following section, we build on these ideas by presenting the following hypotheses:

Hypothesis 5. Corporate responsibility awards are indirectly related to financial performance through investor attention.

Hypothesis 5a. Corporate responsibility awards are negatively or insignificantly related to financial performance when investor attention is under the threshold.

Hypothesis 5b. Corporate responsibility awards are positively related to financial performance when investor attention is above the threshold.

3. Regression variables and sample
3.1. Corporate social performance

We collect information on corporate responsibility awards (CR awards) as well as CSP scores from the Thomson Reuters-ASSET4. The database provides comprehensive environmental, social, and governance (ESG hereafter) data on over 3,400 firms worldwide as of 2002. Asset4 data are updated biweekly and collected from publicly available sources (e.g., annual reports, NGO websites, and media outlets) which are relevant for the purpose of this paper since publicity is a prerequisite of human attention.

In this study, the main measure of CSP is CR awards. As defined by Asset4, CR awards is a dummy variable which takes one if the company received an award for its social, ethical, community, or environmental activities or performance and 0 otherwise. When investigating the value effect of CR awards, we control for the CSP score[2]. However, we retain only social and environmental factor[3] since CR awards relate specifically to social and environmental commitment (El Ghoul et al. 2016a; Lys et al. 2015). Further details of the ESG sub-factors are provided in Appendix 4.2.

3.2. Corporate value

We follow Campbell (1996) and Harjoto and Jo (2015) and measure firm value based on the Fama–French 48 industry-adjusted Tobin's Q (*Adj_Q*, hereafter). Tobin's Q was first introduced by Brainard and Tobin (1968) and constitutes a forward-looking measure of firm performance, widely used as a proxy of corporate value in empirical finance and economics (Servaes and Tamayo 2013). It is the ratio between the market and replacement value of the

---

[2] Asset4 provides the ``Equal Weighted Rating'', which captures a balanced view of the firm's performance in four areas, environmental, social, governance and economic. In this paper, we do not use the ``Equal Weighted Rating'' as denoted "14IR" by Asset4 but rather purge the economic and governance dimensions from this score. The remaining factors are described in detail in Appendix 4.2, as presented by the ASSET4 documentation.

[3] In untabulated robustness tests, we include governance score and find similar results. Findings are available upon requests from the authors.

same physical asset. A value below one indicates poor use of resources while, a value greater than one indicates that the forward-looking market value is higher than the current value of total assets. *Adj_Q* is actually the firm's Tobin's Q minus the industry-median Tobin's Q. Firms are first classified into different industries using Fama–French 48 industry classification and then we subtract the median of firms' Tobin's Q for each industry.

Using this proxy is appealing because stakeholders' rewards may occur in response to favorable social performance without immediately materializing for some types of financial performance proxies. For example, even though CSP accrue reputational insurance (Godfrey 2005; Gardberg and Fombrun 2006), leniency from regulators (Godfrey et al. 2009), or decreased public activism (Hiatt et al. 2009; King and Whetten 2008; Lounsbury et al. 2003), costs may exceed benefits in the short run. Yet the expected value of CFP over the long term may still be positive (Madsen and Rodgers 2015). As Godfrey et al. (2009) assert, "*CSR activities can provide an insurance mechanism to preserve—rather than to generate—CFP*". Expected benefits are thus more visible in market measures of firm performance such as stock price than in short-term accounting measures of firm performance (Orlitzky and Benjamin 2001).

3.3. Investor attention

In contrast to laboratory experiments in psychological research, attention in stock markets can hardly be proxied directly. When testing theories of attention, empiricists face a substantial challenge since investor attention is difficult to measure. Many indirect proxies were employed such as extreme returns (Barber and Odean 2008), trading volume (Barber and Odean 2008; Gervais et al. 2001; Hou et al. 2009), news and headlines (Barber and Odean 2008; Yuan 2008), advertising expense (Grullon et al. 2004; Lou 2014; Chemmanur and Yan 2010), and price limits (Seasholes and Wu 2007).

Attention could be defined as an individual taking notice of a piece of information (Pashler et al. 2001). Da et al. (2011) propose Google search volume (GSV hereafter) of stock tickers as a proxy for investor attention and find that weekly GSV is positively associated with market capitalization, turnover, analyst following and media attention. The authors conclude that GSV is a more direct and timely proxy for attention than prior proxies. As in Da et al. (2011) and Drake et al. (2012), we employ GSV as provided by Google Trends[4] as a proxy of

---

[4]Google Trends is a free tool provided by Google that can be used to monitor trends in public keyword search queries. The application provides the popularity of a term over a given time period or geographical location. Search term queries can be filtered by search type (i.e., image, news), geography (i.e., country, city), time range,

investor attention given that it measures the stock popularity as evidenced by internet activity. We simply choose to identify a stock using its ticker. Since a firm's ticker[5] is always uniquely assigned, identifying a stock using its ticker avoids the problem of multiple reference names. We assume that as market participants search the internet for firm-specific information, they are paying attention to that stock.

3.4. Control variables

To determine the value effect of CR awards, we must control for other factors with predictable influences on the current market value of the firm. The choice of control variables is based on prior research findings. For instance, prior studies report that firm size and risk affect both financial performance and CSR (Waddock and Graves 1997; Moore 2001; Aras et al. 2010). Appendix 4.1 gives summary information about all the variables used in this study. In the current study, we attempt to ensure that the model is correctly specified and control for:

- *Firm size*

A number of empirical papers assume that firm size influences the relationship between CSP and financial performance (Moore 2001; Stanwick and Stanwick 1998). For example, Burke et al. (1986) suggest that smaller firms are less likely to openly engage CSR expenditure than larger firms which attract greater stakeholders' attention and benefit from higher information intermediaries (Gode and Mohanram 2003). Trotman and Bradley (1981) also find some evidence that companies which disclose CSR information are larger than firms that do not disclose and that the amount of information disclosed is also positively correlated with the firm size. It follows that size will alleviate information asymmetry, leading to less uncertainty and cheaper equity financing since larger firms are better known to investors. Elsewhere, Ullmann (1985) suggest that there is a significant relationship between firms size and CSR activities given that larger companies are subject to more public scrutiny and are more likely to have the required financial, managerial, and technical expertise to engage in CSR activities, like reducing emissions for example, than are their smaller peers (Barnett 2014).

---

and category (e.g., automotive, finance, travel). One caveat of this application is that Google Trends data do not reflect the actual search volume and are presented as a relative scale. Historical data are available from Google Trends starting January 1, 2004.

[5] We are cautious about using tickers with a generic meaning such as "GPS" and "ALL". Such issue induces that GSV of these tickers would usually be inflated that may have nothing to do with attention paid to the stocks with these ticker identifiers. While we report the results using all tickers to avoid sample selection bias, we confirm that our results are insensitive to the exclusion of the "noisy" tickers we identified (about 3% of all the stocks under analysis).

The increased visibility increases the likelihood that stakeholders will notice and attend to corporate initiatives. Different proxies for firm size were employed such as sales volume, total assets (Trotman and Bradley 1981) and turnover (Moore 2001). In this research, we use the log of total assets (Aras et al. 2010; Tsoutsoura 2004).

- ***Risk***

To measure risk, literature has proposed the level of debt (Tsoutsoura 2004; Waddock and Graves 1997) and the debt to equity ratio (Roberts 1992). It appears important to control for firm risk which we specify as long-term debt scaled by total assets (Aras et al. 2010; Waddock and Graves 1997). Several studies (Aras et al. 2010; Perrini et al. 2008; Kapopoulos and Lazaretou 2007) suggest a significant negative correlation between the level of risk and financial performance. Another strand of literature finds a negative relationship between CSR and firm risk (Roberts 1992). The negative link can be attributed to the fact that firms with lower levels of risk are expected to be more able to participate in social responsible activities as a result of a stable pattern of stock market returns due to the low level of risk.

- ***Dividend***

Dividend is the ratio of dividends to net assets. Jiao (2010) pinpoints the role of dividend yield as determinant of corporate value.

- ***Capital expenditures***

Erhemjamts et al. (2013) investigate the relationship between CSR commitment and a firm's investment policy and explain that the level of CSP impacts firms' investment decisions. For example, they show that high CSR firms invest more in capital expenditures given that high CSP induces additional investments such as "*equipment and facility to reduce pollution, waste, energy, and water usage, as well as additional office space, and computers necessary for CSR-implementation.*" We control for capital expenditures which is calculated by the ratio of capital expenditures to total assets.

- ***Return on assets***

According to Jayachandran et al. (2013), more profitable firms are expected to have higher valuations. Profitability is proxies on the basis of return on assets, that is, the ratio of net income before extraordinary items to total assets (ROA).

- ***Sales growth***

Sales growth is the growth in sales compared to the previous fiscal year. Growth opportunities constitute a greater fraction of firm value rather than total assets since they induce sales growth. We thus expect a positive relationship between sales growth and firm value.

- ***R&D***

McWilliams and Siegel (2000) argue that some studies investigating the CSP-CFP relationship suffer from several important theoretical and empirical limitations due to the omission of R&D intensity as a control variable. R&D expenditure is seen as major contributor to information asymmetry (McWilliams and Siegel 2000). However, R&D may yield a positive return in the long run which in turn improves financial performance. We measure a firm's R&D by its R&D expenses scaled by assets. Consistent with prior studies, we set R&D expenses to zero if they are missing (Barnett and Salomon 2012).

- ***Advertising expenditure***

It is calculated as advertising expenditure to net sales and is set to zero is missing. We also control for the presence of data by a dummy variable (Barnett and Salomon 2012). Servaes and Tamayo (2013) use advertising expenditure as a proxy of consumer awareness and find that it explains the positive valuation effect of CSR. The argument behind this evidence is that advertising expenditure provides insights into a firm's information environment (Nelson 1974).

- ***Industry effects***

We suppose that investors may consider social performance as a waste if a firm is much more involved in CSR than its peers. Moreover, it is well-known that the level of CSR commitment may vary according to industry characteristics (McWilliams and Siegel 2001; Waddock and Graves 1997; El Ghoul et al. 2011; Cottrill 1990; Holder-Webb et al. 2009). For instance, Balabanis et al. (1998) suggest that industries with a significant and more visible impact on the environment are less able to avoid public attention. Therefore, those firms receive more pressures to increase their CSR commitment and thereby improve their reputation. Besides, according to Balabanis et al. (1998), the industry in which a company is operating could also affect its financial performance. In particular, they state that the visibility of the "damage" to the environment of a firm, with significant more impact on the environment, could negatively affect the behavior of stakeholders to the firm which in turn may decrease the financial performance. Similarly, Cai et al. (2012) suggest that the level of CSR may vary considerably across industries due to differences in the nature of the products produced, regulatory environment and shifts in social norms.

Some studies that controlled for industry used either the 4-digit Standard Industrial Classification (SIC) code (Waddock and Graves 1997; Holder-Webb et al. 2009) and the KLD's industry categorization (Ruf et al. 2001). In this paper, different industries are defined according to the Fama and French (1997) classification as in (Ghoul et al. 2016).

- *Geographic effects*

The impact of CSP is region-specific. Q. Wang and Pirinsky (2010) show that the geographic location plays an important role in financial decision-making. The authors conclude that this segmentation "*exposes the firm to a wide variety of individual and institutional characteristics from the region*". Jiraporn et al. (2014) also review the literature on the connection between geography and social responsibility.

- *Year effects*

We include year dummies in all estimations. Indeed, the relationship between CSP and financial performance has evolved over time (Flammer 2013) and such procedure allows to control for shifting macroeconomic conditions that affect stock prices, which, in turn, may influence corporate value and to reduce cross-individual correlation.

3.5. Sample

We investigate an international panel of 3,468 firms collected from the Thomson Reuters-DataStream database. We collected company data from 2000 to 2015 and constructed an unbalanced panel of nearly 55,488 firm-year observations. Then, we applied a number of standard data restrictions. First, in order to use the panel threshold regression that requires a balanced panel, firms with missing data were removed, so that the resulting dataset includes a total of 9,910 firm-year observations about 991 firms. Second, firms operating in financial sectors (banks, insurance and life assurance companies and investment trusts) were excluded since they are subject to different accounting considerations and do not have the same regulatory frameworks (El Ghoul et al. 2011; Antoniou et al. 2008; Viet A Dang 2011; Viet Anh Dang et al. 2012; Ozkan 2001). This may also allow us to avoid unnecessary confounding effects. Our final sample consists of 879 companies: 8,790 firm-year observations, with the longest time series of 10 years over the period 2005–2014.

<Insert Table 1 here>

Table 4.1 reports the industry (48 industry classification as in Fama and French (1997)) and country distributions. As it appears from Panel A, there is wide variation in the number of firm-years across countries. As expected, the United States and Japan are the most representative countries while Brazil and Luxembourg are the least representative countries, with only one firm-year observation each. According to Table 4.1, we can assume that the sample is fairly dispersed across industries, with no single industry group representing more

than 10% of the sample observations. Although some clustering is evident in the sample, the firm-year observations are fairly evenly spread across industries and countries.

4. Methodology and empirical results

The objective of this paper is to investigate the role of investor attention on the CSP-CFP relationship. We first apply a multivariate regression and then complement the analysis by the panel threshold regression (PTR). The intuition behind this research approach is that investor attention does not only play a role in connecting CSP to CFP, but above a particular threshold. From a purely econometric point of view, as a benchmark for the PTR results, we first estimate the panel linear case. Moreover, since a panel data approach has some drawbacks such as the assumption of parameter homogeneity over cross-section units, PTR seems to be an alternative to alleviate such a pitfall.

4.1. Descriptive statistics and correlations

Table 4.2 reports summary statistics. The mean corporate value as measured by *Adj_Q* is about 0.018. The CSP scores vary from 7.9% to 95.8 % with a mean of 64.4%, while the average of investor attention in our sample is about 3.036. Our sample includes large as well as small firms in terms of total assets. Sales growth (mean 1.133) varies from 0.070 to 6.810. Average return on assets is 6.6 % with a maximum of 26.9 % and a minimum of -11.9 %.

<Insert Table 2 here>

The correlation results are reported in Table 4.3. Most of the correlation coefficients among control variables are no more than 50%, mitigating concerns for multicollinearity. It appears that investor attention is correlated with a number of firm attributes such as *Adj_Q*, size and return on assets. Otherwise, CSP scores appear to be highly correlated to CR awards (47.6%) and firm (46.7%) which would constitute a concern. To alleviate this pitfall, we test for multicollinearity using VIFs which are widely used as reliable indicators of multicollinearity. To avoid the VIF to be inflated, we re-estimate a transformed model using the OLS method, which removes the fixed effects from the estimation but still produces the same estimated coefficients as in the fixed effect model (Gormley and Matsa 2014). Reassuringly, as can be seen in Table 4.2, VIFs do not exceed 2 for all the variables under analysis, confirming the absence of multicollinearity. Furthermore, as is common practice, we winsorize extreme

values of all variables of interest prior to estimating a regression model in order to alleviate the effect of outliers. Thus, all variables are winsorized at the 1 and 99 % level.

<Insert Table 3 here>

4.2. Preliminary analysis

Given differences in the corporate visibility across firms, the relationship between CSP and corporate value may vary across firms as a result of differences in investor attention. We start with a two-sample t-test in order to gather some insights on the role of investor attention. For that purpose, the sample is split into two sub-samples using the Google search volume proxying for investor attention as discriminating variable. Particularly, we conducted a series of two-sample t-tests comparing firm attributes across the high-investor attention and low-investor attention subsamples. The results are reported in Table 4.4.

<Insert Table 4 here>

At first sight, the sub-sample of high-attention firms exhibits a higher average *Adj_Q* (0.045 vs. -0.008) but a lower average advertising expenditure. These tests lend some insights to the idea that attention mediates the relationship between CSR and CFP. Indeed, the test for differences in means, shown in Table 4.4 highlights interesting varieties in firm characteristics. For example, high attention firms are those which are larger, more performing and more closely followed by analysts. Hence, the attention hypothesis has to be taken into account in the analysis. This assumption is further supported by the significant correlation coefficient between investor attention and firm attributes, as previously discussed. Yet, correlation analysis as well as the test for difference of means may still serve as a benchmark and a first look at the nexus between different variables. In the next section, the role of investor attention will be analyzed in a more rigorous framework, namely multivariate regression.

4.3. The mediating effect of investor attention on the CR-CFP relationship
4.3.1. Model specification and estimation

Before investigating the threshold effect of investor attention on the CSP-CFP relationship, we first test its mediating effect through an interaction term. The model we estimate is as follows:

$$Tobin's\ Q_{i,t} = \beta_0 + \beta_1\ CR_{AWARDSi,t} + \beta_2\ Attention_{i,t} + \beta_3\ CR_{AWARDSi,t} * Attention_{i,t} + \qquad (1)$$
$$\acute{\alpha}\ Controls_{i,t} + \mu_i + \varepsilon_{i,t}$$

Where $CR_{AWARDSi,t}$ and $Attention_{i,t}$ denote CR awards and investor attention respectively, for firm i=1,…., N at time t=1,….,T. $Controls_{i,t}$ is the set of performance determinants as previously documented in the literature. If $\beta_3 > 0$, no matter whether $\beta_1 > 0$ or $\beta_1 < 0$, then investor attention is beneficial to the value effect of CSP. If $\beta_1 > 0$, CSP benefits the corporate value and investor attention improves this positive impact; whereas if $\beta_1 < 0$, CSP is negatively related to the corporate value, in line with the agency cost theory (Jensen and Meckling 1976), but this negative effect is tempered by greater firm visibility through greater investor attention. Thus, the influence of investor attention is positive. All regression analyses include Fama and French (1997) 48 industry dummies, country dummies and year dummies. The t-statistics are estimated based on standard errors clustered by the firm level[6].

We present the results from estimating the direct and indirect effects of CR awards on market value in Table 4.5. The findings provide some valuable insights. As Table 4.5 shows, the coefficient on CR awards is positive but not significant. Similarly, the coefficient on the interaction term is not significant but negative, meaning the mediating effect of investor attention is not significant and hypothesis 1 is supported. We further investigate the effect of particular CR awards on *Adj_Q*, namely environmental awards and social labels as defined in Appendix 4.1. The pattern is qualitatively similar when we look at more specific dimensions of CR awards. In contrast, the coefficient on investor attention is positive and highly significant for all types of awards. Elsewhere, most coefficient estimates of control variables are statistically significant and corroborate with their expected signs.

<Insert Table 5 here>

Given the high correlation between CR awards, the interaction term and the CSP score, we transform these variables by subtracting their mean value from each value to mitigate the structural multicollinearity problem in our regressions. In addition to the VIF's, this method is known as centering the predictor and is commonly used to reduce multicollinearity (Ruppert 2004; Harjoto et al. 2015). The results remain the same suggesting that multicollinearity is not concern in our setting.

From the analysis of the interaction effect above, we cannot achieve definitive remarks. The only definitive observation is that the coefficients on all interaction terms are not significant,

---

[6] We have also lagged all explanatory variables to mitigate simultaneity concerns, the results remain the same.

supporting the CR awards are not valued by the market. Nonetheless, the interaction term only allows us to roughly examine the mediating effect of the investor attention on the main variables of interest and does not allow us to have more observations. In the threshold model analysis below, we can differentiate distinct regimes of investor attention as well as their potential effects on the relation between CR awards and financial performance.

4.3.2. Evidence from sample splits

There may be concerns that the results reported in Table 4.5 are confined to certain stocks. For instance, larger firms have more visibility in the market. As a result, it is very much possible that CSR practices get noticed in these firms more than less visible firms for which CSR commitment may remain unnoticed. In order to address these concerns, we divide our sample into two groups – first group containing firms with above average investor attention and second group containing firms with below average investor attention– and re-estimate the base linear model for both groups. In addition, we test for the significance of difference of means between the two subsamples. The results are reported in Table 4.6.

<Insert Table 6 here>

Remarkably, there are differences between the two subsamples. Furthermore, the coefficients on the level as well as interaction term of the different CR awards proxies are not consistent across different categories of awards. Specifically, for high-attention firms, the direct effect of CR awards is significantly negative at 95% confidence level; however its interaction with investor attention is positive and significant. This suggests that investor attention is beneficial to the valuation effect of CR awards. These effects are similar for environmental awards and social labels but not significant. In contrast, for low attention firms, the interaction between investor attention and CR awards is negatively significant suggesting that investor attention exert an unfavorable impact on the valuation effect of CR awards.

This analysis provides evidence that investor attention may play a relevant role as a determinant of the CSP-CFP relationship. However, the evidence is mixed: CR awards are negatively related to *Adj_Q* for low attention firms while they are positively assessed by the market for high attention firms. Therefore, this emphasizes the possible existence of a threshold level, from which investor attention may operate.

4.4. The threshold effect of investor attention

4.4.1. General specification

As seen above, we cannot draw definitive conclusions from the analysis of the interaction effect. Most importantly, this approach does not allow to test whether the valuation effect of CR awards differs under different investor attention regimes. Specifically, in the threshold model analysis below, we can differentiate distinct effects of CR awards on *Adj_Q* across different regimes of investor attention.

As a special case of regime switching models (RSM), the panel threshold regression model describes a simple form of nonlinear regression with piecewise linear specifications and regime switching that occurs when an observed variable crosses unknown thresholds. PTR specifications are quite popular as they are easy to estimate and interpret, and able to produce interesting nonlinearities and rich dynamics. First introduced into a univariate time series context (Tong 1983), the appropriate econometric techniques for threshold regressions with panel data were initially outlined by Hansen (1999).

Threshold models are widely used in economic literature. The general intuition is that a process may behave differently when the values of a variable exceed a particular threshold. This means that a different model may apply when values are greater than the threshold value than when they are below it.

The general specification of threshold models takes the following form:

$$\dot{y}_{i,t} = \mu_i + \sum \beta_{k+1} x_{i,t} I\big(\gamma_k < q_{i,t} \leq \gamma_{k+1}\big) + \beta_{k+1} x_{i,t} I\big(\gamma_k < q_{i,t} \leq \gamma_{k+1}\big) + \varepsilon_{i,t} \quad (2)$$

μ_i is the firm specific fixed effect and $\varepsilon_{i,t}$ is the error term assumed to be independent and identically distributed (iid) with mean zero and finite variance σ^2. The subscripts i and t refer to cross-section and period, respectively. I(.) is an indicator function indicating the regime defined by the threshold variable $q_{i,t}$, and the threshold parameter γ. $y_{i,t}$ is the dependent variable and the vector of explanatory variables. Equation (2) allows for (k) threshold values and thus (k+1) regimes. In each regime, the marginal effect of $x_{i,t}$ may be different.

As previously mentioned, threshold regression models allow individual observations to be divided into regimes based on the value of an observed variable. Allowing for fixed individual effects, the panel threshold regressions (PTR) model divides observations into two or more regimes, depending on whether a threshold variable is smaller or larger than the threshold value. These regimes are then distinguished by producing different regression slopes.

The PTR approach can be summarized into three steps. First, the threshold value estimate is

obtained by a grid search selection over its possible values, choosing that value which minimizes the sum of squared errors (SSE) from least squares (LS) estimates of the model structural equation. Second, inference about the statistical significance of the threshold effect is made by using a bootstrapping procedure to simulate the asymptotic distribution of a likelihood ratio test for the null hypothesis that the parameters estimated for the different regimes are equal. Finally, to check for the consistency of the estimated threshold value, confidence intervals are constructed using a likelihood ratio statistic.

4.4.2. Testing for a threshold

Before estimating the threshold regression model, we should test if there exist threshold effects. If we cannot reject the null hypothesis, the threshold effect doesn't exist. Hansen (1999) suggested a "bootstrap" method to compute the asymptotic distribution of testing statistics in order to test the significance of threshold effect. Furthermore, when the null hypothesis doesn't hold, which means, the threshold effect does exist, Chan (1993) proved that OLS estimation of threshold is super consistent, the asymptotic distribution is derived. Hansen (1999) used simulation likelihood ratio test to derive the asymptotic distribution of testing statistic for a threshold and proposed to use two-stage OLS method to estimate the panel threshold model.

Inspired from the Hansen's (1999) model, we set up single threshold model as follows:

$$v_{it} = \begin{cases} \mu_i + \theta' h_{it} + \alpha_1 d_{it} + \varepsilon_{it} & if \quad d_{it} \leq \gamma \\ \mu_i + \theta' h_{it} + \alpha_2 d_{it} + \varepsilon_{it} & if \quad d_{it} > \gamma \end{cases} \tag{3}$$

The threshold regression model of (3) can also be set as follows:

$$v_{it} = \mu_i + \theta' h_{it} + \alpha_1 d_{it} I\left(d_{it} \leq \gamma\right) + \alpha_2 d_{it} I\left(d_{it} > \gamma\right) + \varepsilon_{it} \tag{4}$$

Where I(.) represents an indicator function. The dependent variable v_{it} represents firm value as proxied by *Adj_Q*. The independent variable d_{it} represents investor attention, which is the threshold variable. h_{it} is the set of control variable as previously defined. Besides μ_i, the fixed effect, represents the heterogeneity of companies under different operating conditions. The error term ε_{it} is assumed to be independent and identically distributed with mean zero and finite variance σ^2 ($\varepsilon_{it} \sim iid(0, \ \sigma^2)$). i and t are symbols for cross section and time periods.

As can be noticed, the observations are divided into two investor attention regimes depending on whether the threshold variable d_{it} is smaller or larger than the threshold value (γ). The regimes are distinguished by differing regression slopes, α_1 and α_2. We will use known v_{it} and d_{it} to estimate the parameters (γ, α, θ and, σ^2).

This paper follows the bootstrap method to get the approximation of F statistic and then calculate the p-value.

4.4.2. The threshold regression results

If the relation between CR awards and market value is non-linear and the indirect effect of CSR on value is mediated by investor attention, the threshold will be significant at least under the single threshold test. In unreported results, we find that the test for a double threshold and a triple threshold are insignificant for all CR awards categories. We thus conclude that there exists a single threshold effect of the investor attention on the valuation effect of CR awards. This suggests that are only two regimes in investor attention. Therefore, for the remainder of this paper, we continue with the single threshold model.

According to the results above, there exists an optimal level of investor attention. When investor attention increases, the effect of CR awards on financial performance is intuitively expected to increase. However, on the other side, CSR costs may increase which offset the positive effect of investor attention. Furthermore, greater public exposure means higher firm accountability towards different stakeholders. Thus, this paper aims at examining not only whether a threshold effect exists, but how corporate value responds to CR awards under different investor attention's regimes.

<center>*<Insert Table 7 here>*</center>

As shown in Table 4.7, more interesting results are observed as compared to the linear regression analysis. The effect of CR awards on corporate value differs across different regimes. The threshold variable – investor attention – divided the sample into two regimes, where the switching regime value is 3.738 (>75th percentile), where the border values: 3.701 and 3.745. The estimated coefficient for CR awards indicates that firms with low investor attention levels have stronger effects of awards on value. In particular, the coefficient on the CR awards proxy under the threshold estimate is significantly negative at the 1% significance

level, while the effect above the threshold is positive and significant as well. Moreover, the magnitude is larger (in absolute value) in the high regime than in the high regime.

In other words, CR awards decrease firm value up to a point at which investor attention reach an optimal level. This finds support from the agency cost theory (Jensen and Meckling 1976) and empirical studies such as (Oberndorfer et al. 2013; Lioui and Sharma 2012; Friedman 1970). This result can also be related to diminishing returns to CSR. However, above the threshold estimate, the relationship between CR awards and *Adj_Q* becomes positive in line with Servaes and Tamayo (2013) and Madsen and Rodgers (2015).

Most prominent within our results is the fact that when we disaggregate CR awards into its two sub-components, the results are not the same. In particular, while the evidence is mixed for CR awards, the results are more clear and uniform for social labels. The coefficient on social labels is significantly positive in the high attention regime, supporting the hypotheses 4 and 5b, but is negative but insignificant in the regime with low investor attention, leading support to the hypotheses 2 and 5a, repectively. Moreover, the estimated coefficient for social labels in this transitional regime indicates a stronger effect of CSP on value of about 2 times the effect for the low regime.

In contrast, regarding the environmental awards, the relationship between awards and firm value is not significant regardless the two regimes of investor attention in line with hypotheses 1 and 5a but in contrast to Klassen and McLaughlin (1996). Elsewhere, the effects of other control variables on corporate value are generally consistent with the findings in financial literature for all components of CR awards.

Overall, this evidence reveals that the influence of investor attention on the valuation effect of CSP varies across different CR awards categories. That result can be reasoned based on the sample split analysis and therefore, linked to the hypothesis 5b assuming that the relationship between corporate responsibility awards and financial performance is significantly positive when investor attention is above the threshold. However, the soundness of social commitment appears to be more important to corporate value than that of environmental responsibility, in contrast to Klassen and McLaughlin (1996), Flammer (2013) and Krüger (2015) but as an extension to Edmans (2011, 2012).

5. Robustness checks

In this section, we first check the validity of the results obtained from OLS linear regression and then control for the robustness of the PTR framework.

5.1. Addressing endogeneity

The aim of this paper is to complement and extend prior literature on the determinants of the CSP-CFP link. A limitation frequently raised by prior literature is that CSP is endogenous with respect to financial performance (McWilliams and Siegel 2000; Rodriguez et al. 2006). CSP likely correlates with unobservable firm characteristics that may also affect financial performance. For example, it is more likely that companies engage in CSR because they are more profitable or they have favorable expectations with respect to profitability.

In this section, we employ alternative estimation methodologies in order to address these concerns. Since a randomized controlled experiment is challenging to implement, we rather implement alternative research design choices (e.g., firm fixed effects and instrumental variables approaches) which attempt to approximate randomization (El Ghoul et al. 2016b; Reeb et al. 2012).

Fixed effects can partly mitigate endogeneity concerns due to omitted variable bias (Wooldridge 2003). That is, we use both ordinary least square (OLS) regressions and two stage least square (2SLS) regressions with panel data, both with robust standard errors to correct the problem of heteroscedasticity. Particularly, we analyze and address the concern of endogeneity that occurs due to firm characteristic omitted variables, unobserved variables and the issue of reverse causality. The issues were resolved primarily using time and firm fixed effects, lagged variables and Instrumental Variables (IV).

First, we control for firm fixed effects even though it may remove the theoretical and cross-sectional variation when the changes are sticky over time (Zhou 2001). Linear fixed effects models provide a primary workhorse for causal inference with panel data in the social sciences (Angrist et al. 2009). We base our analysis on firm fixed effect model and obtain similar results as in Table 4.5. Indeed, as can be evidenced by Table 4.8, the results are similar to those obtained without controlling for firm fixed effects given that the interaction between investor attention and CR awards remain negative and not significant. Furthermore, unreported results provided evidence that even when we lagged explanatory variables, the results remain the same.

<Insert Table 8 here>

Elsewhere, OLS regression analysis implicitly assumes that CSP is an exogenous variable. We follow the common approach and construct a simultaneous equation system in order to account for the potentially reciprocal dependence between CSP and firm performance as

previously noticed by literature (Attig et al. 2013; Ioannou and Serafeim 2015; Jo and Harjoto 2011, 2012).

We employ a two stage least square (2SLS) analysis using the mean industry-year CSP score (while excluding the focal firm) as an instrument for the CSP score (Kim et al. 2014; El Ghoul et al. 2016a). Good instrumental variables should have high correlation with the original variable and no direct correlation with the dependent variable from our main analysis.

In unreported results, the analysis from the first stage regression shows that the instrument is significantly related to the raw values of the CSP score. We then retain the predicted values of CSP scores and use them in the regressions examining the effect of CR awards on financial performance. As reported in the right-hand panel of Table 4.8, results from the second-stage regressions strongly support OLS regression analysis and confirm that endogeneity is not a concern in our study, regardless the inclusion of firm fixed effects.

5.2. Alternative measures of financial performance

The results above combine to provide a complex, yet interesting picture of the relationship between CR awards and corporate value. This section investigates financial performance in a broader setting, for both the long and short run respectively.

Due to the complexity and multi-dimensionality of financial performance, it remains difficult to find an ideal proxy that combines all dimensions of performance. Since there is no ideal measure able to capture all aspects, we test whether our results depend on the financial performance indicator. Literature has distinguished two main measurements. Davidson and Worrell (1990) promote the market-based measures and suggest that they relate more closely to shareholders' wealth. Otherwise, Wu (2006) rather prefers accounting-based measures as a better predictor of social performance and explains that studies using market proxies report a smaller relationship between CSP and CFP because of the choice of performance proxy.

We follow recent equity pricing research and use the industry-adjusted market-to-book (*Adj_MB* hereafter) ratio instead of *Adj_Q* as a corporate value indicator (Galema et al. 2008; Edmans 2011). The ratio is formally computed as the ratio of the book value of shareholders' equity plus deferred taxes and investment tax credits (if available) minus the book value of preferred stock to the market value of equity. As for *Adj_Q*, we adjusted for industries' effect as previously performed for Tobin's Q. Vassalou and Xing (2004) show that the MB ratio is a good proxy for the organization's default risk and market value. In particular, firms with high MB ratios enjoy higher ex post returns (Fama and French 1992).

Given that the MB ratio is closely related to Tobin's Q, we further check whether the impact of CR awards on firm value, with respect to operating performance measures as used in Servaes and Tamayo (2013). In particular, we compute three profitability measures[7]: operating income on assets (OIA), operating income on sales (OIS), and return on equity (ROE). ROE is computed by dividing net income by shareholders' equity, whereas OIA and OIS are calculated by dividing operating income by assets and sales, respectively. These measures reflect the internal efficiency of the firm, which is potentially influenced by the corporate social performance. Davidson and Worrell (1990) suggest that investors are concerned about accounting-based measurements only when they may affect shareholders' wealth. As before, we computed the industry-adjusted measures of OIA, OIS and ROE instead of raw values and adjusted for industry, year and country fixed effects in all specifications.

< Insert Table 9 here>

The evidence is mixed across different performance metrics. In particular, from the results of Table 4.9, we are able to identify two distinct sets of results. The first set consists of cases where the transition variable used is investor attention, the regime-dependent variable is CR awards and the dependent variable is a market based measure and precisely, the Market-to-book ratio. Thus, in terms of the coefficient of the long-run effects of CR awards, its sign is empirically plausible, the same as when we use *Adj_Q* as the dependent variable. Most importantly, the coefficient on CR awards varies from -0.006 for the low regime to 0.069 for the high attention regime. It confirms that the impact of CR awards on corporate value changes across different investor attention regimes. However, when we employ *Adj_MB* ratio instead of *Adj_Q*, the coefficient on CR awards is not significant in the low attention regime.

The second set consists of cases where the transition variable used is investor attention, the regime-dependent variable is CR awards and the dependent variable is an accounting-based measure and precisely, the operating income to assets, the operating income to sales and return on equity, respectively. In particular, Table 4.9 shows that the coefficient of CR awards to ROE is highly and significantly lower for the first regime: -0.001 versus 0.013 for the second regime (about 13 times). Moreover, under the threshold, the coefficient is not significant while it becomes significantly positive above the threshold. The results are similar

---

[7] Note that ROA is dropped from the control variables in conducting this robustness check test

for CR awards to OIS as well as to OIA. However, the threshold estimate is only significant for operating income to sales.

The common finding is that there are significant asymmetries in the effect of CR awards on financial performance. Indeed, under the threshold, the relationship between CR awards and financial performance is either insignificant or negative supporting hypothesis 1-2, while above the threshold the relationship becomes stronger and positive supporting hypothesis 3 and 5b. More importantly, the estimated coefficient for CR awards in this transitional regime indicates a stronger effect of awards on financial performance of about, at least, 9 times the effect for the low regime. Indeed, for high investor attention regime, the increase in financial performance is larger and statistically significant for all measures of financial performance.

Research shows that there is some difference in the prediction of financial performance between market-based and accounting-based measures of CFP (Orlitzky et al. 2003; Wu 2006). In the present paper, employing both measurements provides a relatively full picture of financial performance and reconciles prior research streams.

5.3. Additional sensitivity tests

We also perform additional robustness checks, which are reported in Table 4.10. In particular, we check whether our main findings above are robust to alternative sample specifications, different proxies and other methodologies. The main dependent variable in this analysis is *Adj_Q*, the regime-dependent variable is CR awards and the regressions, are again estimated using PTR, include the same control variables as in Table 4.7 and adjust for industry, country, and year fixed effects.

<Insert Table 10 here>

First, as previously discussed, we have noticed in Table 4.1 that the sample is predominately composed by U.S. and Japanese firms. We test whether the main findings hold when we exclude these firms, which make up 59.27% of our sample. The coefficient on CR awards remains positive and significant at the 1% level for high attention regime and negative and significant under the threshold, with the magnitude of the coefficient qualitatively the same as above. These results indicate that the relation between the CR awards and corporate value is not driven by U.S. and Japanese firms. Moreover, the coefficients on all control variables continue to have the expected sign.

Second, prior research suggests that the level of CSR may vary according to industry characteristics (Waddock and Graves 1997; McWilliams and Siegel 2001; El Ghoul et al.

2011). Therefore, in an attempt to make our proxies for CSR more comparable across industries, we adjust CSP scores for the industry based on Fama and French (1997) 48 industry classification in each year. As shown in the second column of Table 4.10, the results corroborate our earlier findings, suggesting that industry effects in CSP scores are not driving our results.

Third, we assume that there is no perfect proxy for investor attention and employ the number of analysts following a firm as an alternative proxy of investor attention, as in Blankespoor et al. (2013). The intuition behind this choice is that analysts play an important role in financial markets and especially in increasing firm visibility (Irvine 2003; Bushee et al. 2010). Furthermore, security analysts play a critical role to enhance information transparency between managers and external investors. As shown in the third column of Table 4.10, empirical results are not sensitive to the use of an alternative attention proxy.[8]

Finally, the main PTR analysis uses investor attention as the threshold variable, but the latter is not included as an explanatory variable. Linear OLS regression as well as prior studies have shown that investor attention is relevant for stock market activity (Drake et al. 2012; Da et al. 2011). Therefore, one could believe that the effect of CR awards will change when investor attention is controlled for. We thus include investor attention in our main specification to check the robustness of empirical findings. As can be seen, the results are qualitatively the same, with only minor changes in estimated coefficients. The evidence is thus robust to controlling for the direct effect of investor attention.

6. Discussion and implications for future research

This work argues that firms can "*do well by doing good*", as found in empirical studies documenting a positive effects of social performance (Waddock and Graves 1997; Margolis and Walsh 2003; Orlitzky et al. 2003; Barnett and Salomon 2006, 2012; Kacperczyk 2009; Minor and Morgan 2011; Eccles et al. 2014; Flammer 2013; Margolis et al. 2009). Underlying the positive relationship between CSP and financial outcomes is the idea that effective CSR strategies can attract stakeholders, such as socially conscious consumers and investors, to increase their willingness to buy and invest, respectively. In particular, firms that undertake CSR may enjoy stronger and lasting relationships with stakeholders, resulting in lower costs and higher quality inputs, and providing a sustainable competitive advantage (Freeman 1984).

---

[8] It is also worth noting that in untabulated analysis, all the empirical results of this paper hold after employing analyst following instead of GSV of stock tickers as a proxy of investor attention.

Most importantly, this paper explores a previously unexplored premise of this argument—that investors' rewards to CSR should only be expected to accrue if they pay attention to the firm's CSR activities. This being the case, many of the previously hypothesized stakeholder-generated benefits to firms as a result of their CSR commitment should be contingent on the extent that these CSR activities manage to attract stakeholder attention. Our analysis finds partial support for this view, demonstrating that investor attention partially mediate the relationship between CR awards and firm financial benefits as in Madsen and Rodgers (2015) and Servaes and Tamayo (2013).

Indeed, findings suggest that CR awards are relevant for corporate value, even though the influence may be just passive. In light of the analysis of investor attention as the threshold variable, we can draw some clear patterns and discuss possible implications for several actors who might be involved in this process. First, an immediate managerial implication of our findings suggests that in order for CSR to add value in the long run, planning and considerable resources should be dedicated to the visibility of CSR commitment, given that CR awards do not pay off immediately, but only after a threshold of investor attention has been reached. All news stories are not created equal. In the best of circumstances, human attention is a fluid but scarce resource (Kahneman 1973). Drawing to empirical results, beyond a certain threshold, the more that is asked of this resource, the better CSP performs. Higher investor attention is also correlated with the development of firm visibility, in turn impacting the value due to their linkage documented in the literature (Aouadi and Marsat 2016; Barber and Odean 2008; Merton 1987). Second, a higher investor attention improves the value effect of CSP possibly through influencing the mechanisms of stock trading. The firm's operating performance may also improve because of increased monitoring by investors and/or by enhanced access to capital markets and due to a lower cost of information asymmetry as a result of greater consumption of information by investors and analysts.

However, under the optimal level of investor attention, the returns to CR awards are negative supporting the view of CSR as a cost as previously proposed by hypothesis 2. This result finds support from Lioui and Sharma (2012) who show a negative direct relationship between a firm's market value and environmental KLD scores, but a positive indirect effect. They suggest that environmental performance increases R&D expenditure, which enhances market value. Some authors have also posit that CSR involves higher costs without ensuring immediate benefits (Barnett 2007) in light of the view of Friedman (1970) arguing that corporate prosocial behavior reduces both corporate and societal welfare. From such standpoint, managers are seen as inefficient and incapable of enabling social change

(Friedman 1970), and CSR is argued to be a diversion of scarce firm resources by managers as agents towards unproductive activities.

The value effect of environmental awards above the threshold is not as relevant as that of social labels. The evidence thus reveals that investor attention plays a more important role for social performance. Several articles in the management literature argue that by nurturing the relationship to its employees, a company can attract, motivate, and retain the most talented employees in the industry (Greening and Turban 2000; Albinger and Freeman 2000; Vogel 2005; Turban and Greening 1997; Pfeffer 1994; Peterson 2004). From the stakeholder theory lens (Freeman 1984), firms that are reported in lists of 'best companies to work for' may find it easier to recruit top quality employees, potentially resulting in improvement in productivity at relatively low cost (Moskowitz 1972). Talented and satisfied employees allow for better productivity, improve sales and help deliver superior customer service (Korschun et al. 2014), enhancing firm financial value (Edmans 2011). Indeed, Edmans (2011, 2012) shows that companies with higher job satisfaction earn higher abnormal returns compared to their peers. Consistent with this evidence, Galema et al. (2008) report a positive relationship between employee relations scores derived from KLD scores and individual stock returns over the period 1992-2006, using pooled cross-sectional regressions. Our findings complement and extend this literature; however we suggest that social labels are desired, but to the limited extent that they attract and improve investor attention to a particular threshold.

Drawing on sustainability and CSR literature, there is no definitive evidence that all green investments pay off in financial terms (Ambec and Lanoie 2008; Cordeiro and Tewari 2015). Furthermore, these investments may be seen as agency problems. For instance, Bénabou and Tirole (2010) and Baron (2008) both propose that one explanation for environmental investment is managerial self-entrenchment. The authors argue that managers may over-invest in environmental expenditure in order to burnish their own private reputations as environmental protector or simply to serve self-interest and generate intrinsic rewards simply due to personal taste for environmental causes. Thus, environmental over-investment can be classified as agency costs that are detrimental to investors who might not systematically share such enthusiasm (Barnea and Rubin 2010; Gillan et al. 2010).

Finally, while the value gains from CR awards may seem small compared to other financial information (relative to earnings announcements, mergers, and other major corporate events), they appear nevertheless economically significant. Stock market participants determine a

firm's stock price and consequent market value and base their decisions on perceptions of past, current, and future stock returns (Orlitzky et al. 2003). Within other factors, evidence has revealed that perceptions are influenced by social performance (Boyle et al. 1997). This can also be justified by benchmarking our empirical results against the findings from other CSR studies (Henisz et al. 2014; Hawn and Ioannou 2016). For example, Servaes and Tamayo (2013) find that consumer awareness as proxied by advertising expenditure explains the positive valuation effect of CSR. This evidence is attributed to the fact that advertising expenditure provides insights into the firm's information environment (Nelson 1974). Thus, CSR signaling for improved reputation would reduce the expected legitimacy gap between the firm and its stakeholders through lower information asymmetry.

7. Conclusion

While it seems intuitively clear that attention can potentially be both limited (i.e. be "*too low*") or excessive (i.e. "*too high*"), the literature so far has devoted surprisingly little effort to investigate this issue in more depth. Apart from few notable exceptions (Hou et al. 2009), prior studies have looked at one side only. They often focus on limited attention and interpret the uncovered return patterns as evidence for investor underreaction due to slow information diffusion. Alternatively, they refer to the idea of excessive attention and argue that findings are in line with investor overreaction due to uninformed demand shocks. So far, it is not sufficiently clear from the literature which quantifiable conditions exactly cause which investor behavior and which market reaction. At least to some degree, the well-known critique of Fama (1998) comes into mind in this context. Fama argues that, according to behavioral finance research, investors appear to underreact about as often as they appear to overreact in event studies, leaving a blurry picture which eventually might also be consistent with the idea of efficient markets.

In light of the stakeholder theory (Freeman 1984), the literature has previously documented that CSR strengths may contribute to financial performance (Donaldson and Preston 1995; Jones 1995; Servaes and Tamayo 2013). Another stream of financial literature suggested that investor attention exerts a significant influence on stock market activity (Peng and Xiong 2006; Drake et al. 2012; Bank et al. 2011). We add to the two strands of literature and investigate how investor attention shape the relationship between CR awards and market value, i.e., whether attention plays an intermediate role and under which conditions, still awaits an investigation. We explore this issue by applying the panel threshold model inspired

from Hansen (1999), that allows us to perform a deeper analysis as compared to using interaction effects.

First, we investigate whether there is any empirical association between CR awards and corporate value as proxied by industry-adjusted Tobin's Q. Although stakeholders' theory (Freeman 1984) provides enough good reasons why such a relationship should exist, empirical evidence is rather divergent in this regard (Margolis et al. 2009). Perhaps, one potential reason is that most studies deal exclusively with the US stock market, where it seems that results are significantly affected by an endogeneity problem. This problem is due to the fact that, in the U.S., social performance seems to be mainly driven by financial performance. Evidently, in such a case financial and social performance are simultaneously determined. Trying to alleviate such a concern, the present paper relies on an international dataset which covers 879 firms from 25 countries from 2005 to 2014 and provides new evidence on the non-linear relationship between CR awards and financial performance. In particular, we establish that the main mechanism by which CSR commitment is translated into improved financial performance is when investor attention reaches a particular threshold. This evidence holds for market-based measures of financial performance as well as accounting-based measures. Furthermore, in contrast to Krüger (2015), Flammer (2013) and Klassen and McLaughlin (1996), environmental performance is found to be not relevant for Adj_Q, regardless the investor attention regime. Conversely, social labels are positively related to Adj_Q for firms with high attention regime, in line with Edmans (2011, 2012).

The results in this paper make a contribution to the literature for the following reasons. First, the literature on CSP has extensively focused on whether CSR adds value (Kumar et al. 2002; Hart and Ahuja 1996; Ramchander et al. 2012; Stanwick and Stanwick 1998; Clacher and Hagendorff 2012; Servaes and Tamayo 2013). We complement these works by showing that the positive association between CSR and financial performance is more likely due to the attention allocation hypothesis rather than positive returns on those investments. Such results indicate the relevance of attention to accelerate the resolution of information asymmetry among firms. Second, this novel explanation suggests that prior research provides an incomplete assessment of the relationship between CSR and financial performance. Therefore, the financial managers should take steps to increase firm visibility levels in the low attention regime. Third, the finding that CSP is significantly associated to financial performance is also relevant to the ongoing debate on the potential merits of CSR given the controversial results and the absence of consensus. Precisely, the paper provides new evidence on the resource-based view (RBV) of CSR based on early built panel threshold

estimation techniques. Overall, the results indicate that investor attention might be an important variable explaining the value of CSR, while controlling for corporate attributes.

Our findings that "doing good" pays off has potentially far-reaching implications for corporate decision making and strategic management. In particular, companies may find it worthwhile to devote sufficient resources to developing the visibility of their CSR strategy if they want to gain returns on their investments. From a broader perspective, this insight suggests an important, and perhaps unique, feature of CSR: shareholders are undoubtedly the active players of the additional benefits of CSR. Two caveats are in order. First, as with most empirical work, unobserved firm heterogeneity could explain our findings, but the fact that our results survive a large battery of checks mitigates this concern. In addition, there may be other channels through which firms can profit from their CSR strengths. Investigating these channels and studying their relative efficacy compared to prior channels would be a fruitful avenue for further work. Finally, given the lack of a consistent theoretical framework on the role of investor attention on the CSP-CFP relationship, our preliminary analysis has to be interpreted with caution. For example, we assume that investor attention somehow, 'magically' or at least unproblematically, reaches firms which is an ideal framework in need of further investigation.

References

Abbott, W. F., & Monsen, R. J. (1979). On the measurement of corporate social responsibility: Self-reported disclosures as a method of measuring corporate social involvement. *Academy of management Journal, 22*(3), 501-515.

Agle, B. R., Donaldson, T., Freeman, R. E., Jensen, M. C., Mitchell, R. K., & Wood, D. J. (2008). Dialogue: Toward superior stakeholder theory. *Business Ethics Quarterly, 18*(02), 153-190.

Al-Tuwaijri, S. A., Christensen, T. E., & Hughes Ii, K. (2004). The relations among environmental disclosure, environmental performance, and economic performance: a simultaneous equations approach. *Accounting, organizations and society, 29*(5), 447-471.

Albinger, H. S., & Freeman, S. J. (2000). Corporate social performance and attractiveness as an employer to different job seeking populations. *Journal of Business Ethics, 28*(3), 243-253.

Ambec, S., & Lanoie, P. (2008). Does it pay to be green? A systematic overview. *The Academy of Management Perspectives, 22*(4), 45-62.

Anderson, E. W., & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing science, 12*(2), 125-143.

Angrist, J. D., Pischke, J.-S., & Pischke, J.-S. (2009). *Mostly harmless econometrics: an empiricist's companion* (Vol. 1): Princeton university press Princeton.

Antoniou, A., Guney, Y., & Paudyal, K. (2008). The determinants of capital structure: capital market-oriented versus bank-oriented institutions. *Journal of financial and quantitative analysis, 43*(01), 59-92.

Aouadi, A., & Marsat, S. (2016). Do ESG Controversies Matter for Firm Value? Evidence from International Data. *Journal of Business Ethics*, 1-21.

Aragon-Correa, J. A., & Sharma, S. (2003). A contingent resource-based view of proactive corporate environmental strategy. *Academy of management review, 28*(1), 71-88.

Aras, G., Aybars, A., & Kutlu, O. (2010). Managing corporate performance: Investigating the relationship between corporate social responsibility and financial performance in emerging markets. *International Journal of productivity and Performance management, 59*(3), 229-254.

Arouri, M., & Pijourlet, G. (2015). CSR performance and the value of cash holdings: International evidence. *Journal of Business Ethics*, 1-22.

Attig, N., El Ghoul, S., Guedhami, O., & Suh, J. (2013). Corporate social responsibility and credit ratings. *Journal of Business Ethics, 117*(4), 679-694.

Aupperle, K. E., Carroll, A. B., & Hatfield, J. D. (1985). An empirical examination of the relationship between corporate social responsibility and profitability. *Academy of management Journal, 28*(2), 446-463.

Bae, K.-H., Kang, J.-K., & Wang, J. (2011). Employee treatment and firm leverage: A test of the stakeholder theory of capital structure. *Journal of financial economics, 100*(1), 130-153.

Balabanis, G., Phillips, H. C., & Lyall, J. (1998). Corporate social responsibility and economic performance in the top British companies: are they linked? *European Business Review, 98*(1), 25-44.

Bank, M., Larch, M., & Peter, G. (2011). Google search volume and its influence on liquidity and returns of German stocks. *Financial markets and portfolio management, 25*(3), 239-264.

Barber, B. M., & Odean, T. (2008). All that glitters: The effect of attention and news on the buying behavior of individual and institutional investors. *Review of Financial Studies, 21*(2), 785-818.

Barnea, A., & Rubin, A. (2010). Corporate social responsibility as a conflict between shareholders. *Journal of Business Ethics, 97*(1), 71-86.

Barnett, M. L. (2007). Stakeholder influence capacity and the variability of financial returns to corporate social responsibility. *Academy of management review, 32*(3), 794-816.

Barnett, M. L. (2014). Why Stakeholders Ignore Firm Misconduct A Cognitive View. *Journal of Management, 40*(3), 676-702.

Barnett, M. L., & Salomon, R. M. (2006). Beyond dichotomy: The curvilinear relationship between social responsibility and financial performance. *Strategic management journal, 27*(11), 1101-1122.

Barnett, M. L., & Salomon, R. M. (2012). Does it pay to be really good? Addressing the shape of the relationship between social and financial performance. *Strategic management journal, 33*(11), 1304-1320.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120.

Baron, D. P. (2001). Private politics, corporate social responsibility, and integrated strategy. *Journal of Economics & Management Strategy, 10*(1), 7-45.

Baron, D. P. (2008). Managerial contracting and corporate social responsibility. *Journal of Public Economics, 92*(1), 268-288.

Baron, D. P., & Diermeier, D. (2007). Introduction to the special issue on nonmarket strategy and social responsibility. *Journal of Economics and Management Strategy, 16*(3), 539.

Barth, M. E., & McNichols, M. F. (1994). Estimation and market valuation of environmental liabilities relating to superfund sites. *Journal of accounting research*, 177-209.

Bénabou, R., & Tirole, J. (2010). Individual and corporate social responsibility. *Economica, 77*(305), 1-19.

Bird, R., Hall, A. D., Momentè, F., & Reggiani, F. (2007). What corporate social responsibility activities are valued by the market? *Journal of Business Ethics, 76*(2), 189-206.

Blankespoor, E., Miller, G. S., & White, H. D. (2013). The role of dissemination in market liquidity: Evidence from firms' use of Twitter™. *The Accounting Review, 89*(1), 79-112.

Boyle, E. J., Higgins, M. M., & Rhee, G. S. (1997). Stock market reaction to ethical initiatives of defense contractors: Theory and evidence. *Critical Perspectives on Accounting, 8*(6), 541-561.

Brainard, W. C., & Tobin, J. (1968). Pitfalls in financial model building. *The American economic review, 58*(2), 99-122.

Branco, M. C., & Rodrigues, L. L. (2006). Corporate social responsibility and resource-based perspectives. *Journal of Business Ethics, 69*(2), 111-132.

Burke, L., Logsdon, J. M., Mitchell, W., Reiner, M., & Vogel, D. (1986). Corporate community involvement in the San Francisco Bay area. *California management review, 28*(3), 122-141.

Bushee, B. J., Core, J. E., Guay, W., & Hamm, S. J. (2010). The role of the business press as an information intermediary. *Journal of accounting research, 48*(1), 1-19.

Cai, Y., Jo, H., & Pan, C. (2012). Doing Well While Doing Bad? CSR in Controversial Industry Sectors. *Journal of Business Ethics, 108*(4), 467-480, doi:10.1007/s10551-011-1103-7.

Campbell, J. Y. (1996). Understanding Risk and Return. *Journal of Political Economy, 104*(2), 298-345, doi:doi:10.1086/262026.

Capelle-Blancard, G., & Laguna, M.-A. (2010). How does the stock market respond to chemical disasters? *Journal of environmental economics and management, 59*(2), 192-205.

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of management review, 4*(4), 497-505.

Casadesus-Masanell, R., Crooke, M., Reinhardt, F., & Vasishth, V. (2009). Households' willingness to pay for "green" goods: evidence from Patagonia's introduction of organic cotton sportswear. *Journal of Economics & Management Strategy, 18*(1), 203-233.

Chan, K.-S. (1993). Consistency and limiting distribution of the least squares estimator of a threshold autoregressive model. *The annals of statistics*, 520-533.

Chemmanur, T. J., & Yan, A. (2010). Advertising, Attention, and Stock Returns. *SSRN Working Paper Series*.

Chen, C. M., & Delmas, M. (2011). Measuring corporate social performance: An efficiency perspective. *Production and Operations Management, 20*(6), 789-804.

Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic management journal, 35*(1), 1-23.

Cheung, A. W. K. (2011). Do stock investors value corporate sustainability? Evidence from an event study. *Journal of Business Ethics, 99*(2), 145-165.

Choi, H., & Varian, H. (2009). Predicting initial claims for unemployment benefits. Citeseer.

Clacher, I., & Hagendorff, J. (2012). Do announcements about corporate social responsibility create or destroy shareholder wealth? Evidence from the UK. *Journal of Business Ethics, 106*(3), 253-266.

Clarkson, P. M., Li, Y., & Richardson, G. D. (2004). The market valuation of environmental capital expenditures by pulp and paper companies. *The Accounting Review, 79*(2), 329-353.

Cochran, P. L., & Wood, R. A. (1984). Corporate social responsibility and financial performance. *Academy of management Journal, 27*(1), 42-56.

Cohen, L., & Frazzini, A. (2008). Economic links and predictable returns. *The Journal of Finance, 63*(4), 1977-2011.

Cohen, M. A., Fenn, S., & Naimon, J. S. (1995). *Environmental and financial performance: are they related?* : Citeseer.

Copeland, T. E., & Galai, D. (1983). Information effects on the bid-ask spread. *The Journal of Finance, 38*(5), 1457-1469.

Cordeiro, J. J., & Tewari, M. (2015). Firm characteristics, industry context, and investor reactions to environmental CSR: a stakeholder theory approach. *Journal of Business Ethics, 130*(4), 833-849.

Cottrill, M. T. (1990). Corporate social responsibility and the marketplace. *Journal of Business Ethics, 9*(9), 723-729.

Da, Z., Engelberg, J., & Gao, P. (2011). In search of attention. *The Journal of Finance, 66*(5), 1461-1499.

Da, Z., Gurun, U. G., & Warachka, M. (2014). Frog in the pan: Continuous information and momentum. *Review of Financial Studies, 27*(7), 2171-2218.

Dang, V. A. (2011). Leverage, debt maturity and firm investment: An empirical analysis. *Journal of Business Finance & Accounting, 38*(1-2), 225-258.

Dang, V. A., Kim, M., & Shin, Y. (2012). Asymmetric capital structure adjustments: New evidence from dynamic panel threshold models. *Journal of Empirical Finance, 19*(4), 465-482.

Davidson, W. N., & Worrell, D. L. (1990). A comparison and test of the use of accounting and stock market data in relating corporate social responsibility and financial performance. *Akron Business and Economic Review, 21*(3), 7.

DellaVigna, S., & Pollet, J. M. (2009). Investor inattention and Friday earnings announcements. *The Journal of Finance, 64*(2), 709-749.

Derwall, J., Guenster, N., Bauer, R., & Koedijk, K. (2005). The eco-efficiency premium puzzle. *Financial Analysts Journal, 61*(2), 51-63.

Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review, 86*(1), 59-100.

Donaldson, T., & Preston, L. E. (1995). The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. *The Academy of Management Review, 20*(1), 65-91, doi:10.2307/258887.

Dowling, G. R. (2004). Journalists' evaluation of corporate reputations. *Corporate Reputation Review, 7*(2), 196-205.

Drake, M. S., Roulstone, D. T., & Thornock, J. R. (2012). Investor information demand: Evidence from Google searches around earnings announcements. *Journal of accounting research, 50*(4), 1001-1040.

Du, S., Bhattacharya, C. B., & Sen, S. (2007). Reaping relational rewards from corporate social responsibility: The role of competitive positioning. *International journal of research in marketing, 24*(3), 224-241.

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science, 60*(11), 2835-2857.

Edmans, A. (2011). Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of financial economics, 101*(3), 621-640.

Edmans, A. (2012). The link between job satisfaction and firm value, with implications for corporate social responsibility. *The Academy of Management Perspectives, 26*(4), 1-19.

El Ghoul, S., Guedhami, O., & Kim, Y. (2016a). Country-level institutions, firm value, and the role of corporate social responsibility initiatives. *Journal of International Business Studies, 00*, 1-26.

El Ghoul, S., Guedhami, O., Kwok, C. C., & Mishra, D. R. (2011). Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance, 35*(9), 2388-2406.

El Ghoul, S., Guedhami, O., Nash, R. C., & Patel, A. (2016b). New Evidence on the Role of the Media in Corporate Social Responsibility. *Available at SSRN 2712239.*

Engelberg, J. E. Costly information processing: Evidence from earnings announcements. In *AFA 2009 San Francisco Meetings Paper, 2008*

Erhemjamts, O., Li, Q., & Venkateswaran, A. (2013). Corporate social responsibility and its impact on firms' investment policy, organizational structure, and performance. *Journal of Business Ethics, 118*(2), 395-412.

Fama, E. F. (1998). Market efficiency, long-term returns, and behavioral finance. *Journal of financial economics, 49*(3), 283-306.

Fama, E. F., & French, K. R. (1992). The cross-section of expected stock returns. *The Journal of Finance, 47*(2), 427-465.

Fama, E. F., & French, K. R. (1997). Industry costs of equity. *Journal of financial economics, 43*(2), 153-193.

Fisman, R., Heal, G., & Nair, V. B. (2008). A model of corporate philanthropy. *Working Paper, Columbia University and University of Pennsylvania.*

Flammer, C. (2013). Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors. *Academy of management Journal, 56*(3), 758-781, doi:10.5465/amj.2011.0744.

Flammer, C. (2015a). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science, 61*(11), 2549-2568.

Flammer, C. (2015b). Does product market competition foster corporate social responsibility? Evidence from trade liberalization. *Strategic management journal, 36*(10), 1469-1485.

Flammer, C., & Luo, J. (2014). Corporate social responsibility as a remedy for moral hazard? Evidence from a quasiexperiment. Working paper.

Fogler, H. R., & Nutt, F. (1975). A note on social responsibility and stock valuation. *Academy of management Journal, 18*(1), 155-160.

Fombrun, C., Gardberg, N. A., & Barnett, M. L. (2000). Opportunity platforms and safety nets: Corporate citizenship and reputational risk. *Business and Society Review, 105*(1), 85-106.

Fombrun, C. J. (2005). A world of reputation research, analysis and thinking—building corporate reputation through CSR initiatives: evolving standards. *Corporate Reputation Review, 8*(1), 7-12.

Fosfuri, A., Giarratana, M. S., & Roca, E. (2015). Walking a slippery line: Investments in social values and product longevity. *Strategic management journal, 36*(11), 1750-1760.

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*: Boston: Pitman.

Friedman, M. (1970). The social responsibility of business is to increase its profits. *New York*, 122-124.

Galbreath, J., & Shum, P. (2012). Do customer satisfaction and reputation mediate the CSR–FP link? Evidence from Australia. *Australian Journal of Management, 37*(2), 211-229.

Galema, R., Plantinga, A., & Scholtens, B. (2008). The stocks at stake: Return and risk in socially responsible investment. *Journal of Banking & Finance, 32*(12), 2646-2654.

García-Gallego, A., & Georgantzís, N. (2009). Market effects of changes in consumers' social responsibility. *Journal of Economics & Management Strategy, 18*(1), 235-262.

Gardberg, N. A., & Fombrun, C. J. (2006). Corporate citizenship: Creating intangible assets across institutional environments. *Academy of management review, 31*(2), 329-346.

Gervais, S., Kaniel, R., & Mingelgrin, D. H. (2001). The high-volume return premium. *The Journal of Finance, 56*(3), 877-919.

Ghoul, S. E., Guedhami, O., & Kim, Y. (2016). Country-level institutions, firm value, and the role of corporate social responsibility initiatives. *Journal of International Business Studies, 00*, 1–26.

Gillan, S., Hartzell, J. C., Koch, A., & Starks, L. T. (2010). Firms' environmental, social and governance (ESG) choices, performance and managerial motivation. *Unpublished working paper*.

Girerd-Potin, I., Jimenez-Garcès, S., & Louvet, P. (2011). The link between social rating and financial capital structure. *Finance, 32*(2), 9-52.

Gode, D., & Mohanram, P. (2003). Inferring the cost of capital using the Ohlson–Juettner model. *Review of accounting studies, 8*(4), 399-431.

Godfrey, P. C. (2005). The relationship between corporate philanthropy and shareholder wealth: A risk management perspective. *Academy of management review, 30*(4), 777-798.

Godfrey, P. C., Merrill, C. B., & Hansen, J. M. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic management journal, 30*(4), 425-445.

Gormley, T. A., & Matsa, D. A. (2014). Common errors: How to (and not to) control for unobserved heterogeneity. *Review of Financial Studies, 27*(2), 617-661.

Graves, S. B., & Waddock, S. A. (1994). Institutional owners and corporate social performance. *Academy of management Journal, 37*(4), 1034-1046.

Gray, W. B., & Shadbegian, R. J. (1993). Environmental regulation and manufacturing productivity at the plant level. National Bureau of Economic Research.

Greening, D. W., & Turban, D. B. (2000). Corporate social performance as a competitive advantage in attracting a quality workforce. *Business & Society, 39*(3), 254-280.

Gregory, A., & Whittaker, J. (2013). Exploring the valuation of corporate social responsibility—A comparison of research methods. *Journal of Business Ethics, 116*(1), 1-20.

Grossman, S. J., & Stiglitz, J. E. (1980). On the impossibility of informationally efficient markets. *The American economic review, 70*(3), 393-408.

Grullon, G., Kanatas, G., & Weston, J. P. (2004). Advertising, breadth of ownership, and liquidity. *Review of Financial Studies, 17*(2), 439-461.

Hansen, B. E. (1999). Threshold effects in non-dynamic panels: Estimation, testing, and inference. *Journal of econometrics, 93*(2), 345-368.

Harjoto, M. A., & Jo, H. (2011). Corporate governance and CSR nexus. *Journal of Business Ethics, 100*(1), 45-67.

Harjoto, M. A., & Jo, H. (2015). Legal vs. normative CSR: Differential impact on analyst dispersion, stock return volatility, cost of capital, and firm value. *Journal of Business Ethics, 128*(1), 1-20.

Harjoto, M. A., Jo, H., & Kim, Y. (2015). Institutional Ownership and Corporate Social Responsibility: The Non-Linear Relation and its Implication for Stock Return Volatility. *Available at SSRN 2664437*.

Hart, O. (1995). *Firms, contracts, and financial structure*: Clarendon Press.

Hart, S. L. (1995). A natural-resource-based view of the firm. *Academy of management review, 20*(4), 986-1014.

Hart, S. L., & Ahuja, G. (1996). Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. *Business strategy and the Environment, 5*(1), 30-37.

Hawn, O., & Ioannou, I. (2016). Mind the gap: The interplay between external and internal actions in the case of corporate social responsibility. *Strategic management journal*.

Henisz, W. J., Dorobantu, S., & Nartey, L. J. (2014). Spinning gold: The financial returns to stakeholder engagement. *Strategic management journal, 35*(12), 1727-1748.

Hiatt, S. R., Sine, W. D., & Tolbert, P. S. (2009). From Pabst to Pepsi: The deinstitutionalization of social practices and the creation of entrepreneurial opportunities. *Administrative science quarterly, 54*(4), 635-667.

Hillman, A. J., & Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: what's the bottom line? *Strategic management journal, 22*(2), 125-139.

Hirshleifer, D., Lim, S. S., & Teoh, S. H. (2009). Driven to distraction: Extraneous events and underreaction to earnings news. *The Journal of Finance, 64*(5), 2289-2325.

Holder-Webb, L., Cohen, J. R., Nath, L., & Wood, D. (2009). The supply of corporate social responsibility disclosures among US firms. *Journal of Business Ethics, 84*(4), 497-527.

Holt, D. B., Quelch, J. A., & Taylor, E. L. (2004). How global brands compete. *Harvard business review, 82*(9), 68-75.

Hou, K., Xiong, W., & Peng, L. (2009). A tale of two anomalies: The implications of investor attention for price and earnings momentum. *Available at SSRN 976394*.

Huberman, G., & Regev, T. (2001). Contagious speculation and a cure for cancer: A nonevent that made stock prices soar. *The Journal of Finance, 56*(1), 387-396.

Ioannou, I., & Serafeim, G. (2015). The impact of corporate social responsibility on investment recommendations: Analysts' perceptions and shifting institutional logics. *Strategic management journal, 36*(7), 1053-1081.

Irvine, P. J. (2003). The incremental impact of analyst initiation of coverage. *Journal of Corporate Finance, 9*(4), 431-451.

Jaffe, A. B., Peterson, S. R., Portney, P. R., & Stavins, R. N. (1995). Environmental regulation and the competitiveness of US manufacturing: what does the evidence tell us? *Journal of Economic literature, 33*(1), 132-163.

Jayachandran, S., Kalaignanam, K., & Eilert, M. (2013). Product and environmental social performance: Varying effect on firm performance. *Strategic management journal, 34*(10), 1255-1264.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics, 3*(4), 305-360.

Jiao, Y. (2010). Stakeholder welfare and firm value. *Journal of Banking & Finance, 34*(10), 2549-2561.

Jiraporn, P., & Chintrakarn, P. (2013). Corporate social responsibility (CSR) and CEO luck: are lucky CEOs socially responsible? *Applied Economics Letters, 20*(11), 1036-1039.

Jiraporn, P., Jiraporn, N., Boeprasert, A., & Chang, K. (2014). Does corporate social responsibility (CSR) improve credit ratings? Evidence from geographic identification. *Financial management, 43*(3), 505-531.

Jo, H., & Harjoto, M. A. (2011). Corporate governance and firm value: The impact of corporate social responsibility. *Journal of Business Ethics, 103*(3), 351-383.

Jo, H., & Harjoto, M. A. (2012). The causal effect of corporate governance on corporate social responsibility. *Journal of Business Ethics, 106*(1), 53-72.

Johnson, R. A., & Greening, D. W. (1999). The effects of corporate governance and institutional ownership types on corporate social performance. *Academy of management Journal, 42*(5), 564-576.

Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of management review, 20*(2), 404-437.

Kacperczyk, A. (2009). With greater power comes greater responsibility? Takeover protection and corporate attention to stakeholders. *Strategic management journal, 30*(3), 261-285.

Kahneman, D. (1973). *Attention and Effort, New Jersey: Prentice Hall.* (Asia Pacific Journal of Management).

Kapopoulos, P., & Lazaretou, S. (2007). Corporate ownership structure and firm performance: evidence from Greek firms. *Corporate Governance: An International Review, 15*(2), 144-158.

Kassinis, G., & Vafeas, N. (2006). Stakeholder pressures and environmental performance. *Academy of management Journal, 49*(1), 145-159.

Kim, Y., Li, H., & Li, S. (2014). Corporate social responsibility and stock price crash risk. *Journal of Banking & Finance, 43*, 1-13.

Kim, Y., Park, M. S., & Wier, B. (2012). Is earnings quality associated with corporate social responsibility? *The Accounting Review, 87*(3), 761-796.

King, B. G., & Whetten, D. A. (2008). Rethinking the relationship between reputation and legitimacy: A social actor conceptualization. *Corporate Reputation Review, 11*(3), 192-207.

Klassen, R. D., & McLaughlin, C. P. (1996). The impact of environmental management on firm performance. *Management Science, 42*(8), 1199-1214.

Koh, P. S., Qian, C., & Wang, H. (2014). Firm litigation risk and the insurance value of corporate social performance. *Strategic management journal, 35*(10), 1464-1482.

Korschun, D., Bhattacharya, C. B., & Swain, S. D. (2014). Corporate social responsibility, customer orientation, and the job performance of frontline employees. *Journal of Marketing, 78*(3), 20-37.

Krüger, P. (2015). Corporate goodness and shareholder wealth. *Journal of financial economics, 115*(2), 304-329, doi:http://dx.doi.org/10.1016/j.jfineco.2014.09.008.

Kumar, S., Tan, S., Quah, S., & Yusoff, K. (2002). Isolation and characterization of seven tetranucleotide microsatellite loci in mungbean, Vigna radiata. *Molecular Ecology Notes, 2*(3), 293-295.

Lev, B., Petrovits, C., & Radhakrishnan, S. (2010). Is doing good good for you? How corporate charitable contributions enhance revenue growth. *Strategic management journal, 31*(2), 182-200.

Lioui, A., & Sharma, Z. (2012). Environmental corporate social responsibility and financial performance: Disentangling direct and indirect effects. *Ecological Economics, 78*, 100-111.

Lou, D. (2014). Attracting investor attention through advertising. *Review of Financial Studies, 27*, 1797–1829.

Lounsbury, M., Ventresca, M., & Hirsch, P. M. (2003). Social movements, field frames and industry emergence: a cultural–political perspective on US recycling. *Socio-Economic Review, 1*(1), 71-104.

Luo, X., Wang, H., Raithel, S., & Zheng, Q. (2015). Corporate social performance, analyst stock recommendations, and firm future returns. *Strategic management journal, 36*(1), 123-136.

Luo, Y. (2008). Consumption dynamics under information processing constraints. *Review of Economic dynamics, 11*(2), 366-385.

Lys, T., Naughton, J. P., & Wang, C. (2015). Signaling through corporate accountability reporting. *Journal of Accounting and Economics, 60*(1), 56-72.

Mackey, A., Mackey, T. B., & Barney, J. B. (2007). Corporate social responsibility and firm performance: Investor preferences and corporate strategies. *Academy of management review, 32*(3), 817-835.

Maćkowiak, B., & Wiederholt, M. (2015). Business cycle dynamics under rational inattention. *The Review of Economic Studies*, rdv027.

Madsen, P. M., & Rodgers, Z. J. (2015). Looking good by doing good: The antecedents and consequences of stakeholder attention to corporate disaster relief. *Strategic management journal, 36*(5), 776-794.

Manasakis, C., Mitrokostas, E., & Petrakis, E. (2013). Certification of corporate social responsibility activities in oligopolistic markets. *Canadian Journal of Economics/Revue canadienne d'économique, 46*(1), 282-309.

Manasakis, C., Mitrokostas, E., & Petrakis, E. (2014). Strategic corporate social responsibility activities and corporate governance in imperfectly competitive markets. *Managerial and Decision Economics, 35*(7), 460-473.

Margolis, J. D., Elfenbein, H. A., & Walsh, J. P. (2009). Does it pay to be good... and does it matter? A meta-analysis of the relationship between corporate social and financial performance. *And Does it Matter*.

Margolis, J. D., & Walsh, J. P. (2003). Misery loves companies: Rethinking social initiatives by business. *Administrative science quarterly, 48*(2), 268-305.

Marsat, S., & Williams, B. (2013). CSR and Market Valuation: International Evidenc. *Bankers, Markets & Investors, 123*, 29-42.

Mattingly, J. E., & Berman, S. L. (2006). Measurement of corporate social action discovering taxonomy in the Kinder Lydenburg Domini ratings data. *Business & Society, 45*(1), 20-46.

Matzler, K., & Hinterhuber, H. H. (1998). How to make product development projects more successful by integrating Kano's model of customer satisfaction into quality function deployment. *Technovation, 18*(1), 25-38.

McWilliams, A., & Siegel, D. (2000). Corporate social responsibility and financial performance: correlation or misspecification? *Strategic management journal, 21*(5), 603-609, doi:10.1002/(SICI)1097-0266(200005)21:5<603::AID-SMJ101>3.0.CO;2-3.

McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of management review, 26*(1), 117-127.

Merton, R. C. (1987). A simple model of capital market equilibrium with incomplete information. *The Journal of Finance, 42*(3), 483-510.

Minor, D., & Morgan, J. (2011). CSR as reputation insurance: Primum non nocere. *California management review, 53*(3), 40-59.

Moneva, J. M., & Cuellar, B. (2009). The value relevance of financial and non-financial environmental reporting. *Environmental and Resource Economics, 44*(3), 441-456.

Moore, G. (2001). Corporate social and financial performance: An investigation in the UK supermarket industry. *Journal of Business Ethics, 34*(3-4), 299-315.

Moskowitz, M. (1972). Choosing socially responsible stocks. *Business and Society Review, 1*(1), 71-75.

Muller, A., & Kräussl, R. (2011). The value of corporate philanthropy during times of crisis: The sensegiving effect of employee involvement. *Journal of Business Ethics, 103*(2), 203-220.

Navarro, P. (1988). Why do corporations give to charity? *Journal of business*, 65-93.

Oberndorfer, U., Schmidt, P., Wagner, M., & Ziegler, A. (2013). Does the stock market value the inclusion in a sustainability stock index? An event study analysis for German firms. *Journal of environmental economics and management, 66*(3), 497-509.

Orlitzky, M., & Benjamin, J. D. (2001). Corporate social performance and firm risk: A meta-analytic review. *Business & Society, 40*(4), 369-396.

Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization studies, 24*(3), 403-441.

Ozkan, A. (2001). Determinants of capital structure and adjustment to long run target: evidence from UK company panel data. *Journal of Business Finance & Accounting, 28*(1-2), 175-198.

Pashler, H. E., Johnston, J. C., & Ruthruff, E. (2001). Attention and performance. *Annual review of psychology, 52*(1), 629-651.

Peloza, J. (2006). Using corporate social responsibility as insurance for financial performance. *California management review, 48*(2), 52-72.

Peng, L., & Xiong, W. (2006). Investor attention, overconfidence and category learning. *Journal of financial economics, 80*(3), 563-602.

Perrini, F., Rossi, G., & Rovetta, B. (2008). Does ownership structure affect performance? Evidence from the Italian market. *Corporate Governance: An International Review, 16*(4), 312-325.

Peterson, D. K. (2004). The relationship between perceptions of corporate citizenship and organizational commitment. *Business & Society, 43*(3), 296-319.

Pfeffer, J. (1994). Competitive advantage through people. *California management review, 36*(2), 9-28.

Porter, M. E. (1991). Towards a dynamic theory of strategy. *Strategic management journal, 12*(S2), 95-117.

Porter, M. E., & Kramer, M. R. (2006). The link between competitive advantage and corporate social responsibility. *Harvard business review, 84*(12), 78-92.

Porter, M. E., & Kramer, M. R. (2011). How to reinvent capitalism: and unleash a wave of innovation and growth. *Harvard business review, 89*(1-2), 62-77.

Porter, M. E., & Van der Linde, C. (1995). Toward a new conception of the environment-competitiveness relationship. *The journal of economic perspectives, 9*(4), 97-118.

Ramchander, S., Schwebach, R. G., & Staking, K. I. M. (2012). The informational relevance of corporate social responsibility: evidence from DS400 index reconstitutions. *Strategic management journal, 33*(3), 303-314, doi:10.1002/smj.952.

Reeb, D., Sakakibara, M., & Mahmood, I. P. (2012). From the editors: Endogeneity in international business research. *Journal of International Business Studies, 43*(3), 211-218.

Roberts, R. W. (1992). Determinants of corporate social responsibility disclosure: An application of stakeholder theory. *Accounting, organizations and society, 17*(6), 595-612.

Rodriguez, P., Siegel, D. S., Hillman, A., & Eden, L. (2006). Three lenses on the multinational enterprise: Politics, corruption, and corporate social responsibility. *Journal of International Business Studies, 37*(6), 733-746.

Rowley, T., & Berman, S. (2000). A brand new brand of corporate social performance. *Business & Society, 39*(4), 397-418.

Ruf, B. M., Muralidhar, K., Brown, R. M., Janney, J. J., & Paul, K. (2001). An empirical investigation of the relationship between change in corporate social performance and financial performance: A stakeholder theory perspective. *Journal of Business Ethics, 32*(2), 143-156.

Rupp, D. E., Ganapathi, J., Aguilera, R. V., & Williams, C. A. (2006). Employee reactions to corporate social responsibility: An organizational justice framework. *Journal of organizational Behavior, 27*(4), 537-543.

Rupp, D. E., Shao, R., Thornton, M. A., & Skarlicki, D. P. (2013). Applicants' and employees' reactions to corporate social responsibility: The moderating effects of first-party justice perceptions and moral identity. *Personnel Psychology, 66*(4), 895-933.

Ruppert, D. (2004). Regression. In *Statistics and Finance* (pp. 169-223): Springer.

Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of management Journal, 40*(3), 534-559.

Rust, R. T., & Oliver, R. L. (2000). Should we delight the customer? *Journal of the Academy of Marketing Science, 28*(1), 86-94.

Seasholes, M. S., & Wu, G. (2007). Predictable behavior, profits, and attention. *Journal of Empirical Finance, 14*(5), 590-610.

Seifert, B., Morris, S. A., & Bartkus, B. R. (2004). Having, giving, and getting: Slack resources, corporate philanthropy, and firm financial performance. *Business & Society, 43*(2), 135-161.

Servaes, H., & Tamayo, A. (2013). The impact of corporate social responsibility on firm value: The role of customer awareness. *Management Science, 59*(5), 1045-1061.

Sharfman, M. P. (1994). Changing Institutional Rules The Evolution of Corporate Philanthropy, 1883-1953. *Business & Society, 33*(3), 236-269.

Sims, C. A. (2006). Rational inattention: Beyond the linear-quadratic case. *The American economic review*, 158-163.

Solomon, D. H., Soltes, E., & Sosyura, D. (2014). Winners in the spotlight: Media coverage of fund holdings as a driver of flows. *Journal of financial economics, 113*(1), 53-72.

Stanwick, P. A., & Stanwick, S. D. (1998). The relationship between corporate social performance, and organizational size, financial performance, and environmental performance: An empirical examination. *Journal of Business Ethics, 17*(2), 195-204.

Tetlock, P. C. (2011). All the news that's fit to reprint: Do investors react to stale information? *Review of Financial Studies, 24*(5), 1481-1512.

Tong, H. (1983). Threshold models in non-linear time series analysis. Lecture notes in statistics, No.21. *Springer-Verlag, New York, USA. ISBN 9780387909189.*

Trotman, K. T., & Bradley, G. W. (1981). Associations between social responsibility disclosure and characteristics of companies. *Accounting, organizations and society, 6*(4), 355-362.

Tsoutsoura, M. (2004). Corporate social responsibility and financial performance. *center for responsible business*.

Turban, D. B., & Greening, D. W. (1997). Corporate social performance and organizational attractiveness to prospective employees. *Academy of management Journal, 40*(3), 658-672.

Ullmann, A. A. (1985). Data in search of a theory: A critical examination of the relationships among social performance, social disclosure, and economic performance of US firms. *Academy of management review, 10*(3), 540-557.

Varadarajan, P. R., & Menon, A. (1988). Cause-related marketing: A coalignment of marketing strategy and corporate philanthropy. *The Journal of Marketing*, 58-74.

Vassalou, M., & Xing, Y. (2004). Default risk in equity returns. *The Journal of Finance, 59*(2), 831-868.

Verwijmeren, P., & Derwall, J. (2010). Employee well-being, firm leverage, and bankruptcy risk. *Journal of Banking & Finance, 34*(5), 956-964.

Vogel, D. J. (2005). Is there a market for virtue? The business case for corporate social responsibility. *California management review, 47*(4), 19-45.

Waddock, S. A., & Graves, S. B. (1997). The corporate social performance-financial performance link. *Strategic management journal*, 303-319.

Walsh, G., Dinnie, K., & Wiedmann, K.-P. (2006). How do corporate reputation and customer satisfaction impact customer defection? A study of private energy customers in Germany. *Journal of Services Marketing, 20*(6), 412-420.

Wang, H., Choi, J., & Li, J. (2008). Too little or too much? Untangling the relationship between corporate philanthropy and firm financial performance. *Organization Science, 19*(1), 143-159.

Wang, M., Qiu, C., & Kong, D. (2011). Corporate social responsibility, investor behaviors, and stock market returns: Evidence from a natural experiment in China. *Journal of Business Ethics, 101*(1), 127-141.

Wang, Q., & Pirinsky, C. A. (2010). Geographic location and corporate finance: a review. *Handbook of Emerging Issues in Corporate Governance*.

Wang, T., & Bansal, P. (2012). Social responsibility in new ventures: profiting from a long-term orientation. *Strategic management journal, 33*(10), 1135-1153.

Welford, R., Chan, C., & Man, M. (2008). Priorities for corporate social responsibility: a survey of businesses and their stakeholders. *Corporate Social Responsibility and Environmental Management, 15*(1), 52-62.

Wu, M.-L. (2006). Corporate social performance, corporate financial performance, and firm size: A meta-analysis. *Journal of American Academy of Business, 8*(1), 163-171.

Yuan, Y. (2008). Attention and trading. *Unpublished Working Paper. University of Pennsylvania*.

Zhou, X. (2001). Understanding the determinants of managerial ownership and the link between ownership and performance: comment. *Journal of financial economics, 62*(3), 559-571.

Appendix 1. Description of variables

Variables	Definition	Source
Dependent variables		
Adj_Q	Tobin's Q is calculated as follows: *Ln((market value of equity + book value of assets - book value of equity - balance sheet deferred taxes)/book value of assets). Adj_Q* is the Tobin's Q minus the industry-median Tobin's Q based on the Fama–French (1997) 48 industries classification (excluding financials firms)	Authors calculations
Adj_MB	The Market-to-book is calculated as follows: *Ln((Sum of market value of equity, long-term debt, debt in current liabilities, liquidation value of preferred stock, and deferred taxes and investment credit)/ total assets, measured at the end of fiscal year t)). Adj_MB* is the MB minus the industry-median MB based on the Fama–French (1997) 48 industries classification (excluding financials firms)	Thomson Reuters-Worldscope
Adj_OIA	OIA is calculated as the operating income by assets. *Adj_OIA* is the OIA minus the industry-median OIA based on the Fama–French (1997) 48 industries classification (excluding financials firms)	As above
Adj_OIS	OIS is calculated as the operating income by sales. *Adj_OIS* is the OIS minus the industry-median OIS based on the Fama–French (1997) 48 industries (excluding financials firms)	As above
Adj_ROE	Return on assets is the net income by shareholders' equity. *Adj_ROE* is the ROE minus the industry-adjusted ROE based on the Fama–French (1997) 48 industries classification (excluding financials firms)	As above
Independent variables		
Corporate responsibility Awards	As provided by Thomson Reuters-Asset4, equals 1 if the company received an award for its social, ethical, community, or environmental activities or performance, 0 otherwise	Thomson Reuters-Asset4
Environmental Awards	As provided by Thomson Reuters-Asset4, equals 1 if the company received product awards with respect to environmental responsibility?	As above
Social labels	As provided by Thomson Reuters-Asset4, equals 1 if the company won an award or any prize related to general employment quality or "Best Company to Work For"?	As above
A4_CSPscore	The CSP score is equal to the average of environmental and social performance. Environmental performance measures a firm's impact on living and non-living natural systems, including the air, land, and water, as well as complete ecosystems. Social performance measures a firm's capacity to generate trust and loyalty with its workforce, customers, and society, through its use of best management practices.	As above
Investor attention	Ln(mean of Google search volume of the stock ticker) for year t	www.google.com/trends/
Analyst following	Analyst coverage is defined as the number of analysts providing current fiscal year earnings estimates, averaged over the previous year. Analyst following is the natural log of one plus the number of analysts.	I/B/E/S
Firm size	Firm size is measured as the natural logarithm of total assets in millions of $US.	Thomson Reuters-Worldscope
Research and Development	Research and development expense scaled by net sales for fiscal year t	As above
Advertising expenditure	Advertising expenditure scaled by net sales for fiscal year t	Factset Fundamentals
Firm risk	The long-term debt and debt in current liabilities divided by total assets, measured at the end of fiscal year t	Thomson Reuters-Worldscope
Press freedom index	As provided annually by Reporters without Borders. Scores range from 0 to 100, with 0 being the best possible score and 100 the worst. We multiply this score by (-1) such that higher values indicate more press freedom.	Freedom House

This table describes the proxies for the variables considered in the paper. The data set is a panel of 879 firms collected from different sources and consists of 8,790 firm-year observations from 2005 to 2014.

Appendix 2. Description of ASSET4 ESG performance indicators

Environmental performance

Resource reduction: The resource reduction category measures a company's management commitment and effectiveness toward achieving an efficient use of natural resources in the production process. It reflects a company's capacity to reduce the use of materials, energy or water, and to find more eco-efficient solutions by improving supply chain management.

Emission reduction: The emission reduction category measures a company's management commitment and effectiveness toward reducing environmental emission in the production and operational processes. It reflects a company's capacity to reduce air emissions (greenhouse gases, F-gases, ozone-depleting substances, NOx and SOx, etc.), waste, hazardous waste, water discharges, spills or its impacts on biodiversity and to partner with environmental organizations to reduce the environmental impact of the company in the local or broader community.

Product innovation: The product innovation category measures a company's management commitment and effectiveness toward supporting the research and development of eco-efficient products or services. It reflects a company's capacity to reduce the environmental costs and burdens for its customers, and thereby creating new market opportunities through new environmental technologies and processes or eco-designed, dematerialized products with extended durability.

Social performance

Product responsibility: The customer/product responsibility category measures a company's management commitment and effectiveness toward creating value-added products and services upholding the customer's security. It reflects a company's capacity to maintain its license to operate by producing quality goods and services integrating the customer's health and safety, and preserving its integrity and privacy also through accurate product information and labeling.

Employment quality: The workforce/employment quality category measures a company's management commitment and effectiveness toward providing high-quality employment benefits and job conditions. It reflects a company's capacity to increase its workforce loyalty and productivity by distributing rewarding and fair employment benefits, and by focusing on long-term employment growth and stability by promoting from within, avoiding lay-offs and maintaining relations with trade unions.

Health and safety: The workforce/health and safety category measures a company's management commitment and effectiveness toward providing a healthy and safe workplace. It reflects a company's capacity to increase its workforce loyalty and productivity by integrating into its day-to-day operations a concern for the physical and mental health, wellbeing and stress level of all employees.

Training and development: The workforce/training and development category measures a company's management commitment and effectiveness toward providing training and development (education) for its workforce. It reflects a company's capacity to increase its intellectual capital, workforce loyalty and productivity by developing the workforce's skills, competences, employability and careers in an entrepreneurial environment.

Diversity and opportunity: The workforce/diversity and opportunity category measures a company's management commitment and effectiveness toward maintaining diversity and equal opportunities in its workforce. It reflects a company's capacity to increase its workforce loyalty and productivity by promoting an effective life–work balance, a family friendly environment and equal opportunities regardless of gender, age, ethnicity, religion or sexual orientation.

Appendix 2. (*Continued*)

Social performance(Continued)

Human rights: The society/human rights category measures a company's management commitment and effectiveness toward respecting the fundamental human rights conventions. It reflects a company's capacity to maintain its license to operate by guaranteeing the freedom of association and excluding child, forced or compulsory labor.

Community: The society/community category measures a company's management commitment and effectiveness toward maintaining the company's reputation within the general community (local, national and global). It reflects a company's capacity to maintain its license to operate by being a good citizen (donations of cash, goods or staff time, etc.), protecting public health (avoidance of industrial accidents, etc.) and respecting business ethics (avoiding bribery and corruption, etc.).

Corporate governance performance

Board Structure: The board of directors/board structure category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to a well-balanced membership of the board. It reflects a company's capacity to ensure a critical exchange of ideas and an independent decision-making process through an experienced, diverse and independent board.

Compensation Policy: The integration/vision and strategy category measures a company's management commitment and effectiveness towards the creation of an overarching vision and strategy integrating financial and extra-financial aspects. It reflects a company's capacity to convincingly show and communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes.

Board Functions: The board of directors/board functions category measures a company's management commitment and effectiveness towards following best practice corporate governance principles related to board activities and functions. It reflects a company's capacity to have an effective board by setting up the essential board committees with allocated tasks and responsibilities.

Vision and Strategy: The integration/vision and strategy category measures a company's management commitment and effectiveness towards the creation of an overarching vision and strategy integrating financial and extra-financial aspects. It reflects a company's capacity to convincingly show and communicate that it integrates the economic (financial), social and environmental dimensions into its day-to-day decision-making processes

Table 1. Sample distribution

<table>
<tr><td colspan="3">Panel A. By country</td><td colspan="3">Panel B. By industry (Continued)</td></tr>
<tr><td>Country</td><td>Obs.</td><td>Percentage(%)</td><td>Industry</td><td>Obs.</td><td>Percentage(%)</td></tr>
<tr><td>Australia</td><td>100</td><td>1.14</td><td>Construction</td><td>340</td><td>3.87</td></tr>
<tr><td>Austria</td><td>70</td><td>0.80</td><td>Construction materials</td><td>210</td><td>2.39</td></tr>
<tr><td>Belgium</td><td>90</td><td>1.02</td><td>Consumer goods</td><td>250</td><td>2.84</td></tr>
<tr><td>Brazil</td><td>10</td><td>0.11</td><td>Defense</td><td>10</td><td>0.11</td></tr>
<tr><td>Canada</td><td>180</td><td>2.05</td><td>Electrical equipment</td><td>120</td><td>1.37</td></tr>
<tr><td>China</td><td>40</td><td>0.46</td><td>Electronic equipment</td><td>430</td><td>4.89</td></tr>
<tr><td>Denmark</td><td>80</td><td>0.91</td><td>Entertainment</td><td>50</td><td>0.57</td></tr>
<tr><td>Finland</td><td>90</td><td>1.02</td><td>Food products</td><td>250</td><td>2.84</td></tr>
<tr><td>France</td><td>370</td><td>4.21</td><td>Healthcare</td><td>40</td><td>0.46</td></tr>
<tr><td>Germany</td><td>330</td><td>3.75</td><td>Machinery</td><td>520</td><td>5.92</td></tr>
<tr><td>Greece</td><td>20</td><td>0.23</td><td>Measuring and control equipment</td><td>170</td><td>1.93</td></tr>
<tr><td>Hong Kong</td><td>180</td><td>2.05</td><td>Medical equipment</td><td>180</td><td>2.05</td></tr>
<tr><td>Ireland</td><td>40</td><td>0.46</td><td>Non-metallic and industrial metal mining</td><td>80</td><td>0.91</td></tr>
<tr><td>Italy</td><td>90</td><td>1.02</td><td>Personal Services</td><td>20</td><td>0.23</td></tr>
<tr><td>Japan</td><td>2,390</td><td>27.19</td><td>Petroleum and natural gas</td><td>520</td><td>5.92</td></tr>
<tr><td>Luxembourg</td><td>10</td><td>0.11</td><td>Pharmaceutical products</td><td>290</td><td>3.30</td></tr>
<tr><td>The Netherlands</td><td>130</td><td>1.48</td><td>Precious Metals</td><td>10</td><td>0.11</td></tr>
<tr><td>Norway</td><td>80</td><td>0.91</td><td>Printing and publishing</td><td>90</td><td>1.02</td></tr>
<tr><td>Portugal</td><td>20</td><td>0.23</td><td>Recreation</td><td>90</td><td>1.02</td></tr>
<tr><td>Singapore</td><td>30</td><td>0.34</td><td>Restaurants, hotels, motels</td><td>150</td><td>1.71</td></tr>
<tr><td>Spain</td><td>140</td><td>1.59</td><td>Retail</td><td>710</td><td>8.08</td></tr>
<tr><td>Sweden</td><td>220</td><td>2.50</td><td>Rubber and plastic products</td><td>20</td><td>0.23</td></tr>
<tr><td>Switzerland</td><td>230</td><td>2.62</td><td>Shipbuilding and railroad equipment</td><td>30</td><td>0.34</td></tr>
<tr><td>The United Kingdom</td><td>130</td><td>11.72</td><td>Shipping containers</td><td>40</td><td>0.46</td></tr>
<tr><td>The United States</td><td>2,820</td><td>32.08</td><td>Steel works</td><td>260</td><td>2.96</td></tr>
<tr><td>All Countries</td><td>8,790</td><td>100</td><td>Textiles</td><td>10</td><td>0.11</td></tr>
<tr><td></td><td></td><td></td><td>Tobacco products</td><td>40</td><td>0.46</td></tr>
<tr><td colspan="3">Panel B. By industry</td><td>Transportation</td><td>450</td><td>5.12</td></tr>
<tr><td>Industry</td><td>Obs.</td><td>Percentage(%)</td><td>Utilities</td><td>540</td><td>6.14</td></tr>
<tr><td>Agriculture</td><td>20</td><td>0.23</td><td>Wholesale</td><td>230</td><td>2.62</td></tr>
<tr><td>Aircraft</td><td>130</td><td>1.48</td><td>Almost nothing</td><td>20</td><td>0.23</td></tr>
<tr><td>Apparel</td><td>50</td><td>0.57</td><td>All industries</td><td>8,790</td><td>100</td></tr>
<tr><td>Automobiles and trucks</td><td>350</td><td>3.98</td><td></td><td></td><td></td></tr>
<tr><td>Beer and liquor</td><td>120</td><td>1.37</td><td></td><td></td><td></td></tr>
<tr><td>Business Services</td><td>740</td><td>8.42</td><td></td><td></td><td></td></tr>
<tr><td>Business suppliers</td><td>150</td><td>1.71</td><td></td><td></td><td></td></tr>
<tr><td>Candy and soda</td><td>30</td><td>0.34</td><td></td><td></td><td></td></tr>
<tr><td>Chemicals</td><td>490</td><td>5.57</td><td></td><td></td><td></td></tr>
<tr><td>Communication</td><td>350</td><td>3.98</td><td></td><td></td><td></td></tr>
<tr><td>Computers</td><td>190</td><td>2.16</td><td></td><td></td><td></td></tr>
</table>

Table 2. Descriptive statistics

	Obs.	Mean	SD	Min	Max	VIF
Adj_Q	8,790	0.422	0.431	-1.593	1.620	--
Investor attention	8,790	3.036	0.817	0.360	4.369	1.37
$Environmental_{Awards}$	8,790	0.128	0.334	0.000	1.000	1.19
$Social_{Labels}$	8,790	0.033	0.179	0.000	1.000	1.26
CR_{Awards}	8,790	0.513	0.500	0.000	1.000	1.11
CSP_{Score}	8,790	0.644	0.274	0.079	0.958	1.32
Capex	8,790	5.577	4.818	0.040	27.460	1.55
Size	8,790	22.929	1.289	20.021	27.345	1.22
Return on assets	8,790	0.066	0.060	-0.119	0.269	1.13
Sales growth	8,790	1.133	0.744	0.070	6.810	1.29
Dividend	8,790	2.115	1.727	0.000	8.810	1.71
Advertising	8,790	56.137	229.030	0.000	1676.190	1.34
R&D	8,790	2.743	4.984	0.000	26.730	1.11
Press freedom	8,790	-19.687	4.884	-41.000	-10.000	1.16
Leverage	8,790	0.236	0.157	0.000	0.693	1.23

This table reports the descriptive statistics of the dependent variable as well as all variables under analysis. In addition to the mean controlling for the distribution's central tendency, this table reports the minimum, maximum, standard deviation of the variables and variance inflation factors (VIFs). All variables are defined in Appendix 4.1. The sample spans from 2005 to 2014.

Table 3. Correlation matrix

	Adj_Q	CR_{Awards}	Env_{Awards}	$Social_{Labels}$	Investor attention	CSP_{Score}	Leverage	Size	Return on assets	Sales growth	Dividend	Advertising	Capex	R&D	Press freedom
Adj_Q	1.000														
CR_{Awards}	0.032***	1.000													
Env_{Awards}	-0.039***	0.285***	1.000												
$Social_{Labels}$	0.007	0.073***	0.003	1.000											
Investor attention	0.114***	0.048***	0.012	0.024**	1.000										
CSP_{Score}	0.010	0.476***	0.269***	0.120***	0.021*	1.000									
Leverage	-0.112***	0.087***	0.047***	-0.007	0.031***	0.127***	1.000								
Size	-0.112***	0.317***	0.189***	0.051***	0.106***	0.467***	0.315***	1.000							
Return on assets	0.407***	0.013	-0.088***	0.019*	0.078***	-0.068***	-0.294***	-0.185***	1.000						
Sales growth	0.003	0.037***	0.007	-0.001	0.031***	0.043***	0.017	0.133***	0.053***	1.000					
Dividend	-0.042***	0.116***	0.008	0.046***	-0.022**	0.275***	0.202***	0.192***	-0.073***	-0.036***	1.000				
Advertising	-0.044***	0.068***	0.064***	0.050**	-0.012	0.090***	-0.048***	0.124***	-0.055***	0.007	-0.024**	1.000			
Capex	0.134***	0.002	-0.007	0.027**	0.045***	-0.030***	0.076***	0.065***	0.117***	0.036***	-0.055***	-0.039***	1.000		
R&D	0.049***	0.031***	0.023**	-0.079***	-0.020*	0.091***	-0.242***	-0.026**	0.023**	-0.019*	-0.147***	0.036***	-0.193***	1.000	
Press freedom	0.060***	-0.023**	0.020*	0.050***	0.170***	0.031***	-0.022**	-0.091***	0.098***	0.037***	-0.065***	-0.087***	-0.010	0.055***	1.000

This table reports correlation coefficients among variables of interest for the 8,790 firm-year observations from 2005 to 2014. All variables are defined in Appendix 4.1. ***, ** and * denote statistical significance at the 1, 5, and 10% levels, respectively

Table 4. Difference of means test

	Full sample N=8,790	High-attention firms N= 4,394	Low-attention firms N=4,396	t-statistics	Sig
CSP_{Score}	0.644	0.650	0.638	-2.062	**
CR_{Awards}	0.512	0.537	0.487	-4.679	***
$Environmental_{Awards}$	0.128	0.128	0.128	0.023	
$Social_{Labels}$	0.033	0.036	0.030	-1.55	
Size	22.929	23.046	22.812	-8.547	***
R&D	2.743	2.551	2.935	3.614	***
Advertising	56.137	48.975	63.295	2.932	***
Leverage	0.236	0.241	0.231	-3.131	**
Press freedom	-19.687	-18.958	-20.415	-14.139	
Return on assets	0.066	0.072	0.060	-9.173	***
Adj_Q	0.018	0.045	-0.008	-8.748	***
Dividend	2.115	2.095	2.135	1.071	
Sales growth	1.133	1.164	1.101	-3.967	***
Capex	5.576	5.750	5.403	-3.381	***
Analyst following	2.614	2.676	2.551	-10.215	***

This table presents the means and the t-statistics for comparing the means of main variables between high-attention and low-attention firms. The sample contains 8,790 firm-year observations for 879 firms from 2005 to 2014. The variables are described in Appendix 4.1. A firm is placed in the high-attention group if it has an above or equal to mean total Google search volume(GSV), and it is placed in the low-attention group if it has a below mean total GSV. *, **, and *** indicate whether differences are statistically significant at indicate unilateral statistical significance at 10, 5, and 1% levels, respectively.

Table 5. The interactions between CR awards and investor attention on corporate value

	Model 1		Model 2		Model 3	
Dependent variable	*Adj_Q*		*Adj_Q*		*Adj_Q*	
Awards proxy	CR_{Awards}		$Environmental_{Awards}$		$Social_{Labels}$	
CSP_{SCORE}	CSP_{Score}		$Environmental_{Score}$		$Social_{Score}$	
Awards	0.011	(0.018)	-0.002	(0.025)	0.020	(0.162)
Investor attention	0.036***	(0.007)	0.034***	(0.006)	0.034***	(0.006)
Awards* Investor attention	-0.005	(0.006)	-0.002	(0.008)	-0.013	(0.048)
CSP_{Score}	0.014	(0.021)	0.004	(0.019)	0.015	(0.017)
Leverage	-0.063	(0.041)	-0.063	(0.041)	-0.064	(0.042)
Size	-0.064***	(0.009)	-0.064***	(0.009)	-0.064***	(0.009)
Sales growth	1.015***	(0.090)	1.013***	(0.090)	1.014***	(0.090)
ROA	-0.000	(0.002)	-0.000	(0.002)	-0.000	(0.002)
Dividend	-0.009***	(0.002)	-0.009***	(0.002)	-0.009***	(0.002)
Advertising	0.000*	(0.000)	0.000*	(0.000)	0.000*	(0.000)
Advertising_dummy	0.032*	(0.019)	0.031*	(0.019)	0.032*	(0.019)
Capex	0.003***	(0.001)	0.003***	(0.001)	0.003***	(0.001)
R&D	-0.000	(0.002)	-0.000	(0.002)	-0.001	(0.002)
R&D_dummy	-0.021	(0.014)	-0.021	(0.014)	-0.021	(0.014)
Press freedom index	0.003	(0.002)	0.003	(0.002)	0.003	(0.002)
Constant	1.442***	(0.230)	1.445***	(0.230)	1.462***	(0.231)
Year-fixed effects	Yes		Yes		Yes	
Country- fixed effects	Yes		Yes		Yes	
Industry-fixed effects	Yes		Yes		Yes	
R^2 *(percentage)*	11.38		11.37		11.38	
Number of observations	8,790		8,790		8,790	

This table depicts results of fixed-effects time series regression for firm value as measured by industry-adjusted Tobin's Q (*Adj_Q*) based on the Fama–French 48 industries (excluding financials firms), on CSR awards variables, namely CR awards, environmental awards and social labels. The estimated panel models employ clustered robust firm effects. Unreported industry controls are based on the Fama and French (1997) industry classification. The variables are defined in Appendix 4.1. Robust standard errors are in parentheses. Our sample spans from 2005 to 2014. ***, ** and * denote statistical significance at the 1, 5, and 10% levels, respectively.

Table 6. The mediating effect of investor attention on CR awards and firm value: Evidence from sample split

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Dependent variable	Adj_Q		Adj_Q		Adj_Q		Adj_Q		Adj_Q		Adj_Q	
Sample composition	Low-attention		High-attention		Low-attention		High-attention		Low-attention		High-attention	
Awards' type	CR_{Awards}		CR_{Awards}		$Environmental_{Awards}$		$Environmental_{Awards}$		$Social_{Labels}$		$Social_{Labels}$	
Awards	0.044	(0.025)	-0.159**	(0.071)	0.035	(0.038)	-0.014	(0.067)	0.133	(0.261)	-0.234	(0.166)
Investor attention	0.045***	(0.011)	-0.001	(0.019)	0.036***	(0.010)	0.022	(0.019)	0.036***	(0.010)	0.019*	(0.019)
Awards* Investor attention	-0.022**	(0.010)	0.042**	(0.019)	-0.020	(0.015)	0.004	(0.018)	-0.064**	(0.095)	0.057	(0.048)
CSP_{SCORE}	0.030	(0.030)	0.017	(0.029)	0.021	(0.027)	-0.008	(0.027)	0.019	(0.024)	0.027	(0.023)
Leverage	-0.143**	(0.060)	-0.027	(0.052)	-0.144**	(0.061)	-0.026	(0.053)	-0.145**	(0.060)	-0.026	(0.053)
Size	-0.051***	(0.010)	-0.058***	(0.010)	-0.051***	(0.010)	-0.057***	(0.010)	-0.051***	(0.010)	-0.060***	(0.010)
Return on assets	0.881***	(0.139)	1.034***	(0.115)	0.879***	(0.139)	1.035***	(0.116)	0.880***	(0.139)	1.031***	(0.115)
Sales growth	-0.001	(0.004)	0.002	(0.003)	-0.000	(0.004)	0.002	(0.003)	-0.001	(0.004)	0.002	(0.003)
Dividend	-0.012***	(0.003)	-0.004*	(0.003)	-0.013***	(0.003)	-0.004	(0.003)	-0.013***	(0.003)	-0.004*	(0.003)
Advertising	0.000*	(0.000)	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
Advertising_dummy	0.039*	(0.021)	0.004	(0.029)	0.038*	(0.021)	0.003	(0.029)	0.037*	(0.021)	0.004	(0.029)
Capex	0.003**	(0.002)	0.003**	(0.001)	0.003**	(0.002)	0.003**	(0.001)	0.003**	(0.002)	0.003**	(0.001)
R&D	-0.000	(0.003)	0.002	(0.003)	-0.000	(0.003)	0.002	(0.003)	-0.000	(0.003)	0.002	(0.003)
R&D_dummy	-0.024	(0.020)	-0.023	(0.018)	-0.024	(0.020)	-0.024	(0.018)	-0.024	(0.020)	-0.024	(0.018)
Press freedom	0.003	(0.003)	0.002	(0.004)	0.003	(0.003)	0.002	(0.004)	0.003	(0.003)	0.002	(0.004)
Constant	1.364***	(0.251)	1.361***	(0.276)	1.373***	(0.250)	1.266***	(0.277)	1.391***	(0.250)	1.328***	(0.278)
Year-fixed effects	Yes				Yes				Yes			
Country-fixed effects	Yes				Yes				Yes			
Industry fixed effects	Yes				Yes				Yes			
R^2 (percentage)	24.82		24.70		24.77		24.18		24.60		24.40	
Number of observations	4,396		4,394		4,396		4,394		4,396		4,394	

This table displays the results of OLS regression analysis of industry-adjusted Tobin's Q (*Adj Q*) based on the Fama–French 48 industries (excluding financials firms), on CR awards and other control variales over the period of 2005–2014. Our sample is split with respect to investor attention as measured by GSV of stock tickers. The main variables of interest are CR awards, environmental awards and social labels while controlling for other well-known determinants of market value. All variables are defined in Appendix 4.1. Robust standard errors clustered by firms are presented in parentheses. ***, ** and * denote statistical significance at the 1, 5, and 10% levels, respectively.

Table 7. Threshold effect of investor attention on CR awards and firm value

	Model 1		Model 2		Model 3	
Dependent variable	*Adj_Q*		*Adj_Q*		*Adj_Q*	
Regime dependent variable	CR_{Awards}		$Environmental_{Awards}$		$Social_{Labels}$	
Threshold estimates						
$\hat{\gamma}$	3.738***		2.609		3.833***	
C.I.	[3.701, 3.745]		[2.386,2.791]		[3.772,3.890]	
Impact of Corporate responsibility Awards						
Investor attention$< \hat{\gamma}$	-0.013***	(0.005)	0.038	(0.032)	-0.032	(0.024)
Obs.	6916		3808		7295	
Investor attention$> \hat{\gamma}$	0.016**	(0.007)	-0.006	(0.007)	0.068***	(0.022)
Obs.	1874		4982		1495	
Control variables						
CSP_{score}	-0.005	(0.015)	0.006	(0.014)	0.024*	(0.014)
Leverage	-0.044	(0.028)	-0.181***	(0.009)	-0.176***	(0.028)
Size	-0.109***	(0.007)	-0.172***	(0.008)	-0.173***	(0.008)
Return on assets	0.905***	(0.044)	0.001	(0.003)	0.002	(0.003)
Sales growth	0.000	(0.002)	1.579***	(0.049)	1.577***	(0.049)
Dividend yield	-0.010***	(0.002)	-0.018***	(0.002)	-0.018***	(0.002)
Advertising	0.000**	(0.000)	0.000***	(0.000)	0.000***	(0.000)
Advertising_dummy	0.027**	(0.012)	0.022	(0.014)	0.022	(0.014)
Capex	0.002***	(0.001)	0.005***	(0.001)	0.005***	(0.001)
R&D	-0.005***	(0.002)	-0.008***	(0.002)	-0.008***	(0.002)
R&D_dummy	-0.025**	(0.013)	-0.026*	(0.014)	-0.026*	(0.014)
Press freedom	0.004**	(0.002)	0.003	(0.002)	0.003*	(0.002)
Constant	2.596***	(0.168)	4.440***	(0.189)	4.462***	(0.189)
Firm fixed effects	Yes		Yes		Yes	
Year-fixed effects	Yes		Yes		Yes	
R^2*(percentage)*	11.40		43.80		43.90	
Number of observations	8,790		8,790		8,790	

This table provides threshold regression estimation results of corporate value as measured by industry-adjusted Tobin's Q (*Adj Q*) based on the Fama–French 48 industries (excluding financials firms), on corporate responsibility awards while controlling for the presence of a threshold in investor attention as proxied by Google search volume of stock tickers. All models include time-specific dummies and firm-fixed effects. The confidence interval for the threshold parameter estimate is obtained using Hansen's (1999) approach. P-values are bootstrap-based on over 1000 replications. Robust standard errors clustered by firms are in parentheses. See Appendix 4.1 for definition of variables.

Table 8. Robustness to endogeneity

	Model 1		Model2		Model 3	
Estimation method	OLS		2SLS		2SLS	
Dependent variable	Adj_Q		Adj_Q		Adj_Q	
Firm-fixed effects	Included		Not included		Included	
CR_{Awards}	0.012	(0.015)	0.009	(0.060)	-0.003	(0.026)
Investor attention	0.037***	(0.005)	0.036***	(0.007)	0.037***	(0.005)
CR_{Awards}*Investor attention	-0.006	(0.005)	-0.005	(0.005)	-0.007	(0.005)
CSP_{score}	-0.008	(0.015)	0.047	(0.919)	0.287	(0.389)
Leverage	-0.051 *	(0.028)	-0.062**	(0.029)	-0.056*	(0.030)
Size	-0.110***	(0.007)	-0.066	(0.070)	-0.124***	(0.021)
Return on assets	0.912***	(0.044)	1.025***	(0.054)	0.917***	(0.045)
Sales growth	0.001	(0.002)	-0.000	(0.007)	-0.001	(0.004)
Dividend	-0.009***	(0.002)	-0.009***	(0.003)	-0.009***	(0.002)
Advertising	0.000**	(0.000)	0.000*	(0.000)	0.000**	(0.000)
Advertising_dummy	0.031**	(0.012)	0.031**	(0.013)	0.032**	(0.013)
Capex	0.002***	(0.001)	0.003**	(0.001)	0.002**	(0.001)
R&D	-0.004**	(0.002)	-0.000	(0.003)	-0.005**	(0.002)
R&D_dummy	-0.022*	(0.012)	-0.020	(0.026)	-0.016	(0.015)
Press freedom index	0.002	(0.002)	0.003	(0.002)	0.003*	(0.002)
Constant	2.360***	(0.163)	1.460	(1.168)	2.555***	(0.309)
Firm-fixed effects	Yes		No		Yes	
Year-fixed effects	Yes		Yes		Yes	
Country-fixed effects	No		Yes		No	
Industry-fixed effects	No		Yes		No	
R^2 (percentage)	12.00		11.30		7.79	
Number of observations	8,790		8,760		8,760	

This table explores the relationship between industry-adjusted Tobin's Q (*Adj Q*) based on the Fama–French 48 industries (excluding financials firms), CR awards and the interaction between CR awards and investor attention as measured by Google search volume, while controlling for endogeneity concerns. The first model investigates the inclusion of firm-fixed effects. The second and third models are estimated in two stages. The first-stage regression involve regressing of the endogenous variable namely, the CSP score on all independent variables, year effects, and the instrument (mean industry-year CSP score). While, the second-stage regression results use the predicted values of the CSP score from the first-stage regressions. Only model 1 and model 3 include firm-fixed effects. All variables are defined in Appendix 4.1. Robust standard errors adjusted for clustering by firm are in parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 9. Robustness to financial performance measure

	Model 1		Model 2		Model 3		Model 4	
Dependent variable	Adj_MB		Adj_OIA		Adj_OIS		Adj_ROE	
Regime-dependent variable	CR_{Awards}		CR_{Awards}		CR_{Awards}		CR_{Awards}	
Threshold estimates								
$\hat{\gamma}$	3.767***		3.858		3.999***		4.012	
C.I.	[3.719, 3.773]		[3.718,3.867]		[3.971, 4.005]		[3.954, 4.017]	
Impact of Corporate responsibility Awards								
Investor attention< $\hat{\gamma}$	-0.006	(0.008)	0.000	(0.001)	-0.001	(0.001)	-0.001	(0.002)
Obs.	7050		7385		7815		7853	
Investor attention> $\hat{\gamma}$	0.069***	(0.013)	0.004***	(0.001)	0.009***	(0.002)	0.013***	(0.004)
Obs.	1740		1405		975		937	
Control variables								
CSP_{Score}	0.032	(0.026)	-0.000	(0.003)	0.007*	(0.004)	0.006	(0.007)
Leverage	0.797***	(0.046)	-0.030***	(0.004)	-0.001	(0.007)	0.107***	(0.012)
Size	-0.154***	(0.013)	-0.006***	(0.001)	0.009***	(0.002)	-0.003	(0.003)
Return on assets	0.797***	(0.077)	0.328***	(0.008)	0.367***	(0.011)	-0.000	(0.001)
Sales growth	0.005	(0.004)	0.001**	(0.000)	0.000	(0.001)	1.662***	(0.019)
Dividend yield	-0.038***	(0.003)	0.000	(0.000)	0.000	(0.000)	0.002***	(0.001)
Advertising	0.000**	(0.000)	0.000*	(0.000)	0.000	(0.000)	0.000	(0.000)
Advertising_dummy	0.051**	(0.022)	0.003	(0.002)	0.002	(0.003)	0.004	(0.005)
Capex	0.006***	(0.001)	-0.001***	(0.000)	-0.001***	(0.000)	-0.001***	(0.000)
R&D	-0.004	(0.003)	-0.003***	(0.000)	-0.005***	(0.000)	0.003***	(0.001)
R&D_dummy	-0.024	(0.022)	-0.005**	(0.002)	-0.007**	(0.003)	-0.009	(0.006)
Press freedom	0.008***	(0.003)	0.000	(0.000)	0.001**	(0.000)	0.000	(0.001)
Constant	3.509***	(0.293)	0.150***	(0.029)	-0.196***	(0.041)	-0.062	(0.074)
Firm-fixed effects	Yes		Yes		Yes		Yes	
Year-fixed effects	Yes		Yes		Yes		Yes	
R^2(percentage	8.12		25.30		17.00		40.70	

This table provides threshold regression estimation results of financial performance on CR awards while controlling for the presence of a threshold in investor attention as proxied by GSV of stock tickers. The dependent variable is proxied by the following industry-adjusted performance measures based on the Fama–French 48 industries classification (excluding financials firms), namely the MB ratio, operating income on assets, operating income on sales and return on equity. All models include time-specific dummies and firm-fixed effects. The confidence interval for the threshold parameter estimate is obtained using Hansen's (1999) approach. P-values are bootstrap-based on over 1000 replications. See Appendix 4.1 for definition of variables.

Table 10. Additional robustness tests

	Model 1		Model 2		Model 3		Model 4	
Robustness test	*US. and Japanese firms excluded*		*Industry-adjusted CSP$_{Score}$*		*Alternative attention proxy*		*Investor attention included*	
Dependent variable	*Adj_Q*		*Adj_Q*		*Adj_Q*		*Adj_Q*	
Regime-dependent variable	*CR$_{Awards}$*		*CR$_{Awards}$*		*CR$_{Awards}$*		*CR$_{Awards}$*	
Threshold variable	*GSV of stock tickers*		*GSV of stock tickers*		*Analyst following*		*GSV of stock tickers*	
Threshold estimates								
$\hat{\gamma}$	4.011**		3.738**		3.1781***		3.7381**	
C.I.	[3.996, 4.015]		[3.701, 3.745]		[3.113,3.218]		[3.701,3.745]	
The impact of corporate responsibility awards								
Investor attention $< \hat{\gamma}$	-0.015**	(0.007)	-0.012***	(0.005)	-0.013***	(0.004)	-0.013***	(0.005)
Obs.	3197		6916		7537		6916	
Investor attention $> \hat{\gamma}$	0.045***	(0.014)	0.018**	(0.007)	0.027***	(0.008)	0.017**	(0.007)
Obs.	383		1874		1253		1874	
Control variables								
Investor attention							0.034***	(0.006)
CSP$_{score}$	-0.011	(0.027)	-0.048***	(0.017)	-0.004	(0.015)	-0.008	(0.015)
Leverage	-0.081*	(0.044)	-0.044	(0.028)	-0.044	(0.028)	-0.034	(0.028)
Size	-0.085***	(0.011)	-0.108***	(0.007)	-0.111***	(0.007)	-0.117***	(0.007)
Sales growth	0.937***	(0.065)	0.905***	(0.044)	0.000	(0.002)	0.896***	(0.044)
Return on assets	0.002	(0.004)	0.000	(0.002)	0.899***	(0.044)	0.000	(0.002)
Dividend yield	-0.007***	(0.002)	-0.010***	(0.002)	-0.010***	(0.002)	-0.010***	(0.002)
Advertising	0.000***	(0.000)	0.000**	(0.000)	0.000**	(0.000)	0.000**	(0.000)
Advertising_dummy	0.084***	(0.020)	0.027**	(0.012)	0.028**	(0.012)	0.027**	(0.012)
Capex	0.002**	(0.001)	0.002***	(0.001)	0.002***	(0.001)	0.002***	(0.001)
R&D	0.000	(0.003)	-0.005**	(0.002)	-0.005***	(0.002)	-0.005**	(0.002)
R&D_dummy	-0.025	(0.016)	-0.025**	(0.012)	-0.026**	(0.013)	-0.024*	(0.012)
Press freedom	0.004**	(0.002)	0.003**	(0.002)	0.003**	(0.002)	0.003**	(0.002)
Constant	2.010***	(0.253)	2.566***	(0.168)	2.629***	(0.168)	2.670***	(0.168)
Firm fixed effects	Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes	
R^2(percentage)	12.80		11.50		11.50		11.70	
Number of observations	3,580		8,790		8,790		8,790	

This table provides additional robustness tests. All columns report the threshold regression estimation results of corporate value as measured by industry-adjusted Tobin's Q (*Adj_Q*) based on the Fama and French 48 industries (excluding financials firms) on CR awards while controlling for the presence of a threshold in investor attention. All models include time-specific dummies and firm-fixed effects. The confidence interval for the threshold parameter estimate is obtained using Hansen's (1999) approach. P-values are bootstrap-based on over 1000 replications. See Appendix 4.1 for definition of variables.