

**Everybody's Talking But is Anybody Listening? Stock Market Reactions to Corporate  
Social Responsibility Communications**

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## **Stock Market Reactions to Corporate Social Responsibility Communications**

### **Abstract**

This research investigates stock market reactions to corporate social responsibility (CSR) communications, specifically, the release of standalone CSR reports. We develop and test a theoretical framework predicting that (1) CSR performance drives abnormal stock returns to the release of a firm's CSR report, (2) information environment and R&D moderate the positive relationship between abnormal returns and CSR performance, and (3) CSR reporting enhances the value relevance (i.e., helps predict firm value) of CSR performance. Based on a large-scale secondary dataset, the results show support for this framework. Specifically, the positive association between abnormal returns and CSR performance is stronger for firms in a weak information environment, suggesting that investors of these firms rely more on CSR reports to incorporate CSR performance information in the stock price revaluation. The positive relationship between abnormal returns and CSR performance is stronger for firms with high R&D, indicating that R&D enhances the business value of CSR. Our results offer important implications for CSR theory and practices.

## **1. Introduction**

Corporate social responsibility (CSR) has increasingly become an integral part of corporations' daily business operation and long-term strategic planning (Porter and Kramer 2011). Spurred in part by the belief that CSR activities, ranging from community outreach, cause-related marketing, fair labor practices, to environmental stewardship and other initiatives, could create business value and ultimately enhance financial performance (Bonini et al. 2009), more than 7,000 corporations across 145 countries have adopted the United Nation's Global Compact policy, committing to align their business operations with a set of socially responsible business principles. Indeed, there is growing evidence suggesting that CSR can generate many coveted business benefits such as more favorable firm image, customer satisfaction and loyalty, and customer resilience to negative events (Klein and Dawar 2004; Luo and Bhattacharya 2006). Seeking to reap maximal benefits from their CSR investments, firms are actively utilizing various channels such as CSR advertisements, point-of-purchase communication, corporate websites, and standalone CSR reports to communicate their social responsibility programs to a variety of stakeholders (Du et al. 2010).

Despite the prominence of CSR on the global corporate agenda today, it still remains a topic of "hot debate" because of its equivocal impact on bottom line performance. At the center of this debate is "do investors care about CSR?" The popular press is filled with mixed opinions on this issue. On one hand, it seems that mainstream investors do not care about CSR. According to a large-scale study by Accenture in partnership with the U.N., most CEOs believe that the investor community does not currently reward socially responsible companies, and actually cite a lack of investor interest as a critical barrier to further investment in CSR (Lacy 2010). More recently, blogger Joshua Schroeder echoes a similar lack of interest by the investment

community: “if being sustainable is so important to companies and consumers then why as investors do we hardly ever consider it as a factor in investment decisions?”(cite?). On the other hand, there has been broadening investor concern about the bottom line impacts of social and environmental issues and investors are increasingly using means such as proxy voting to voice their concerns to management (Lubber 2011). Furthermore, investors are using data on firm social and environmental performance in their investment decision models (PriceWaterhouseCooper 2012). For instance, 722 institutional investors, representing an excess of US\$87 trillion in assets, are currently using the data services of Carbon Disclosure Project (CDP), a non-profit organization, to integrate firm environmental performance in their investment process (CDP 2013).

This study helps disentangle this key debate by examining investor reactions to firm CSR communication, more specifically, standalone CSR reports. Standalone CSR reports, due to their comprehensive content and higher level of detail relative to other forms of CSR information (e.g., CSR advertising, third party CSR ratings), is one of the most important means that firms use to communicate social and environmental performance information to investors (Dawkins 2004; Dhaliwal et al. 2011; Perrini 2006). The number of firms releasing standalone CSR reports has increased dramatically over the years; in 2011, more than 5,500 companies around the world issued CSR reports, up from about 800 a decade ago (Fortune 2012; KPMG 2011). We examine stock market reactions around the announcement dates of annual stand-alone CSR reports. More specifically, drawing upon literature on CSR, the marketing-finance interface, and information disclosure, we develop and test a theoretical framework that hypothesizes (1) the impact of firm CSR performance on stock market reactions to CSR reports, (2) the role of the information environment and firm R&D in explaining the cross-sectional variations of this impact and further,

(3) the role of CSR reporting in enhancing the value relevance of CSR (i.e., the impact of CSR performance on the market value of the firm).

Our approach involves an event study that captures the immediate short-term reaction of the stock market to the release of CSR reports. Following prior literature on event studies (e.g., Cready and Hurtt 2002; Bushee et al. 2011), we use both price-based and volume-based proxies to measure market reactions to CSR reports. We find positive cumulative absolute abnormal returns and positive abnormal trading volume around the release dates of CSR reports, suggesting that investors do revise their expectations of future cash flows or risks of a firm based on the information released in its annual CSR reports. Further multivariate regression analysis shows a positive association between signed abnormal returns to the release of a firm's CSR report and its CSR performance. In other words, all else equal, the higher the CSR performance, the greater the abnormal returns. Since event study methodology isolates all contextual variables and enables us to draw causal relationships, this finding provides rigorous evidence that CSR performance *leads to* enhanced financial performance.

A key characteristic of our theoretical framework is that, taking an interdisciplinary approach, we identify two factors, information environment (from the finance and accounting literature), and R&D (from the marketing and strategy literature), which could help account for the variability in the impact of CSR performance on abnormal returns. We find that the association between CSR performance and abnormal returns is more positive for firms in a weak information environment, consistent with the argument that, for firms in a better information environment, their investors may have already been aware of these firms' CSR performance through other information channels, thus leading to smaller investor reactions. We also find that the association between CSR performance and abnormal returns is more positive for firms with

high R&D, suggesting that R&D is an important strategic lever that magnifies the business value of CSR (Handelman and Arnold 1999; Luo and Bhattacharya 2006, 2009).

Also importantly, we examine the effect of CSR reporting on the value relevance of CSR performance. We expect that publishing standalone CSR reports helps reduce information asymmetry between firms and investors, and increases the timeliness of stock price incorporating CSR information. Using the Heckman (1979) two-stage procedure to control for self-selection bias, we document a positive moderating effect of CSR reporting on the association between stock returns and changes in CSR performance. Specifically, stock returns appears to be positively associated with changes in CSR performance only for firms that release annual CSR reports, but not for firms that do not. This finding highlights an important benefit of actively communicating a firm's social and environmental performance (e.g., CSR reports) to investors: such active, strategic communication could enhance the value relevance of CSR performance.

Our study contributes to the literatures in CSR, the marketing finance interface, as well as the voluntary disclosure literature in accounting and finance. First, while prior research has mostly focused on CSR communication targeting customers and employees (Bhattacharya, Sen and Korschun 2011; Du et al. 2010; Schuler and Cording 2006) and emphasized the role of consumer CSR awareness in accentuating the business value of CSR (e.g., Servaes and Tamayo 2013), our study highlights the importance of CSR communication to investors, an under-examined yet critically important stakeholder group. Our findings on abnormal stock returns to the release of CSR reports establish convincing evidence that investors care about CSR; investors do pay attention to CSR reports and indeed adjust their expectations of future long-term firm performance based on the information disclosed in the CSR reports. Importantly, strategic CSR communication such as release of CSR reports greatly reduces the information asymmetry

between the firm and its investors, leading to enhanced value relevance of CSR performance. By relating CSR communication to stock market reactions, our study also responds to the call for more research where “Marketing Strategy meets Wall Street.”

Further, our study sheds light into the causality between firm CSR performance and firm financial performance, a link that prior CSR literature has not been able to unambiguously establish due to several methodological limitations (e.g., omitted variables, associational tests; Margolis and Walsh 2003). The use of event study methodology, together with the uniqueness of our event (i.e., the release of standalone CSR report that details a firm’s overall CSR performance), enables us to draw a causal conclusion that good CSR performance leads to enhanced financial performance.

Last but not least, our study contributes to the voluntary disclosure literature in finance and accounting. Prior research tends to focus on voluntary financial disclosure, such as management forecast (e.g., Hutton et al. 2003). To the best of our knowledge, our study is the first to examine whether and how stock market reacts to voluntary non-financial disclosure (i.e., CSR reports). Our findings show that non-financial CSR reports play a critical role in supplementing firm financial disclosure and enhancing information transparency to investors and other important stakeholders.

The rest of this paper is organized as follows. Section 2 reviews the literature and develops hypotheses. Section 3 outlines research methodology. The data are described in section 4. Sections 5 provide the empirical results. The final section discusses the theoretical and practical implications.

## **2. Conceptual Overview and Hypotheses Development**

*Does CSR Create Value?*

CSR can contribute to firm value in a variety of ways. Stakeholder theory (Freeman 1985) suggests that firms with a superior CSR performance will benefit from stronger relationships with their various stakeholder groups. For example, customers will evaluate socially responsible firms' products and services more favorably and are more likely to purchase from and be loyal to such firms (e.g., Brown and Dacin 1997; Du, Bhattacharya, and Sen 2011). Socially responsible firms also tend to attract better talent, increase current employees' morale and commitment, thereby reducing turnover, recruitment and training costs (Bhattacharya, Sen and Korschun 2011, Surroca et al. 2010; Turban and Greening 1997). More generally, a positive CSR record will help firms attain legitimacy and the license to operate at local communities as well as receiving more favorable treatment from regulators and policy makers (Brown et al. 2006; Fombrun et al. 2000).

In addition to strengthening stakeholder relationships, CSR can also help firms develop new competencies, resources and capabilities (Barney 1991; Hart 1995; Orlitzky et al. 2003). The resource-based view suggests that proactively addressing social and environmental challenges requires firms to cultivate a system-thinking mindset and to enhance employee involvement and inter-functional coordination (Hart 1995; Porter and Kramer 2011). Several empirical studies (e.g., Sharma and Vredenburg 1998; Surroca et al. 2010) find that CSR programs stimulate organizational learning, resulting in valuable intangible resources such as innovation capabilities and a collaborative, forward-looking corporate culture. In turn, these resources and capabilities contribute to competitive advantage and long-term financial performance.

Finally, CSR creates goodwill, or moral capital (Godfrey et al. 2009) that can minimize firm risk. Typically, when negative events occur, stakeholders are likely to react negatively by punishing the firm with sanctions such as badmouthing, boycotts, or terminating the relationship



with the firm. Research suggests that the goodwill derived from CSR can act as “an insurance policy” that mitigates the damage to firm during times of crisis (Godfrey et al. 2009; Klein and Dawar 2004). In support of this reservoir of goodwill idea, Luo and Bhattacharya (2009) find that higher CSR performance lowers undesirable firm-idiosyncratic risk.

On the other hand, however, there are some theoretical and empirical studies supporting a negative impact of CSR on firm performance (Griffin and Mahon 1997; Margolis and Walsh 2003; Schuler and Cording 2006). For example, private costs theory posits that CSR represents costs that the firm bears without commensurate returns (Friedman 1970; Karnani 2010; Preston and O’Bannon 1997); by engaging in CSR, managers forgo more profitable activities and fail to maximize the firm’s private returns. Meznar et al. (1994) find that there is a negative return to firms’ withdrawal from South Africa (a socially responsible action). In spite of the mixed findings, the evidence supporting a positive relationship between CSR performance and financial performance seems to outweigh the evidence supporting a negative relationship.

### *CSR Communication and Standalone CSR Reports*

It is widely acknowledged that CSR communication is critical in unlocking the business value of CSR. Many of CSR’s business benefits discussed in the previous section hinges on whether stakeholders are aware of a firm’s CSR activities or not. Lack of stakeholder awareness is a stumbling block for firms seeking to reap maximal business benefits from CSR and effective CSR communication can overcome this hurdle (Dawkins 2004). Servaes and Tamayo (2013) find that CSR is positively related to firm value only for firms with high customer CSR awareness, with the relationship being negative or insignificant for firms with low customer awareness.

CSR communication with stakeholders is accomplished through a variety of means, such as advertising campaigns about CSR initiatives, CSR information on corporate websites, standalone CSR reports, and point-of-purchase communication (Du, Bhattacharya and Sen 2010; Maignan and Ralston 2002; Schuler and Cording 2006). Among these various means of communication, CSR reports constitute one of the most important ways firms use to systematically communicate their social and environmental performance to various stakeholders and have rapidly become “the de facto law for business” (KPMG 2011).

A firm’s voluntary compilation and publication of standalone CSR reports demonstrates its serious commitment to improving transparency regarding social and environmental performance. In particular, standalone CSR reports have the following characteristics. First, a firm’s annual standalone CSR report comprehensively details the firms’ overall social and environmental performance. A CSR report typically covers a firm’s performance along various social and environmental dimensions, including human resources, environment, community, customers, suppliers, corporate governance, and others; within each issue domain, the report will cover the firm’s actions and performance regarding various aspects of that domain (Perrini 2006). The length of CSR reports often ranges from several dozen pages to over 100 pages (e.g., General Electric’s 2009 CSR report has 46 pages, and Walmart’s 2012 CSR report has 126 pages). In contrast, information provided through other means, such as press releases, CSR advertising, or third party ratings, is unlikely to contain sufficient and in-depth information about a firm’s overall CSR performance.

Second, CSR reports provide credible, quantitative information about a firm’s CSR performance. Du et al. (2010) emphasize that, to reduce stakeholder skepticism, effective CSR messages should be factual, evidence-driven, and provide quantitative information whenever

possible. CSR reports contain quantitative information, or performance indicators, about a firm's social and environmental programs. These performance indicators can be compared across industry peers as well as over the years to discern an increasing or decreasing trend in firm social and environmental performance (Perrini 2006).

Third, CSR reports reach multiple stakeholders, in particular, the investor community (Dawkins 2004). Prior research on CSR communication has mostly focused on customers (e.g., Du et al. 2007; Schuler and Cording 2006) but has paid scant attention to investors as recipients of firm CSR communication. Yet engaging investors in a dialog where firms articulate and communicate the contribution of CSR to firm value is crucial for investors to make decisions that take into account firm CSR performance. Dhaliwal et al. (2011) find that, for socially responsible firms, initiation of CSR reporting reduces cost of equity, suggesting that CSR reports reduce information asymmetry between managers and investors.

#### *Stock Market Reactions to Release of Standalone CSR reports*

Several studies show that stakeholder awareness of a firm's CSR is generally very low (e.g., Dawkins 2004; Du et al. 2007), highlighting the information asymmetry between the firm and its stakeholders. Since CSR reports provide comprehensive, detailed, and quantitative information about a firm's social and environmental performance, the release of such reports provide *new* (i.e., previously unknown to the market/stakeholders) information and lead to reduced information asymmetry. In particular, investors can use CSR reports to get information about a firm's CSR performance and make decisions based on this newly acquired CSR information.

The new information contained in a firm's CSR report will likely lead to changes in the firm's stock price, as long as the information is value-relevant (i.e., helps predict firm value). A large body of prior research suggests that CSR information is value-relevant (e.g., Godfrey et al. 2009; Luo and Bhattacharya 2006; Surroca et al. 2010). As discussed in a previous section, CSR performance can contribute to firm financial performance by enhancing stakeholder relationships (i.e., more customer loyalty, higher employee morale and commitment), cultivating core competencies (i.e., innovation capabilities), and minimizing damage during times of crisis. These benefits of CSR will either increase future revenue (e.g., more sales, and the ability to charge a price premium), reduce future costs (e.g., customer acquisition and retention costs, employee recruiting, training, and retention costs, and preempting government regulation), or reduce the risks associated with firm profits. Since stock price reflects the present value of all future cash flows, discounted by a risk-adjusted rate, we expect that the abnormal returns (i.e., changes in the stock prices attributed to the release of CSR reports), will be positively related to the firm's CSR performance. In other words, the higher a firm's CSR performance, the greater the abnormal returns to the release of its CSR report.

**H1:** *The abnormal stock return to the release of a firm's CSR report will be positively associated with the firm's CSR performance.*

### *Moderating Role of Information Environment*

Information environment, referring to the level of information already available to the market (stakeholders), is a critical factor influencing the amount of new information (i.e., informational content) in a firm's standalone CSR report: for firms in a rich information environment, their CSR reports are likely to contain a smaller amount of new information. Consequently, information environment is likely to influence how the stock market reacts to the

release of CSR reports. Indeed, the financial disclosure literature (Atiase 1985; El-Gazzar 1998) shows that there are systematic cross-sectional differences in the extent to which stock price reacts to quarterly and annual earnings announcements. Such cross-sectional differences have been partly attributed to information environment.

Firm size and level of institutional ownership are widely used in the financial disclosure literature to capture a firm's information environment (Atiase 1985; El-Gazzar 1998; Ro 1988). Information environment is positively associated with firm size because the amount of pre-disclosure information production and dissemination is often an increasing function of firm size. Therefore, all else equal, the amount of *new* information conveyed to the market by earnings reports is inversely related to firm size. Atiase (1985) finds that the degree of stock price revaluation in response to earnings reports is inversely related to the firm size.

Information environment is also positively associated with the level of institutional ownership of a firm. Institutional investors, due to their large holdings, are motivated to acquire private pre-disclosure information or get managers of firms to voluntarily release a high level of pre-disclosure information. Thus, firms with a high level of institutional ownership will likely have a better information environment. El-Gazzar (1998) finds that stock price reactions around earnings announcements are smaller for firms with greater institutional ownership. More recent research on institutional investors differentiate between dedicated, transient, and quasi-indexer institutional investors<sup>1</sup> and show that it is dedicated institutional investors who play a monitoring and governance role and who actively acquire information (both financial and non-financial) to assess firm performance (Busher 1998; Yu 2012). In other words, dedicated institutional

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<sup>1</sup> Dedicated institutional investors generally hold large stakes in a few firms, and have low turnover and more concentrated portfolio holdings. Transient institutional investors generally trade frequently to earn short-term profits, and are characterized by high portfolio turnover and diversified portfolios. Quasi-indexer institutional investors generally use the index strategy, and have low turnover and diversified portfolio holdings.

investors are associated with better information environment where greater amount of pre-disclosure information is likely to be available.

We expect information environment to play a similar role in affecting stock market reactions to standalone CSR reports. For firms in a better information environment (e.g., larger firms, or firms with higher levels of dedicated institutional ownership), more CSR information will be made available through other communication channels (e.g., CSR information on corporate websites, CSR advertising, and investor relations office) prior to the release of standalone CSR reports. For example, Branco and Rodrigues (2008) find that larger firms are more likely to disclose CSR performance on corporate websites, which are updated frequently and thus constitute a source of pre-disclosure CSR information. Similarly, a research report by PriceWaterhouseCooper (2012) suggests that institutional investors are requesting firms to disclose their social and environmental performance data. In short, we expect that, for firms in a better information environment, the higher availability of pre-disclosure CSR information will reduce the information content of standalone CSR reports, leading to a smaller association between the market reaction to CSR reports and CSR performance. Therefore, our second hypothesis is formulated as follows.

**H2:** *Information environment moderates the positive relationship between the abnormal stock return to the release of a firm's CSR report and its CSR performance such that the relationship is less positive for firms in a better information environment.*

#### *Moderating Role of R&D*

R&D is a strategic investment that results in technological capabilities and subsequently, product and process innovations. R&D will enhance the positive impact of CSR on firm financial performance due to several reasons. First, firms with higher R&D are more likely to have superior corporate ability to produce high quality and innovative products to satisfy marketplace

needs (Gatignon and Xuereb 1997; Mizik and Jacobson 2003). Prior research has shown that such corporate ability interacts positively with a firm's CSR to influence stakeholders' perceptions of and loyalty to the firm (Brown and Dacin 1997; Luo and Bhattacharya 2006). For example, consumers will be more satisfied and thus more motivated to buy from the socially responsible firm if its products are innovative and of superior quality (Handelman and Arnold 1999; Luo and Bhattacharya 2006). Employees will demonstrate higher organizational commitment and work morale if the firm can simultaneously fulfill their financial and ideological (e.g., making a difference) career needs (Thompson and Bunderson 2003). From this perspective, higher R&D serves to strengthen the positive impact of CSR on a firm's stakeholder relationships and consequently on firm financial performance.

Second, R&D will play a valuable facilitating role in helping firms develop business capabilities from CSR engagement. The resource-based view suggests that, by engaging in CSR activities, firms cultivate intangible resources and core capabilities (Orlitzky et al. 2003; Russo and Fouts 1997; Surroca et al. 2010). Firm capabilities are usually the outcome of interdependent investments and organizational learning processes (Stieglitz and Heine 2007; Winter 2000). Winter (2000, p. 984, italics added) states that "to create a significant new capability, an organization must typically make a set of specific and highly *complementary* investments in tangible assets, in process development, and in the establishment of relationships that cross the boundaries of the organizational unit." Complementarity gives rise to synergy among these activities, with the total being more than the sum of the parts (Stieglitz and Heine 2007). R&D and CSR constitute such synergistic activities in fostering business capabilities. In particular, while CSR stimulates organizational learning from external sources (e.g., more complicated scanning processes and information system; Hart 1995; Russo and Fouts 1997), R&D creates

internal knowledge and technological capabilities, which influence the firm's ability to effectively absorb relevant information from external resources (e.g., market knowledge gained from a community outreach program; Kanter 1999) and leverage it to commercial ends (Zahra and George 2002).

Overall, because R&D is a critical strategic factor that magnifies the positive impact of CSR on business, all else equal, we expect stock market reactions to CSR reports to be bigger for firms with higher R&D spending. Thus,

**H3:** *R&D moderates the relationship between the abnormal stock return to the release of a firm's CSR report and its CSR performance such that the relationship is more positive for firms with higher R&D investment.*

Figure 1 presents the conceptual model on stock market reactions to the release of CSR reports.

### **CSR Reporting and the Value Relevance of CSR**

Value relevance refers to whether a financial or non-financial measure can provide incremental information in explaining the value of a firm. The issue of value relevance is of paramount importance to CSR managers who are under continuous pressure to justify expenditures on social and environmental programs. We expect CSR reporting will increase the value relevance of CSR. Our previous hypotheses relate to how stock market adjusts the stock price valuation of a firm based on the release of its CSR report. More specifically, abnormal stock returns will be positively related to the firm's CSR performance, although the extent of the stock price revaluation will be contingent on the information environment and firm R&D. A corollary of these hypotheses would be: for firms that release CSR reports, stock market will immediately incorporate the new information about a firm's CSR performance (as contained in the CSR reports) in the stock valuation of these firms. On the other hand, for those firms that do



not release CSR reports, investors may not get a complete picture about the firm's CSR performance and thus could not adequately incorporate the firm's CSR performance information in the stock price valuation. This suggests that, relative to non-reporting firms, firms that release standalone CSR reports will experience a stronger relationship between CSR performance and market value of the firm.

**H4:** *The relationship between a firm's CSR performance and its market value will be stronger for firms that release CSR reports than for firms that do not release CSR reports.*

### **3. Research Methodology**

We use event study methodology to test H1-H3; specifically, we examine abnormal stock returns surrounding the announcement dates of CSR reports and perform multiple regressions to explain the cross-sectional differences in abnormal stock returns. To test H4, we employ a changes model, which is less likely to suffer from econometric problems (e.g., omitted variable bias; Kothari and Zimmerman 1995), to examine the moderating role of CSR reporting in the CSR performance – market value relationship.

#### *3.1. Dependent Variable for the Event Study: Abnormal Stock Returns*

We use the release date of a firm's standalone CSR report as the event date and calculate daily abnormal returns using the Fama-French three factor model, which has gained prominence because of its ability to explain stock market movements. Fama and French (1993) find that the market return, firm size, and the book-to-market ratio are important determinants of cross-sectional stock returns. Similarly, Kothari and Warner (2007) emphasize the importance of considering these three factors when estimating abnormal returns. Specifically, the following

model is estimated for each firm during the 80-day estimation period from 100 trading days prior to the event window to 21 trading days prior to the event window.

$$R_{it} = \alpha + \beta_1 R_{mt} + \beta_2 SMB_t + \beta_3 HML_t + \varepsilon_{it} \quad (1)$$

$R_{it}$  is the stock return for firm  $i$  on day  $t$ .  $R_{mt}$  is the return on the CRSP value-weighted market portfolio on day  $t$ .  $SMB_t$  is the difference between the return on the portfolio of small stocks and big stocks.  $HML_t$  is the difference between the return on the portfolio of stocks with high book-to-market ratios and stocks with low book-to-market ratios. The abnormal returns for each firm during the event window are given by equation 2.

$$AR_{it} = R_{it} - (a + b_1 R_{mt} + b_2 SMB_t + b_3 HML_t) \quad (2)$$

$a$ ,  $b_1$ ,  $b_2$ , and  $b_3$  are the estimates of the coefficients on each factor obtained from equation 1. Firm-specific cumulative abnormal returns (CAR) are then calculated as the sum of daily abnormal returns during the event window<sup>2</sup>.

### 3.2. Empirical Models

We focus on cumulative abnormal returns (CAR) during the three-day event window (-1, 1) to examine the cross-sectional variation in the market reaction to CSR reports. To test H1, we look at whether firms with higher CSR performance have more positive abnormal returns to their CSR reports. In the empirical regression model, we control several firm characteristics to parse out potential confounding effects. Our model is specified as follows:

$$CAR = \beta_0 + \beta_1 SIZE\_R + \beta_2 INST\_R + \beta_3 RD + \beta_4 AD + \beta_5 FIRST + \beta_6 ROA + \beta_7 BTM + \beta_8 LEV + \beta_9 LIQUIDITY + \beta_{10} CSRSCORE + industry \text{ and year dummies} + \varepsilon \quad (3)$$

A firm's CSR report provides a comprehensive picture of its overall CSR performance. In our empirical analysis, we use KLD ratings to proxy for a firm's overall CSR performance

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<sup>2</sup> We also use buy-and-hold abnormal returns and estimate abnormal returns using the market model and the Carhart four-factor model (Carhart 1997). The results based on these alternative approaches are qualitatively similar to those based on CAR from the three-factor model.

(CSRSCORE) as disclosed in its annual CSR report. KLD ratings make a good proxy for information content in CSR reports for several reasons. First, KLD ratings have been used extensively in the literature to measure overall firm CSR performance (e.g., Coombs and Gilley 2005; Dhaliwal et al. 2011; Godfrey et al. 2009; Servaes and Tamayo 2013; Waddock and Graves 1997) and are considered as “the *de facto* (CSR) research standard” (Waddock 2003, 369). Second, KLD ratings comprehensively cover multiple social and environmental domains, including environment, community, diversity, employee relations, product, and human rights, and corporate governance. These domains capture all key stakeholder groups and are largely consistent with the issue domains covered in a typical standalone CSR report (Perrini 2006; Waddock 2008). Third, in addition to being comprehensive in its coverage of social and environmental issues, KLD ratings also provide adequate depth regarding firm performance along various key sub-dimensions of an issue domain, capturing both positive and negative performance. For example, in the environment domain, KLD has 6 indicators on positive performance (i.e., strengths) and 7 indicators on negative performance (i.e., concerns); in the employee domain, KLD has 6 indicators on positive performance and 4 indicators on negative performance. Last but not least, a good CSR performance measure should be benchmarked by industry average to enable comparison across industries (Dhaliwal et al. 2011). Since 2003, KLD dataset covers 3,000 largest U.S. companies, therefore allowing us to compute mean industry CSR performance and get industry-adjusted CSR performance for each firm.

In the KLD dataset, a firm’s social performance in each domain is rated in two ways, strengths and concerns. Since the numbers of strength and concern indicators have evolved over the years in the KLD dataset, we scale the number of total strengths (concerns) for each firm-year by the maximum possible number of strengths (concerns) in each year to obtain a strengths

index and a concerns index that range from 0 to 1. We then subtract the concerns index from the strengths index to obtain a measure of net CSR performance that ranges from -1 to +1 for each year (see Coombs and Gilley 2005; Waddock and Graves 1997; Servaes and Tamayo 2013 for similar transformation of KLD data). Finally, we adjust the net CSR performance for each year by industry means for the prior year to get relative performance scores that are comparable across industries.<sup>3</sup>

SIZE\_R and INST\_R capture aspects of firm information environment that may explain the market's reaction in the event window. Following prior literature (e.g., Collins et al. 2003), we use the rank of firm size and dedicated institutional ownership to facilitate the interpretation of the regression results and to allow for a nonlinear association between these variables and stock returns. In particular, we calculate the scaled ranks of firm size and dedicated institutional ownership for each firm by ranking these variables into ten groups (0 to 9) by decile points and dividing the group number by 9, so that the scaled rank ranges between 0 and 1. SIZE\_R is the decile ranks of firm size as measured by the logarithm of total assets at the beginning of each year. To calculate INST\_R, we first obtain information on institutional ownership from CDA/Spectrum database, and then classify institutions based on their investment behaviors using the widely used factor and cluster analysis approach described in Bushee (1998, 2001). Three clusters are formed based on institutions' portfolio turnover and concentration. Specifically, dedicated institutions are those with lowest portfolio turnover and highest concentration, transient institutions are those with highest portfolio turnover and lowest concentration, and quasi-indexer institutions are those with relatively low portfolio turnover and concentration. INST\_R is the decile ranks of dedicated institutional ownership at the end of the quarter prior to the release of CSR reports.

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<sup>3</sup> Adjusting CSR performance by industry medians yields qualitatively similar results.

RD is R&D intensity, which captures a strategic lever that may influence stock market reactions to CSR (Luo and Bhattacharya 2009). It is calculated as the R&D expenses deflated by sales of the previous year. Luo and Bhattacharya (2006, 2009) find that, by improving a firm's innovativeness and product performance, RD can enhance the impact of CSR on customer satisfaction and, subsequently, firm value.

AD is advertising intensity, calculated as the advertising expenses deflated by sales of the previous year. We control for advertising intensity because it has been found to influence the relationship between CSR performance and firm value (Servaes and Tamayo (2013).

FIRST is a dummy variable, equal to one if the CSR report is the inaugural CSR report of the firm, and zero otherwise. We include this variable to account for potential differences in market reactions to inaugural vs. subsequent CSR reports.

We also include a few key financial metrics that may influence investor reactions to CSR reports. ROA, return on assets, measures a firm's profitability and is calculated as income before extraordinary items for the previous year divided by total assets at the beginning of each year. BTM, the book-to-market ratio, measures a firm's growth opportunity and is calculated as the book value of equity divided by the market value of equity at the beginning of each year. LEV, financial leverage, measures a firm's financial risk, and is calculated as total liabilities divided by total assets at the beginning of each year. LIQUIDITY is number of shares traded in the previous year divided by the number of shares outstanding at the beginning of each year.

Hypothesis 1 suggests that the coefficient on CSRSCORE,  $\beta_{10}$ , in equation 3, should be positive. To test hypotheses 2 and 3, we add the moderating effects of firm size, dedicated institutional ownership, and R&D intensity to the previous model.

$$\begin{aligned}
CAR = & \beta_0 + \beta_1 SIZE\_R + \beta_2 INST\_R + \beta_3 RD + \beta_4 AD + \beta_5 FIRST + \beta_6 ROA + \beta_7 BTM + \beta_8 LEV \\
& + \beta_9 LIQUIDITY + \beta_{10} CSRSCORE + \beta_{11} SIZE\_R * CSRSCORE + \beta_{12} INST\_R * CSRSCORE \\
& + \beta_{13} RD * CSRSCORE + industry \text{ and year dummies} + \varepsilon
\end{aligned} \tag{4}$$

Hypothesis 2 suggests that  $\beta_{11}$  and  $\beta_{12}$  in equation 4 should be negative, while hypothesis 3 suggests that  $\beta_{13}$  should be positive.

#### 4. Sample and Descriptive Statistics

Our sample consists of Fortune 500 companies that have identifiable release dates of standalone CSR reports in the period 2005 to 2011. We identify the release dates of standalone CSR reports issued by Fortune 500 companies by searching various internet sources, including Corporate Social Responsibility newswire, CorporateRegister.com, Business wire, Reuters, PRweb, and company websites (the newsroom or investor relations section). We search for press releases using terms including “Corporate Social Responsibility report,” “release,” “today,” and other similar terms<sup>4</sup>. We verify the release dates by reading the press releases. To control for confounding effects, we check for other major news concerning the firm and eliminate the firm-date observation if there is annual report release or merger and acquisition announcement on the same date or the day before or after the date. We exclude firms when their press releases do not provide the exact release date of the CSR reports (N = 63) and firms who publish integrated annual reports (e.g., Southwest Airlines, United Technologies). In total, we have 139 firms with 328 release dates of CSR reports in the period from 2005 to 2011.

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<sup>4</sup> For “Corporate social responsibility report,” we also use similar terms such as corporate responsibility report, corporate/global citizenship report, and sustainability report. For “release,” we also use similar terms such as publish, announce, issue, is/becomes available.

We get daily stock prices and trading volume from CRSP, CSR performance from KLD dataset, company data and financial information from COMPUSTAT, and institutional ownership data from CDA/Spectrum S34. We delete 6 CSR reports due to missing stock prices or CSR performance. After merging data from these various sources, our final sample includes 322 CSR report releases for 136 unique firms.

Table 1, Panel A shows the distribution of sample firms by year and the descriptive statistics of the key variables for sample firms in each year. Overall, there is a steadily increasing trend in the number of Fortune 500 firms with identifiable release dates of standalone CSR reports from 5 in year 2005 to 91 in year 2011. Table 1, Panel B presents the distribution of CSR reports and sample firms by industry, based on Barth et al.'s (1998) industry classifications. The Durable Manufacturing industry has the largest number of CSR reports (46) as well as the largest number of unique firms (19). The Food industry and the Retail industry have the second largest number of CSR reports (38 and 37, respectively) as well as the second largest number of unique firms (16 for each industry). On the other hand, the Mining and Construction industry and the Service industry have the smallest number of CSR reports (5 and 7, respectively) and the smallest number of unique firms (3 and 4, respectively) in our sample.

Table 2 provides descriptive statistics of the main variables and the correlations among them. The mean CSRSCORE is .069. In our sample, Exxon Mobil, Walmart, and Tyson Foods are among the firms with the lowest CSR performance (CSRSCOREs in 2010 for these firms are -.27, -.26, and -.22, respectively). On the other side of the spectrum, Texas Instruments, Xerox, Proctor & Gamble, and Gap are among the firms with the highest CSR performance (CSRSCOREs in 2011 for these firms are .50, .45, .43, and .42, respectively); notably, these

firms also ranked among top 40 in the well-known Corporate Responsibility Magazine's 100 Best Corporate Citizens (Corporate Responsibility Magazine 2012).

We find that SIZE is negatively correlated with the level of institutional ownership (INST). CSR performance (CSRSCORE) is negatively correlated with SIZE and leverage (LEV). In addition, firms that publish their inaugural standalone CSR reports (i.e., FIRST = 1) tend to have lower CSR performance relative to firms that have already published several standalone CSR reports (correlation = -0.16). This is consistent with research indicating that publishing CSR reports helps improve a firm's subsequent CSR performance (Bhattacharya et al. 2011). Finally, a firm's CSR performance is also positively associated with R&D intensity (RD), Advertising intensity (AD), and profitability (ROA).

An initial question of interest is whether and how firms that issue standalone CSR reports (reporting firms) are different from firms that do not issue standalone CSR reports (non-reporting firms). To examine this, we start with all Fortune 500 firms with non-missing values for necessary financial information and CSR performance (444 firms). We then classify the firms into three groups based on whether they release annual stand-alone CSR reports in our study period (2005-2011): reporting firms with identifiable CSR reporting dates, reporting firms with unidentifiable CSR reporting dates, and non-reporting firms.

Table 3, Panel A presents descriptive statistics for the main variables separately for these three groups. We identify 136 (63) firms with identifiable (unidentifiable) reporting dates and 245 non-reporting firms. Relative to non-reporting firms, reporting firms with identifiable dates are significantly larger (Size: 10.070 versus 9.091,  $p < .01$ ), more profitable (ROA: .058 vs. .045,  $p < .01$ ), and have better CSR performance (CSRSCORE: 0.034 vs. -0.012,  $p < .01$ ). Relative to



non-reporting firms, reporting firms with non-identifiable dates are larger (9.826 vs. 9.091,  $p < .01$ ), but have similar CSR performance (CSRSCORE: -.006 vs. -.012,  $p = .51$ ).

To conduct multivariate analysis of the differences between reporting firms and non-reporting firms, we estimate the following Probit model on the determinants of voluntary CSR reporting.

$$\begin{aligned} DISCLOSE = & \beta_0 + \beta_1 SIZE + \beta_2 INST + \beta_3 RD + \beta_4 AD + \beta_5 ROA + \beta_6 BTM + \beta_7 LEV \\ & + \beta_8 LIQUIDITY + \beta_9 CSRSCORE + \varepsilon \end{aligned} \quad (5)$$

DISCLOSE is a dummy variable equal to zero if the firm is a non-reporting firm which does not release annual CSR reports during our sample period, and one otherwise. All the independent variables are as defined in model (3) and are measured as averages over the sample period 2005-2011. Table 3, Panel B provides the Probit regression results. In Column I, we exclude reporting firms with non-identifiable reporting dates. In Column II, we include reporting firms with non-identifiable reporting dates. Regression results are similar across both specifications of the dependent variable. We find that, all else equal, larger firms and firms with higher CSR performance are more likely to issue standalone CSR reports. Larger firms face more stakeholder pressure to disclose their non-financial performance, and are likely to have the requisite resources to compile standalone CSR reports (KPMG 2011). In addition, firms with higher CSR performance have a stronger incentive to disclose (Dhaliwal 2011).

Finally, we find that Leverage is negatively associated with likelihood of CSR reporting. Given that firms with higher financial leverage are less likely to engage in CSR activities (e.g., Kim et al. 2012), one possible explanation for this result is that firms with tighter debt constraints have lower motivation to disclose their CSR performance because of their lower CSR involvement.

## 5. Empirical Results

### 5.1. Stock Market Reactions to the Release of CSR Reports

Before testing our hypotheses, we first examine whether the stock market reacts to the release of CSR reports by looking at the absolute abnormal returns and abnormal trading volumes, which are metrics of investor responses unconditional on the market expectations. Following prior literature (e.g., Cready and Hurtt 2002; Bushee et al. 2011), daily absolute abnormal returns are computed as the difference between abnormal returns (AR) on each event day and the mean daily abnormal returns during the estimation period, divided by the standard deviation of daily abnormal returns during the estimation period. Daily absolute abnormal returns are then aggregated during the event window to get cumulative absolute abnormal returns (CABS\_SAR). Table 4, Panel A provides the mean and median of cumulative absolute abnormal returns. There is a significant spike in cumulative absolute abnormal returns during the 3-day and 5-day event windows, as indicated by the significantly positive means of CABS\_SAR in both event windows (0.249 and 0.539, respectively, both  $p < 0.01$ ). The significant cumulative absolute abnormal returns suggest that investors do respond to standalone CSR reports, supporting the information content of standalone CSR reports.

To calculate abnormal trading volume, we first perform log transformation of daily trading volumes because doing so will decrease the skewness of trading volume and lead to better specified statistical tests (Bamber et al. 2011). Following Asthana et al. (2004) and Miller (2010), we define abnormal trading volume, AVOL, as the mean logarithm of daily trading volume during the event period minus the mean logarithm of daily trading volume during the estimation period, deflated by the standard deviation of the logarithm of daily trading volume during the estimation period. The estimation period begins 50 days before the event period and

ends 21 days before the event period. Table 4, Panel B provides the descriptive statistics of abnormal trading volumes. There is a significant increase in trading volumes during the 3-day and 5-day event windows (mean AVOL: 0.138 and 0.150, respectively, both  $p < 0.05$ ), providing evidence for investor reactions to standalone CSR reports.

Table 4, Panel C provides the mean and median of signed cumulative abnormal returns during the three-day event window (-1, 1) and the five-day event window (-2, 2). The cumulative abnormal stock returns across the three (five) day event window has a mean of 0.15% (-0.13%) and a median of 0.04% (0.11%), all are not significant. The insignificant means of signed CAR, combined with the significantly positive means of CABS\_SAR and AVOL, strongly suggests that there exists a large amount of cross-sectional variations in abnormal returns across the sample firms.

Hypotheses 1-3 suggest that the market reactions to releases of CSR reports will be positively related to a firm's CSR performance, and that the strength of the relationship between abnormal returns and CSR performance will depend on firm information environment (i.e., firm size, dedicated institutional ownership) and R&D intensity. To explore the cross-sectional variations in the cumulative abnormal returns around the releases of CSR reports, we partition the full sample into two subsamples based on the median of firm size, dedicated institutional ownership, and R&D intensity, respectively. We then plot CAR during the three-day event window (-1, 1) for low corporate social performance firms (CSRSCORE below its median) and high corporate social performance firms (CSRSCORE above its median) conditional on firm size, dedicated institutional ownership, and R&D intensity in Figure 1.

Figure 1, Panel A reveals that high CSP firms experience significantly higher CAR than low CSP firms for the subsample of small firms (untabulated p-value  $< 0.05$ ), but not for the

subsample of large firms. Similarly, Figure 1, Panel B reveals that high CSP firms experience significantly higher CAR than low CSP firms for the subsample of firms with low dedicated institutional ownership (untabulated p-value < 0.05), but not for the subsample of firms with high dedicated institutional ownership. Figure 1, Panel C indicates that high CSP firms experience significantly higher CAR than low CSP firms for the subsample of firms with high R&D intensity (untabulated p-value < 0.10), but not for the subsample of firms with low R&D intensity.

Overall, the univariate results from price and volume responses unconditional on news suggest that annual stand-alone CSR reports have information content and the market reacts to new information released in these reports. Further, the differences in the market reactions to CSR reports conditional on firm size, dedicated institutional ownership, and R&D intensity provide preliminary evidence consistent with hypotheses 1-3.

## *5.2. Multivariate Analysis of Stock Market Reactions to CSR Reports*

Table 5 presents the OLS regression results of our empirical models. In Column I, the independent variables include all control variables and CSRSCORE. In Column II, we add three interaction terms, SIZE\_R\*CSRSCORE, INST\_R\*CSRSCORE, and RD\*CSRSCORE. All control variables, except LIQUIDITY, are not significant. LIQUIDITY has a significant and negative coefficient in Column II, suggesting that market reactions to CSR reports are smaller for firms with higher liquidity.

H1 predicts that abnormal returns to releases of CSR reports are positively related to a firm's CSR performance. Across both model specifications, the coefficient of CSRSCORE is significant and positive (coeff. = 0.029, p < 0.05; coeff. = 0.091, p < 0.01; in Column I, II,

respectively), suggesting that, all else equal, market reactions to CSR reports are more positive for firms with higher CSR performance. Therefore, H1 is supported.

H2 predicts that, for firms in a better information environment, as indicated by a larger firm size or a higher level of dedicated institutional ownership, the positive association between CSR performance and abnormal returns is smaller. Table 5, Column II shows that  $SIZE\_R*CSRSCORE$  has a significant and negative coefficient (coeff. = -0.066,  $p < 0.05$ ). Similarly,  $INST\_R*CSRSCORE$  also has a significant and negative coefficient (coeff. = -0.088,  $p < .01$ ). These results suggest that, consistent with H2, the positive relationship between CSR performance and abnormal returns becomes smaller as firm size (as well as level of dedicated institutional ownership) increases.

H3 predicts a positive moderating role of RD in the relationship between CSR performance and abnormal returns. Consistent with H3, Table 5, Column II shows a significant and positive coefficient for  $RD*CSRSCORE$  (coeff. = 0.421,  $p < 0.05$ ), suggesting that the positive relationship between CSR performance and abnormal returns gets larger for firms with higher R&D intensity.

### *5.3. CSR Reporting and the Value Relevance of CSR*

H4 predicts that the value relevance of CSR performance will be higher for firms issuing standalone CSR reports. In testing this prediction, we use a changes model to examine the value relevance of CSR for the sample that includes both reporting firms and non-reporting firms during the period of 2005-2011 (2,127 observations). Barth et al. (2001) suggest that, if researchers intend to investigate what is reflected in firm value, they should use a levels model; however, if the timeliness of accounting amounts is part of the research question, then a changes

model is more appropriate. Our inquiry involves determining the effects of standalone CSR reports on the timeliness of stock prices incorporating CSR performance, suggesting that a changes model may be more appropriate. Further, compared to a levels model, a changes model is less likely to be subject to econometric problems, such as the omitted variable bias (Kothari and Zimmerman 1995). We thus use the following changes model to examine the value relevance of CSR performance.

$$\Delta MV_{it} = \lambda_0 + \lambda_1 \Delta TA_{it} + \lambda_2 \Delta TL_{it} + \lambda_3 \Delta NI_{it} + \lambda_4 \Delta CSRSCORE + \lambda_5 DISCLOSE + \lambda_6 DISCLOSE * \Delta CSRSCORE + \lambda_7 LAMBDA + \lambda_8 DISCLOSE * LAMBDA + \text{fixed firm and year effects} + \varepsilon_{it} \quad (6)$$

$\Delta$  represents the changes in the following variables at the end of year t relative to the end of year t-1. MV is the market value of equity. TA and TL are total assets and liabilities, respectively. NI is defined as income before extraordinary items. All the variables are deflated by the market value of equity at the beginning of each year. DISCLOSE is a dummy variable equal to one if standalone CSR reports are released for the year, and zero otherwise.

Following Givoly et al. (2010), we consider the possible endogeneity problem regarding the decision to issue CSR standalone reports by using the two-stage Heckman procedure (Heckman 1979). In the first stage, model (5) is estimated for all the firm-year observations. Estimates of the Probit model (5) are then used to compute the inverse Mills ratio for each observation in the sample. In the second stage, we include the inverse Mills ratio (LAMBDA) as a control variable, and allow the coefficient on the inverse Mills ratio to vary between reporting firms and non-reporting firms by including the interaction term DISCLOSE\*LAMBDA.

Table 6 reports the regression results. Table 6, Column I shows that, without considering the effect of voluntary CSR disclosure on the value relevance of CSR performance, changes in CSR performance is not related to changes in market value (coeff. = 0.172, NS). However, after considering the difference in value relevance of CSR between reporting firms and non-reporting

firms, Column II shows a significant and positive coefficient on DISCLOSE\*  $\Delta$ CSRSCORE (coeff. = 0.637,  $p < 0.05$ ). The results indicate that when a firm releases a standalone CSR report, changes in CSR performance is positively related to changes in market value. In other words, standalone CSR reports significantly increases the value relevance of CSR performance.

## **6. Discussion**

Do investors care about CSR? Should firms devote significant resources to communicating their CSR performance to investors? Our study helps managers answer these important questions. This research examines stock market reactions to CSR communications, specifically, stand-alone CSR reports. We find positive cumulative absolute abnormal returns and positive abnormal trading volume around the releases of CSR reports, suggesting that investors are reacting to CSR reports. Further, we document a positive association between the abnormal returns to a firm's CSR report and its CSR performance. This association is less positive for firms in a better information environment, suggesting that CSR information for these firms may have already been incorporated into stock prices through other information channels (Atiase 1989). Also importantly, the association between the abnormal returns and CSR performance is more positive for firms with high R&D, suggesting that R&D magnifies the business value of CSR (Luo and Bhattacharya 2006, 2009). Finally, we find that CSR reporting enhances the value relevance of CSR performance.

### *6.1 Theoretical Implications*

This study is the first to look at stock market reactions to strategic firm CSR communication (i.e., CSR reports). It has significant implications for research on CSR

communication, CSR in general, as well as research on voluntary disclosure. While prior research on CSR communication has largely focused on consumers (e.g., Schuler and Cording 2006; Servaes and Tamayo 2013) and employees (Bhattacharya, Sen and Korschun 2011, 2008), we examine investor reactions to strategic CSR communication, specifically CSR reports. As investors become more interested in non-financial, social and environmental performance information about the firm, and an increasing number of firms issue annual standalone CSR reports (KPMG 2011), it is a question of high theoretical and practical importance to investigate whether and how investors react to the release of CSR reports. Our results provide convincing evidence that investors do care about CSR performance and indeed use information disclosed in standalone CSR reports to adjust their expectations about a firm's future financial performance and the associated risks. This highlights the importance of CSR reports as a strategic means to communicate a firm's social and environmental performance to the investor community. Further, our finding on the moderating role of information environment suggests that CSR reports function in conjunction with other CSR communication channels. When investors already have acquired information about a firm's CSR performance from other sources, as in the case of a firm with a strong information environment, their reactions to CSR reports are smaller.

By providing insights into the exact relationship between CSR performance and firm financial performance, our research extends prior CSR literature in several ways. First, prior research has not been able to unambiguously establish a causal link from CSR to firm financial performance due to several methodological limitations (e.g., omitted variable bias, use of association tests; Margolis and Walsh 2003; Servaes and Tamayo 2013). In contrast, event study methodology isolates contextual variables and thus enables us to draw a causal relationship between CSR performance and firm financial performance. Our findings rigorously establish a



positive causal link from CSR to firm financial performance, as measured by abnormal stock returns to the release of CSR reports. This helps to resolve the controversies surrounding whether CSR creates financial value or not, and attests to the importance of CSR as a long-term strategic investment.

Second, not all CSR performance is equal in the eyes of investors. The positive moderating role of R&D in the relationship between abnormal returns and CSR performance indicates that investors are evaluating firm CSR performance not in isolation but in light of the firm's key strategic levers such as R&D. Prior research has suggested that R&D affects how customers react to a firm's CSR (e.g., Handelman and Arnold 1999; Luo and Bhattacharya 2006); we extend this line of research by showing that investors, another key stakeholder group, also positively value the synergy between CSR and R&D.

This study also contributes to the voluntary disclosure literature in finance and accounting. Prior research tends to focus on voluntary financial disclosure, such as management forecasts (e.g., Hutton et al. 2003) and conference calls (e.g., Bushee et al. 2004). To the best of our knowledge, our study is the first to examine whether and how the stock market reacts to voluntary non-financial disclosure (i.e., CSR reports). Our finding strengthens the argument that non-financial CSR reports play a critical role in supplementing firm financial disclosure and enhancing information transparency to investors and other important stakeholders (Dhaliwal et al. 2011, Perrini 2006). Further, the information environment has been shown in prior accounting research to influence market reactions to financial reports and earnings announcements. We extend this line of research by documenting that, in the case of voluntary non-financial disclosure such as CSR reports, the information environment plays a similar role; all else equal,

the relationship between abnormal stock returns and CSR performance is less positive for firms with a superior information environment.

## *6.2 Practical implications*

This study offers several implications strategic CSR communication. CSR communication is critical for firms seeking to unlock the numerous business benefits from their CSR. Also, stakeholders increasingly expect firms to be transparent about, and be accountable for their social and environmental performance (Gray 2006; KPMG 2011; Perrini 2006). Among various means of CSR communication, standalone CSR reports have gained prominence. However, many firms are still unsure about whether they should publish CSR reports or not (van Wensen et al. 2011). CSR reporting may incur considerable costs, such as cost associated with data compilation and assurance, the reporting procedure, and publication of results. Further, managers may believe that their most important stakeholders, especially investors, may not value CSR performance. Our findings showcase the importance and benefits of CSR reporting. Firms, particularly those with superior CSR performance, will reap significant benefits by releasing standalone CSR reports. Managers should resort to CSR reporting as an important means to complement financial disclosure and to better guide investor expectations about long term firm financial performance.

One interesting finding is that, while our analysis indicates that larger firms are more likely to issue CSR reports, it is the smaller firms, or more generally, firms in an inferior information environment, who will reap greater benefits (i.e., greater abnormal returns) from their CSR performance by issuing CSR reports. The message for practitioners is that firms

should conduct careful cost-benefit analysis and make informed decision regarding whether or not to issue standalone CSR reports.

Our results also have implications for managers and CSR professionals. Too often, firms pursue CSR strategies in isolation from the broader business strategies. Yet we show that the relationship between abnormal returns and CSR performance is contingent on key strategic factor such as R&D intensity. Managers should mindfully connect CSR initiatives with core business initiatives such as innovation projects or capability building initiatives. Such broad, holistic approach to CSR has the potential to create maximal long term financial value.

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Figure 1: Stock Market Reactions to CSR Communication

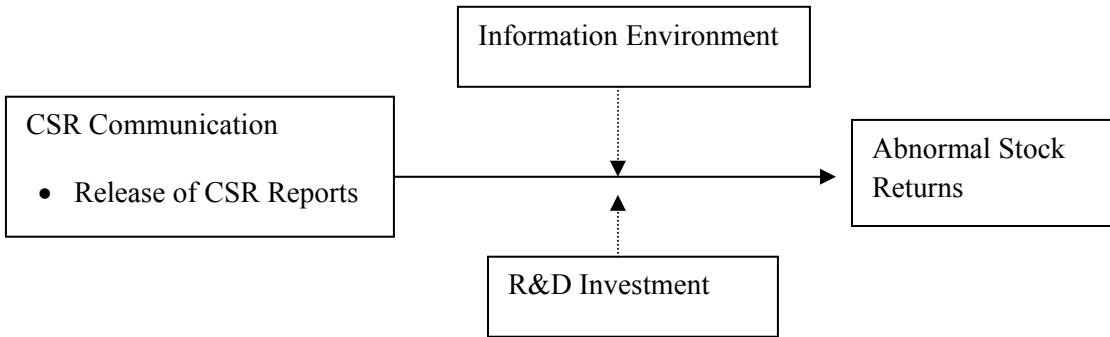
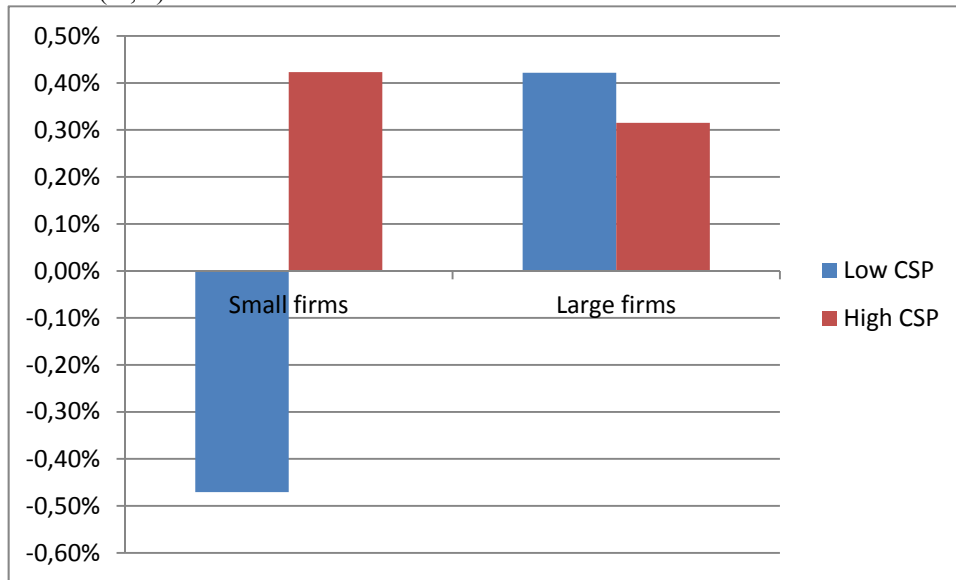
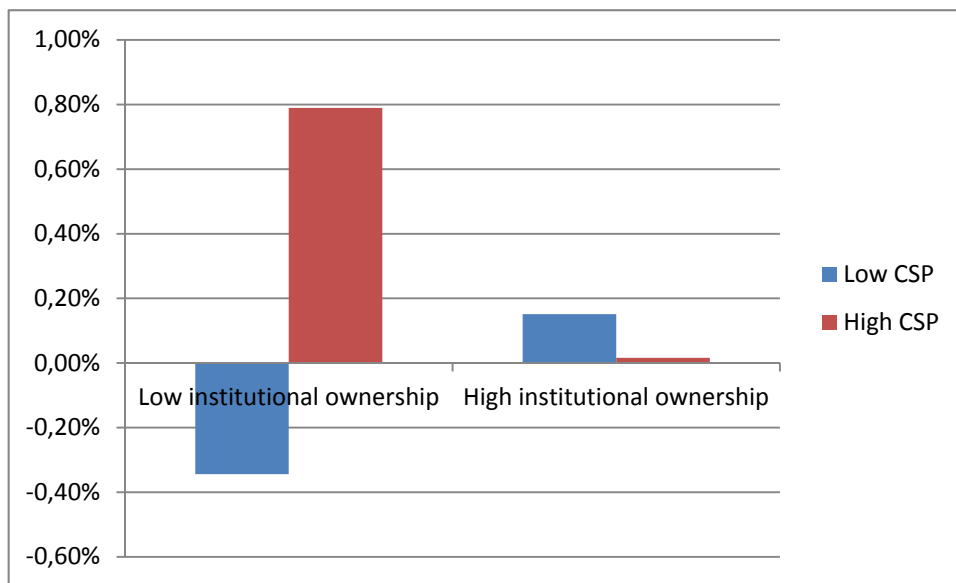


Figure 2: Cross-sectional Variations in Cumulative Abnormal Returns

Panel A: The effect of firm size on the association between the cumulative abnormal returns during the three-day window (-1, 1) and CSP



Panel B: The effect of dedicated institutional ownership on the association between the cumulative abnormal returns during the three-day window (-1, 1) and CSP



Panel C: The effect of R&D intensity on the association between the cumulative abnormal returns during the three-day window (-1, 1) and CSP

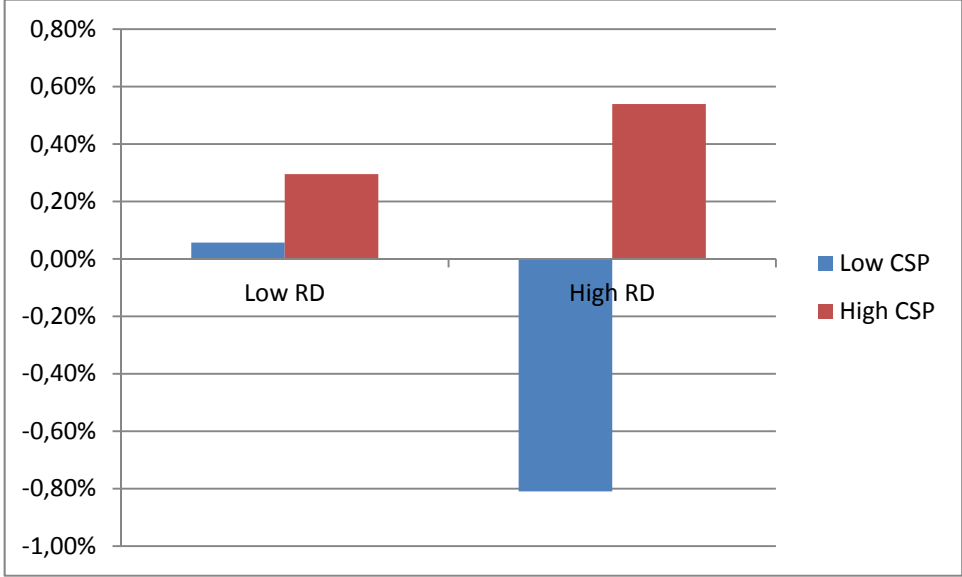


Table 1: Distribution of Sample Firms

Panel A: Means of the main variables by year

	Year 2005 (N = 5)	Year 2006 (N=13)	Year 2007 (N = 21)	Year 2008 (N=49)	Year 2009 (N=60)	Year 2010 (N=83)	Year 2011 (N=91)
SIZE	10.259	10.674	10.175	10.346	10.359	10.334	10.279
INST	0.331	0.292	0.339	0.367	0.321	0.330	0.350
RD	0.060	0.030	0.031	0.029	0.033	0.028	0.023
AD	0.027	0.018	0.024	0.016	0.015	0.014	0.012
FIRST	0.200	0.154	0.048	0.143	0.083	0.072	0.088
ROA	0.069	0.071	0.085	0.071	0.054	0.047	0.066
BTM	0.243	0.438	0.268	0.372	0.483	0.474	0.469
LEV	0.257	0.255	0.201	0.239	0.242	0.263	0.249
LIQUIDITY	0.989	1.314	1.740	2.045	2.962	3.174	2.821
CSRSCORE	0.056	0.023	0.076	0.038	0.043	0.029	0.145

Panel B: Distribution by industry

Industry	No. of CSR reports	Percent	No. of Firms	Percent
1. Mining and construction	5	0.02	3	0.02
2. Food	38	0.12	16	0.12
3. Textiles, printing, and Publishing	11	0.03	5	0.04
4. Chemicals	15	0.05	9	0.07
5. Pharmaceuticals	20	0.06	6	0.04
6. Extractive industries	25	0.08	6	0.04
7. Durable manufacturers	46	0.14	19	0.14
8. Computers	36	0.11	13	0.10
9. Transportation	23	0.07	10	0.07
10. Utilities	27	0.08	16	0.12
11. Retail	37	0.11	16	0.12
12. Financial institutions	25	0.08	12	0.09
13. Services	7	0.02	4	0.03
14. Other	7	0.02	1	0.01
Total	322	1.00	136	1.00

Table 2: Summary Statistics and Correlations

	MEAN	Std Dev.	SIZE	INST	RD	AD	FIRST	ROA	BTM	LEV	LIQUIDITY
SIZE	10.327	1.381									
INST	0.338	0.126	<b>-0.25</b>								
RD	0.028	0.052	0.00	-0.05							
AD	0.015	0.026	<b>-0.09</b>	-0.03	-0.04						
FIRST	0.093	0.291	-0.09	0.06	<b>-0.14</b>	<b>0.13</b>					
ROA	0.061	0.063	<b>-0.16</b>	-0.01	0.07	<b>0.16</b>	-0.06				
BTM	0.440	0.413	<b>0.21</b>	-0.07	-0.04	<b>-0.16</b>	0.02	<b>-0.24</b>			
LEV	0.247	0.159	0.08	<b>-0.10</b>	<b>-0.23</b>	0.02	<b>0.16</b>	<b>-0.32</b>	<b>-0.23</b>		
LIQUIDITY	2.660	1.784	<b>-0.11</b>	<b>0.11</b>	0.10	<b>-0.09</b>	0.08	<b>-0.30</b>	-0.08	0.07	
CSRSCORE	0.069	0.152	<b>-0.10</b>	0.03	<b>0.28</b>	<b>0.19</b>	<b>-0.16</b>	<b>0.14</b>	-0.06	<b>-0.09</b>	-0.02

N=322

A correlation coefficient in bold indicates that the correlation is statistically significant at the 10 percent level or better. See Appendix A for variable definitions.

Table 3: Comparison between Reporting Firms and Non-Reporting Firms

Panel A: Mean comparison of main variables between reporting firms and non-reporting firms

	(1)		(2)		(3)		Difference		Difference		Difference	
	Reporting firms with unambiguous reporting dates (N=136)		Reporting firms with non-identifiable reporting dates (N=63)		Non-reporting firms (N=245)		(1)-(3)		(1)-(2)		(2)-(3)	
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.	Diff.	p-value	Diff.	p-value	Diff.	p-value
SIZE	10.070	1.321	9.826	1.267	9.091	1.348	0.979	(0.000)	0.244	(0.221)	0.735	(0.000)
INST	0.344	0.117	0.353	0.143	0.361	0.139	-0.017	(0.240)	-0.008	(0.660)	-0.008	(0.681)
RD	0.025	0.054	0.024	0.050	0.016	0.050	0.009	(0.094)	0.001	(0.823)	0.008	(0.294)
AD	0.016	0.027	0.013	0.036	0.009	0.019	0.007	(0.003)	0.003	(0.613)	0.004	(0.151)
ROA	0.058	0.049	0.050	0.056	0.045	0.047	0.013	(0.010)	0.008	(0.327)	0.005	(0.419)
BTM	0.430	0.285	0.253	1.325	0.051	5.122	0.379	(0.389)	0.177	(0.137)	0.202	(0.757)
LEV	0.252	0.144	0.240	0.135	0.263	0.205	-0.011	(0.575)	0.012	(0.593)	-0.023	(0.406)
LIQUIDITY	2.337	1.399	2.763	1.737	3.041	1.794	-0.704	(0.000)	-0.426	(0.066)	-0.278	(0.271)
CSRSCORE	0.034	0.114	-0.006	0.085	-0.012	0.064	0.046	(0.000)	0.040	(0.014)	0.006	(0.511)

Panel B: Determinants of voluntary CSR reporting

	I		II	
	Reporting firms (excluding firms with ambiguous reporting dates) vs. non-reporting firms		Reporting firms (including firms with ambiguous reporting dates) vs. non-reporting firms	
	Coefficient	p-value	Coefficient	p-value
SIZE	0.606	0.000	0.543	0.000
INST	0.175	0.790	-0.155	0.776
RD	-1.014	0.687	0.461	0.830
AD	0.247	0.948	2.442	0.422
ROA	-0.006	0.998	0.942	0.595
BTM	0.052	0.335	0.032	0.421
LEV	-1.237	0.047	-1.375	0.010
LIQUIDITY	-0.052	0.340	-0.005	0.918
CSRSCORE	4.553	0.000	3.376	0.000
Industry dummies	Yes		Yes	
Pseudo R <sup>2</sup>	0.337		0.294	
Likelihood ratio	156.50		154.82	
No. of Observations with dep. var. = 1	136		199	
No. of Observations	381		444	

Table 4: Stock Market Reactions to the Release of CSR reports

Panel A: Cumulative absolute abnormal returns

Window	CABS_SAR	
	Mean (p value)	Median (p value)
(-1, 1)	0.249 (0.032)	-0.163 (0.874)
(-2, 2)	0.539 (0.002)	-0.025 (0.201)

Panel B: Abnormal trading volumes

Window	AVOL	
	Mean (p value)	Median (p value)
(-1, 1)	0.138 (0.029)	0.042 (0.093)
(-2, 2)	0.150 (0.014)	0.043 (0.072)

Panel C: Signed cumulative abnormal returns

Window	CAR	
	Mean (p value)	Median (p value)
(-1, 1)	0.15% (0.381)	0.04% (0.737)
(-2, 2)	-0.13% (0.515)	0.11% (0.750)



Table 5: Determinants of Abnormal Returns to Standalone CSR Reports

	Dependent Variable: CAR (1, -1)			
	I		II	
	Coefficient	t-statistic	Coefficient	t-statistic
SIZE_R	-0.003	-0.39	0.005	0.70
INST_R	-0.006	-1.09	0.003	0.45
RD	0.014	0.32	-0.078	-1.31
AD	0.063	1.02	0.049	0.83
FIRST	-0.002	-0.30	-0.001	-0.17
ROA	-0.013	-0.46	-0.022	-0.80
BTM	0.006	1.47	0.006	1.34
LEV	0.015	1.15	0.018	1.50
LIQUIDITY	-0.000	-0.50	-0.002	-1.94*
CSRSCORE	0.029	2.26**	0.091	3.60***
SIZE_R*CSRSCORE			-0.066	-2.09**
INST_R*CSRSCORE			-0.088	-3.10***
RD*CSRSCORE			0.433	2.20**
Fixed Industry and Year Effects		Yes		Yes
Adjusted R <sup>2</sup>		0.025		0.081
No. of Observations		322		322

Table 6: Difference in CSR's value relevance between reporting firms and non-reporting firms

	Dependent Variable: $\Delta MV$			
	Coefficient	t-statistic	Coefficient	t-statistic
$\Delta TA$	0.437	(10.04)***	0.435	(10.02)***
$\Delta TL$	-0.435	(-9.03)***	-0.431	(-8.97)***
$\Delta NI$	0.406	(14.96)***	0.385	(13.68)***
$\Delta CSRSCORE$	0.172	(1.16)	0.169	(0.81)
DISCLOSE			-0.101	(-1.40)
DISCLOSE* $\Delta CSRSCORE$			0.637	(2.08)**
LAMBDA			0.151	(2.43)**
DISCLOSE*LAMBDA			0.033	(0.62)
Fixed Firms and Year Effects		Yes		Yes
Adjusted R <sup>2</sup>		0.400		0.403
No. of Observations		2,127		2,127