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ORIGINAL PAPER

Corporate Social Responsibility and Financial Fraud: The Moderating Effects of Governance and Religiosity

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Abstract
This study investigates how managers in firms that have committed fraud strategically use socially responsible activities in coordination with their fraudulent financial reporting practices. Using propensity score matching to select control firms that have a similar probability of fraud in the pre-fraud benchmark period, we find that the corporate social responsibility (CSR) performance of fraudulent firms in the fraud-committing period is significantly higher compared with the CSR performance of non-fraudulent control firms during this period, and compared with that during their own pre-fraud benchmark periods. This higher CSR performance by fraudulent firms is achieved by means of investing in both stakeholder and third-party CSR categories and by improving in CSR strengths. Furthermore, the increase in CSR performance is more pronounced for fraudulent firms with a weak governance environment, and for firms located in high-religiosity states. Overall, our findings suggest that fraudulent firms strategically adjust their CSR performance to coordinate with their fraudulent financial activities.

Keywords Corporate social responsibility · Financial fraud · Corporate image and reputation · Corporate governance · Religiosity

It is largely forgotten that [Enron] had been a favorite of the environmental Left and an advocate/practitioner of the trendy notion of corporate social responsibility.
R. L. Bradley, 2009.

Introduction

Corporate social responsibility (CSR) has received increasing attention from the general public, policy makers, and academic researchers in recent decades, and the discussion on why firms engage in socially responsible activities is ongoing. One stream of literature focuses on the relationship between CSR activities and corporate earnings management (EM), but has yielded different views and mixed evidence in its findings (Chih et al. 2008; Kim et al. 2012; Prior et al. 2008). Some scholars argue that CSR activities represent a managerial commitment to ethical behaviors, and find that socially responsible firms are less likely to carry out earnings manipulations (Kim et al. 2012). Other researchers contend that CSR strategies are used by self-interested managers to boost their public reputation and mislead stakeholders in order to disguise their manipulations of earnings, and have documented a positive relationship between CSR and earnings management (Prior et al. 2008; Tran and O'Sullivan 2018).

This mixed evidence may be partially due to the difficulty in accurately identifying instances of earnings management. Studies that use EM measures estimated via empirical models suffer from measurement errors and often incorrectly characterize firms as earnings manipulators (Ball and Shivakumar 2008; Costello and Wittenberg-Moerman 2011; Dechow and Sloan 1995; Hribar and Collins 2002; Hribar and Craig Nichols 2007). In addition, the legitimate use of abnormal accruals is strongly dependent on a firm's business

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model and production function, making it difficult to attribute cross-sectional differences in these measures to financial reporting quality per se (Kothari et al. 2016). In contrast, instances of publicly revealed financial fraud provide unambiguous and solid evidence of corporate earnings manipulation. Such instances allows us to circumvent the EM measurement problem by focusing on a specific sample of firms who have been proven to have committed financial fraud (hereinafter referred to as fraudulent firms), and to observe the dynamic pattern of their socially responsible activities around fraud-committing periods in order to investigate the relationship between CSR strategies and corporate fraudulent financial reporting practices.

To mitigate the impact of omitted variables, we use the propensity score matching (PSM) method to select non-fraudulent control firms based on various pre-fraud firm characteristics. For each fraudulent firm, we denote the two fiscal years before the start of the fraud as the pre-fraud benchmark period. We employ a difference-in-differences (DiD) approach by comparing the difference of CSR performance between fraudulent firms and matched non-fraudulent control firms in the fraud period relative to the that in pre-fraud benchmark period. The DiD approach combined with the PSM method ensures that our results are less likely to be affected by endogeneity, and provides convincing evidence about how fraudulent firms adjust their CSR performance to coordinate with their fraudulent financial reporting activities.

We first examine whether firms improve or reduce their CSR performance in financial fraud-committing periods. Using univariate comparisons, we find that fraudulent firms significantly improve their CSR performance in the fraud period relative to non-fraudulent control firms. This finding continues to hold in the regression specification after we include standard controls that could affect CSR performance and firm and year fixed effects to control for unobserved firm- and year-specific factors. Our coefficient estimates suggest that the differences between fraudulent firms' and control firms' CSR scores in the fraud period represent 76.99% and 14.51% of the absolute sample mean and sample standard deviation, respectively.

Our findings indicate that firms tend to improve their CSR performance in the fraud period. We argue that the agency problem is potentially the driving force for this finding; that is, we suggest that self-interested managers use CSR strategies to maintain good relationships with key stakeholders and to manage their company's corporate image to reduce public suspicion, and thereby avoid the detection of their financial fraud. Being stakeholder-oriented helps managers to obtain support and maintain good relationships with key stakeholders (Martínez-Ferrero et al. 2016), especially those who have access to private corporate information (e.g., employees, customers, suppliers, etc.). Dyck et al. (2010) find that parties who have easy access to firms' private information are the most frequent whistleblowers of corporate financial fraud, because the cost of information collection for these parties is significantly lower than for others. Maintaining good relationships with key stakeholders can therefore reduce the likelihood of being subject to whistleblowing. In addition, a good image can decrease public suspicion of firms' fraudulent intentions. For example, Tran and O'Sullivan (2018) find that high-CSR firms are less likely to be investigated by the SEC. Therefore, it may be the case that managers engage in CSR activities to window-dress their company's reputation and image, and thereby reduce the likelihood of detection of the fraudulent activities. Anecdotal evidence also supports the strategic role of CSR in window-dressing firm reputation. For example, Enron was highly active in CSR activities and investments, such as maintaining a community relations department and being the largest donor in the Houston area (Hemingway and Maclagan 2004), and received numerous awards for environmental protection and social programs during the years in which it was committing fraud (Bradley 2009; Kim et al. 2014). The reputation and image built from such CSR activities may also partially explain why the extensive fraud at Enron took such a long time to be revealed.

To empirically test the theories described above, we examine the manner in which firms change their CSR performance in the fraud-committing period by analyzing different aspects of their overall CSR activities. First, we differentiate between stakeholder CSR and third-party CSR, which are CSR activities focused on corporate stakeholders and general society, respectively. The results indicate that firms improve their performance in both aspects during the fraud-committing period, which is consistent with our argument that managers use CSR strategies both to maintain good relationships with key stakeholders and to manage the firm's corporate image to reduce public suspicion. Second, we separate CSR strengths and concerns and find that the improved CSR performance of fraudulent firms is mainly driven by increasing their CSR strengths. This finding is consistent with the argument that CSR strengths are mainly affected by corporate decisions and efforts to improve overall CSR, whereas CSR concerns are more likely to be outcomes of other corporate activities.

To test our predictions based on the relevance of agency theory, we examine the influence of the corporate governance environment on the relationship between financial fraud and CSR performance. An effective corporate governance system can constrain managers' opportunistic behaviors (Bebchuk et al. 2009; Gompers et al. 2003). We

predict that managers in a weak governance environment are more able to misuse CSR strategies to serve their own purpose and to disguise fraudulent financial practices. Consistent with our prediction, we find that improved CSR performance in fraudulent periods is more pronounced in firms with weak corporate governance (proxied by strong managerial entrenchment).

Next, we explore the economic mechanisms that enhance or mitigate the misuse of CSR strategies in fraudulent firms. We focus on an environmental factor that may enhance the usefulness of CSR strategies, the religiosity of American states in which firms are located. Prior studies show that individuals with religious beliefs pay more attention to social issues and social welfare (e.g., Deng et al. 2013; McWilliams et al. 2006). Therefore, in states with higher religiosity, CSR activities are expected to be more valued by stakeholders and so there is a greater incentive to fraudulent firms to utilize CSR activities to conceal fraud. We find evidence consistent with our expectations that the improvement in CSR performance is more pronounced for fraudulent firms in high-religiosity states.

Finally, we investigate whether the utilization of CSR increases with the severity of financial fraud. Using the duration of fraud as a measure of fraud severity, we find that the improvement in CSR performance is stronger for firms with longer duration of fraud. This finding is consistent with the argument that firms use CSR as a strategic tool to conceal fraudulent behavior, and that this incentive becomes stronger the more serious the fraud is.

We also perform a number of sensitivity analyses, such as including post-fraud years and using alternative methods to select non-fraudulent control firms, in order to ensure that our findings are robust to various methodological differences. Finally, we also find that firms are more likely to publicize their CSR activities by issuing standalone CSR reports in periods when they are committing financial fraud.

To the best of our knowledge, this study is the first to document the dynamic patterns of CSR activities in fraudulent firms during the fraud-committing period in order to show how self-interested managers use CSR performance in coordination with and to disguise their fraudulent financial reporting practices. This study makes several contributions to the literature. First, studies focusing on financial fraud, such as those by Erickson et al. (2004), Kedia and Philippon (2009), Lennox et al. (2013), and McNichols and Stubben (2008), confirm that firms use various corporate activities, such as capital investments and tax payments, to coordinate with their fraudulent behavior. Our findings add to this line of literature by identifying another mechanism (i.e., CSR strategies) that fraudulent firms employ to obfuscate their true underlying performance.

Second, a growing stream of literature has investigated the relationship between CSR performance and various aspects of corporate decisions, such as tax avoidance (Hoi et al. 2013; Lanis and Richardson 2012) and earnings manipulation (Kim et al. 2012). Given previous studies using model-based EM measure yield mixed evidence (Kim et al. 2012; Tran and O'Sullivan 2018), we circumvent this problem by focusing on a sample of firms known to have engaged in earnings manipulation and observing the dynamic patterns of their CSR strategies to show how self-interested managers actively adjust their firms' CSR performance to coordinate with their fraudulent financial reporting. In contrast to previous studies that mainly treat CSR as a proxy for good corporate culture (Hoi et al. 2013; Kim et al. 2012; Lanis and Richardson 2012), this study reveals that CSR can also be misused as a strategic tool by self-interested executives. Hence, our findings have important ethical implications regarding CSR performance, suggesting that these kinds of activities should be analyzed and interpreted using a more comprehensive framework that incorporates additional dimensions (such as the governance environment documented in this study) to understand their real purpose.

Finally, this study can add to the religiosity literature by suggesting a different view. Prior studies mainly focus on how religiosity shapes people's values and behaviors, and argue that religiosity constrains people's unethical behavior and prompts them to pay more attention to social welfare (e.g., Cochran and Akers 1989; Deng et al. 2013; Diaz 2000; Evans et al. 1995; Hilary and Hui 2009; McGuire et al. 2012; McWilliams et al. 2006). Our findings suggest that this feature of religious people may be exploited by corporate managers when they misuse CSR activities to disguise their earnings manipulation.

The remainder of this paper is organized as follows. Sections "Institutional Background" and "Theoretical Foundation" describe the institutional background and the underlying theory behind our analyses. Section "Literature and Main Hypothesis" reviews the related literature and develops this study's main hypotheses. Section "Sample and Empirical Methodology" discusses the sample construction and the study's empirical strategy. Section "Empirical Results" presents the study's empirical results and discusses the finding regarding how firms adjust their CSR performance when committing financial fraud, and Section "Conclusion" concludes the paper.

Institutional Background

The widespread wave of accounting scandals in early 2000s brought financial fraud to the center of public attention, and had far-reaching influences for the global economy. The famous scandals of Enron and WorldCom lead directly to

the introduction of the Sarbanes–Oxley Act (SOX) of 2002, the most substantial regulatory change to improve US public firms' financial reporting, and to the emergence of the Public Company Accounting Oversight Board (PCAOB).

Due to the considerable negative impacts of the aforementioned scandals, knowing how to detect financial fraud in a timely manner is of great interest to regulatory authorities, academics, and the general public. Prior studies have argued that financial fraud is not a standalone behavior, and have documented several activities that managers adopt when they commit financial fraud. For example, Kedia and Philippon (2009) find that fraudulent firms tend to overinvest during the fraud-committing period in order to pool themselves with normal firms. McNichols and Stubben (2008) report similar findings of overinvestment by fraud-committing firms. Erickson et al. (2004) find that firms overstating earnings overpay their taxes to legitimize fraudulently inflated earnings figures.

One particularly interesting observation from the recent wave of scandals is that Enron was highly active in CSR activities, such as being the largest charitable donator in the Houston area (Hemingway and Maclagan 2004), and received numerous awards for CSR activities in the years during which it was committing fraud (Bradley 2009; Kim et al. 2014). This seems to contradict the usual perception of CSR as evidence of a firm's commitment to ethical behavior. Thus, several questions arise. Why did Enron actively engage in CSR strategies? Is this phenomenon common amongst fraudulent firms? These questions are particularly interesting because answering them may help us to obtain a more comprehensive picture of how other strategies are used in coordination with corporate financial fraud.

Answers to these questions will also unveil the potential agency problems behind CSR strategies. The coordination of CSR activities and financial fraud in Enron was facilitated by the firm's weak governance system (Vinten 2002). The enactment of SOX was intended to strengthen governance practices in U.S. public firms after the period's wave of accounting scandals (Cohen et al. 2008). For example, SOX required reform of board structures and extensively enhanced the role of independent directors in corporate governance (Cohen et al. 2008, 2010). It also emphasized the responsibility of management for ensuring adequate internal controls (Bargeron et al. 2010). In this respect, a natural question to ask is whether an effective corporate governance system can constrain the misuse of CSR strategies in fraudulent firms.

In addition, the issue of whether managers can successfully misuse CSR strategies to disguise fraudulent reporting depends critically on how these CSR activities are perceived by stakeholders, in the context of their values and beliefs. Religions have played an important role in shaping the value systems of modern Americans (McGuire et al. 2012). Weber (1905) contends that the economic development of capitalism is built up on the Protestant ethic. As documented by Hilary and Hui (2009), 52.92% of American people are religious adherents and this percentage is close to 75% in certain states (e.g., Utah). More importantly, prior studies show that individuals with religious beliefs pay more attention to social issues and social welfare (e.g., Deng et al. 2013; McWilliams et al. 2006), and they tend to value CSR activities more highly than individuals without such beliefs (Angelidis and Ibrahim 2004). Therefore, it is interesting to investigate whether people's perception of CSR activities can affect management's use of these activities in fraudulent firms from the perspective of religiosity.

Theoretical Foundation

The benefits and costs to firms of engaging in socially responsible activities have long been debated in the literature. Traditional shareholder theory regards social responsibility as a misuse of corporate resources that dampens firms' performance (Friedman 1962). Recent decades have witnessed ongoing discussion on the relationship between CSR and financial performance. For example, Margolis et al. (2007) report that 167 studies investigated the relationship between social and financial performance between 1972 and 2007. Departing from the traditional view, most studies find a positive association, suggesting that CSR enhances corporate financial performance.

On the other hand, the stakeholder theory proposed by Freeman (1984) argues that firms should consider and act on the interests of stakeholders, a much wider group than merely shareholders. Extending this theory, instrumental stakeholder theory contends that CSR activities are efforts to serve the interests of stakeholders, but with the ultimate goal of benefitting shareholders. In other words, CSR activities are an instrument to enhance shareholder value by benefiting stakeholders (Jones 1995). This literature emphasizes the strategic role of CSR activities and the benefits that arise from such activities. For instance, Flammer (2015a) argues that CSR strategies can improve firms' reputations and built up public trust. As a result, such activities can attract new customers (such as customers who are socially conscious) and improve corporate competitiveness.

However, the separation of control and ownership and the resulting agency problems may not always ensure that CSR activities are carried out to achieve the ultimate goal of shareholder value maximization. Because of the benefits derived from CSR activities, this "instrument" can also be strategically misused by managers to serve their personal interests (Masulis and Reza 2015). Under the agency framework (i.e., the agency view of CSR), these activities can help managers to maintain good relationships with

key stakeholders in order to strengthen these managers' entrenchment and reduce their risk of dismissal (Martínez-Ferrero et al. 2016). For example, Masulis and Reza (2015) find that managers tend to make donations intended to cater to the charitable interests of independent directors, which may help them to receive favorable treatment in decisions relating to their compensation or future career.

Literature and Main Hypothesis

Different Views on CSR

Although CSR has become increasingly important in both practice and academic research, there is no consensus on how CSR is related to other corporate activities and decisions. Two views on CSR are particularly relevant to our study.

The first view considers CSR to be a strategic tool to achieve other corporate goals and targets. Porter and Kramer (2006) propose an integrative theory, in which CSR and other corporate activities should be integrated to achieve overall corporate business goals, on the basis that CSR and business operations are interdependent. Flammer and Luo (2017) document that firms use CSR as a strategic tool to increase employee engagement, especially when they are located in states that provide high levels of unemployment insurance. Flammer (2017) finds that firms use CSR strategies as signals to attract government procurement contracts. Dupire and M'Zali (2018) argue that fierce commercial competition can promote CSR activities, because these activities help firms to build their reputation and enhance customer loyalty. On the other hand, several studies suggest that firms may use CSR as a strategic tool to window-dress their image and reputation when they are behaving unethically. Hemingway and Maclagan (2004) suggest that CSR can be used by companies to disguise their bad behavior. Tran and O'Sullivan (2018) document that managers use CSR performance to boost corporate public reputation and reduce the likelihood of receiving SEC enforcement.

A second view considers CSR to be a manifestation of firms' commitment to behave ethically (Kim et al. 2012; McWilliams et al. 2006). Hoi et al. (2013) argue that firms commit to a culture of doing good when they engage more extensively in CSR activities. Gao et al. (2014) find that commitment to social causes constrains corporate insider trading activities. Studies on the relationship between CSR and tax avoidance also document findings consistent with the view that CSR, as an ethical obligation, constrains corporate engagement in unethical or illegal activities. Lanis and Richardson (2012) and Hoi et al. (2013) show that firms with better CSR performance are less likely to engage in aggressive tax avoidance.

CSR Performance and Financial Fraud

Prior studies debate the association between CSR performance and earnings manipulations from the two perspectives described above, but provide mixed evidence. One strand of research contends that CSR activities are used by self-interested managers to boost their public reputation and mislead stakeholders. Prior et al. (2008) and Tran and O'Sullivan (2018), for example, find that CSR is positively associated with corporate earnings management. However, other scholars argue that CSR activities demonstrate managerial commitment to ethical behaviors and find that socially responsible firms engage less in earnings manipulations (Kim et al. 2012). Due to the inherent difficulty in accurately capturing earnings management via empirical model (Costello and Wittenberg-Moerman 2011; Dechow and Sloan 1995; Kothari et al. 2016), we focus on a specific sample of firms who have been proven to have committed financial fraud (i.e., the most aggressive form of earnings management) and observe the dynamic pattern of their CSR performance in order to better understand the relationship between CSR and earnings manipulation. We then form predictions according to the two views of CSR described above.

The "strategic tool" hypothesis hinges crucially on the argument that self-interested managers adopt CSR activities to maintain good relationships with key stakeholders and manage the company's corporate image in order to reduce public suspicion of unethical intent, and to reduce the detection of any financial fraud. Building up good relationships with key stakeholders, especially those who have access to private corporate information, such as employees, customers, and suppliers, can reduce the likelihood of firms' financial fraud being subject to whistleblowing (Martínez-Ferrero et al. 2016). In addition, a good public image can reduce outsiders' suspicions because outsiders believe that firms with better CSR performance are less likely to engage in unethical practices (Tran and O'Sullivan 2018). The effectiveness of using a CSR strategy is also suggested by several prior studies. For example, Martínez-Ferrero et al. (2016) show that CSR activities are used by managers to gain support from key stakeholders and thus reduce these managers' risk of dismissal. Tran and O'Sullivan (2018) find that the probability of SEC enforcement is lower for firms with better CSR performance. These studies confirm the usefulness of CSR strategies as a tool to manage relationships with stakeholders and boost corporate image. From this point of view, self-interested managers in fraudulent firms could use CSR as a strategic tool to disguise fraudulent reporting practices and avoid their detection, which suggests the possibility of a significant improvement of CSR performance in the fraud-committing period compared with that in the non-fraud-committing period.

In sharp contrast, the other strand of research views CSR as part of the ethical obligations that firms hold towards society in general and their own stakeholders (e.g., capital suppliers, customers or clients, and regulators) in particular. Under this view, this ethical obligation—that is, CSR—constrains corporate involvement in unethical activities such as financial fraud. As mentioned in Section "Different Views on CSR", several studies provide empirical evidence to support this view (Gao et al. 2014; Hoi et al. 2013; Lanis and Richardson 2012).[1] Thus, it is possible that fraudulent firms will not actively change, or may even reduce, their CSR performance during fraud-committing periods.

Because of the two conflicting predictions on the directional effect of fraud on CSR performance, an empirical question arises as to whether firms increase their CSR performance or undertake fewer CSR activities when committing financial fraud. To provide empirical evidence on this unresolved issue, we propose a non-directional hypothesis.

H1 There is a significant change in the CSR performance of fraudulent firms during fraud-committing periods.

The Influence of Corporate Governance

Because our main results show that managers actively improve their firms' CSR performance in fraud-committing periods, consistent with the agency view of CSR activities, we next explore which factors can enhance or reduce the misuse of these activities.

First, we consider the influence of corporate governance environment on the above relationship. An effective corporate governance system is designed to align the interests of managers and shareholders, and ensure necessary monitoring to protect against managerial misbehaviors (Bebchuk et al. 2009; Ferrell et al. 2016; Gompers et al. 2003; Harford et al. 2012). Prior studies have provided a myriad of evidence on the disciplinary effects of corporate governance mechanisms. For example, independence of the company's board of directors, emphasized by SOX after the wave of accounting scandals, is effective at constraining the opportunistic timing of granting of stock options (Bebchuk et al. 2009). In addition, entrenched managers are more able to misuse their power to pursue their own interests due to reduced concerns about negative consequences for their careers. Harford et al. (2012) show that entrenched managers are more likely to implement value-decreasing mergers by overpaying for good targets or choosing targets with low potential synergies. Jiang and Lie (2016) find that entrenched managers tend to hold more cash in their companies. Bebchuk et al. (2009) find that entrenched firms suffer from a discounted valuation.

If the association between CSR performance and financial fraud indicates a misuse of CSR strategies, a sound governance system may be able to effectively constrain it. In other words, the misuse of CSR strategies is more likely to occur in firms with a weak governance environment. From this perspective, we propose our second hypothesis.

H2 The association between CSR performance and financial fraud is more pronounced in firms with a weak governance environment.

The Influence of Religiosity

Next, we consider a factor that may make CSR strategies more useful for managers to achieve their objective of disguising and avoiding the detection of fraud: religiosity. Because managers use CSR strategies to maintain good relationships with key stakeholders and to manage their company's corporate image to reduce public suspicion, the achievement of these goals largely depends on how stakeholders perceive and value CSR activities. Religions have played an important role in shaping people's value systems and behaviors in modern America, and consistently emphasize the importance of ethical behavior (Weaver and Agle 2002). Prior studies show that religious people exhibit more constrained levels of negative behaviors such as lower drug and alcohol consumption, lower levels of criminal activities, and lower participation in gambling (Cochran and Akers 1989; Diaz 2000; Evans et al. 1995).

More importantly, prior studies find that individuals with religious beliefs pay more attention to social issues and social welfare (e.g., Deng et al. 2013; McWilliams et al. 2006). In other words, CSR activates are valued more by people with higher religiosity (Angelidis and Ibrahim 2004). In this respect, the strategic purpose of CSR activities is more likely to be achieved in contexts where managers deal with highly religious stakeholders. We therefore conjecture that the improved CSR performance during fraud-committing periods should be more pronounced for fraudulent firms located in states with higher religiosity.

H3 The association between CSR performance and financial fraud is more pronounced in firms located in high-religiosity areas.

[1] While studies such as that of Kim et al. (2012) show that CSR-engaged firms are less likely to be subject to SEC enforcement actions, a positive relationship between fraud and CSR performance before the public discovery of fraud, if observed, would not necessarily be in conflict with these studies. Because regulatory enforcement actions by the SEC occur *after* the fraud is detected, whereas our study focuses on CSR performance *during* the period in which fraud is being committed. Furthermore, the lower likelihood of the SEC's regulatory enforcement actions for CSR firms may be exactly due to these firms' improvement in CSR during the fraud-committing period.

Sample and Empirical Methodology

Sample and Data Sources

We construct our sample by combining three different databases. First, we obtain information about fraudulent firms from Audit Analytics.[2] We use the MSCI STATS database to construct CSR scores,[3] and the Compustat to construct the financial statement variables used in our empirical analysis. Based on the data available from these databases, our final sample covers the period from 1995 to 2016.

Fraudulent firms in our sample are identified from the Corporate and Legal section of Audit Analytics, which contains information on firms that are lead defendants in securities class action litigation lawsuits.[4,5] Because we examine the relationship between financial fraud and CSR, we consider only firms that are lead defendants in securities class action litigation lawsuits. Starting with 7607 litigation cases based on securities laws, we eliminate 1093 cases for which fraud start or end dates are not available, 1063 cases that are still pending resolution at the end of our sample period, and 1837 cases whose lead defendants are firms not listed in the Compustat. Out of the remaining 3614 cases, we remove 1585 cases with a fraud start date within 4 years of the end of a previous fraud case, in order to avoid the contamination of data caused by the earlier fraud cases, and an additional 1092 cases with a fraud-committing period (defined below) shorter than 1 year. We then match the remaining 938 cases with the MSCI STATS data, resulting in 498 fraudulent firms for which MSCI STATS data are available. Finally, we exclude 356 cases that do not have CSR data either before or after the start of the fraud, and an additional 11 fraud cases for which no matched control firms could be identified. The above sampling procedure produces a total of 131 firms that engaged in fraudulent behavior at some time between 1995 and 2016. "Appendix 1" summarizes the sample selection procedure.

We extract the following key information on each fraud case from Audit Analytics: (1) the fraud start date (termed the exposure begin date); and (2) the fraud end date (termed the exposure end date). For each instance of fraud, the fraud-committing period is defined as the period from the fraud start date to the fraud end date.

We construct our sample of control firms following the procedure of Barber and Lyon (1996) and Feng et al. (2011). Concerns about potential endogeneity could be raised because both financial fraud and CSR activities are endogenous corporate decisions. To mitigate this concern, we use the PSM method (e.g., Gao et al. 2014) to select control firms. We first compute the *ex ante* probability of financial fraud for each fraudulent firm two fiscal years before the fraud start date using the estimated probit model coefficients of Dechow et al. (2011).[6] For each fraudulent firm, we then select non-fraudulent firms with the closest predicted probability (in absolute distance) within the same two-digit Standard Industrial Classification (SIC) industry. To enhance the power of our test, we employ a one-to-multiple matching method, as used by Feng et al. (2011), to select a maximum of five non-fraudulent control firms for each fraudulent firm, in accordance with data availability. Our total sample comprises 587 (fraudulent and matched non-fraudulent) firms, with 3015 firm-year observations.

Our empirical test utilizes two indicator variables. The variable *Fraud* takes a value of 1 if a firm has committed financial fraud during our sample period, and 0 otherwise. The second variable, *During*, differentiates between the benchmark period and the fraud-committing period. Because our sample fraud cases have a mean duration of 22 months, we use a 2-year pre-fraud period as the benchmark period in order to obtain a balanced sample. More specifically, for each fraudulent firm, we denote the last two fiscal years before the fraud start date as the benchmark pre-fraud period (*During* = 0) and the time period from the first fiscal year after the fraud start date to the first fiscal year after the fraud end date as the fraud-committing period (*During* = 1). Accordingly, the indicator variable *During* takes a value of 0 or 1 for each control firm year observation based on whether its corresponding fraudulent firm is in its benchmark period or the fraud-committing period, respectively.

[2] Audit Analytics data is only available to us up to 2014; thus, we supplement the years 2015–2016 using the Stanford Securities Class Action Clearinghouse database.

[3] MSCI STATS is the successor to Kinder, Lydenberg & Domini (KLD), Innovest, and the Investor Responsibility Research Center (IRRC).

[4] The coverage of the Audit Analytics Corporate and Legal database starts in 1960. However, there are fewer than 100 cases from 1960 to 1994. Consequently, after the sample selection process, all of our fraud cases are taken from the period from 1995 onwards.

[5] A major advantage of using the Audit Analytics class action litigation database is that each fraud case has a start date (exposure begin date) and an end date (exposure end date), enabling us to accurately construct the fraud-committing period of each firm.

[6] The *ex ante* probability of financial fraud is computed using the following procedure. First, we compute the predicted value using the estimated coefficients of Dechow et al. (2011): $Predicted\ value = -7.893 + 0.79 \times rsst\_acc + 2.518 \times d\_rec + 1.191 \times d\_inv + 1.979 \times \%soft\_at + 0.171 \times d\_cs - 0.932 \times d\_roa + 1.029 \times issue$, where *rsst_acc* is total accruals; *d_rec*, *d_inv*, *d_cs*, and *d_roa* are changes in receivables, inventory, cash sales, and return on assets (*ROA*), respectively; *%soft_at* is the percentage of soft assets; and *issue* is a dummy variable that equals 1 if a firm issues equity or debt and 0 otherwise. Next, the *ex ante* predicted probability of financial fraud is computed as $p(Fraud) = exp(Predicted\_value)/[1 + exp(Predicted\_value)]$.

CSR Variables

We construct our CSR scores using the MSCI STATS database. The MSCI STATS database covers a large number of firms and a wide range of CSR categories, and is widely used in CSR research. The MSCI STATS database has seven categories: community, corporate governance, diversity, employees, environment, human rights, and product. Following prior studies (e.g., Di Giuli and Kostovetsky 2014; Gao et al. 2014; Kim et al. 2012; Servaes and Tamayo 2013), we exclude corporate governance from our computation of CSR scores, because corporate governance is the mechanism through which shareholders (principals) monitor managers (agents) to ensure that managers behave in accordance with the interests of shareholders, whereas the remaining categories are concerned with other corporate stakeholders and society. Furthermore, fraudulent firms generally have weaker corporate governance and so including corporate governance in our CSR scores could confound our empirical results. We also exclude the product category from our CSR scores, in accordance with the view of Servaes and Tamayo (2013) that issues such as product quality, safety, and innovation should not be considered part of CSR.

A firm's CSR performance is measured based on the number of strength items and concern items in each category in the MSCI STATS database.[7] For each item, a firm is assigned a score of 1 if it has the relevant strength or concern, and 0 otherwise. Following the previous literature (e.g., Chen et al. 2019; Deng et al. 2013; Di Giuli and Kostovetsky 2014; Flammer 2015b), we construct the raw aggregate CSR score, *CSR1*, by subtracting the total number of concerns from the total number of strengths for the five categories—i.e., scores for community, diversity, employees, environment, and human rights. This simple summation may suffer from the problem in that the total number of available strengths and concerns changes over time when MSCI STATS adds or deletes certain items (Deng et al. 2013; Servaes and Tamayo 2013).[8] We therefore also construct a scaled CSR score, *CSR2*, to overcome this problem. More specifically, we first scale both the number of strengths and the number of concerns in each category by the maximum possible number of strengths and concerns, respectively, in that category, and hence the scaled strengths and concerns score ranges from 0 to 1 for each category. Second, we obtain the scaled CSR score for each category as the difference between the scaled strengths and the scaled concerns.[9] Finally, we sum the scaled CSR scores over the five categories to obtain our scaled aggregate CSR score. In other words, the *CSR2* variable is the sum of five individual category scaled CSR scores, and ranges between −5 and 5.

Empirical Methodology

To examine whether fraudulent firms improve or reduce their CSR performance relative to control firms when committing financial fraud, we employ a DiD approach with the following regression specification:

$$\mathrm{CSR}_{i,t} = \alpha_0 + \beta_1 \mathrm{During}_{i,t} + \beta_2 \mathrm{Fraud}_{i,t} \times \mathrm{During}_{i,t} + \gamma' X_{i,t} + f_i + \mu_t + \varepsilon_{i,t} \quad (1)$$

where i and t denote firm i and year t, respectively. The dependent variable *CSR* is either of our CSR score variables, that is, *CSR1* or *CSR2*; *Fraud* is an indicator variable that takes a value of 1 for fraudulent firms and 0 for non-fraudulent control firms; and *During* is an indicator variable that takes a value of 1 if year t is in the fraud-committing period and 0 otherwise. The vector X includes standard controls used in CSR regressions: *Size* is the logged value of total assets (item 6); *MB* is the ratio of market equity to book equity (item 60), where market equity is defined as the closing stock price at the fiscal year end (item 199) multiplied by the number of shares outstanding (item 25); *Leverage* is the ratio of long-term debt (item 9) to total assets[10]; *ROA* is the ratio of income before extraordinary items (item 18) to lagged total assets; *Dividends* is the ratio of common dividends (item 21) and preferred dividends (item 19) to total assets; *R&D* is the ratio of R&D expense (item 46) to total assets; *Advertising* is the ratio of advertising expense (item 45) to total assets; *Employee* is the logged number of firm employees; *Insti_holding* is the percentage of shares held by institutional shareholders; and *Analysts* is the logged number of analysts following the firm. We also include firm and year fixed effects, f_i and μ_t, to control for unobservable firm-level and economy-wide factors, respectively, which could affect corporate social investment. Note that we do not include the *Fraud* variable separately in the regression as it is already

[7] For example, in 2010 data there are eight community strengths—charitable giving, innovative giving, support for housing, support for education, non-US charitable giving, volunteer program, community engagement, and other community strengths—and four community concerns—investment controversies, negative economic impact, tax disputes, and other community concerns.

[8] For example, the maximum possible number of environmental concerns was six in the period from 1991 to 1998, increasing to seven in 1999.

[9] For example, the community CSR score is defined as the number of community strengths divided by the maximum number of community strengths minus the number of community concerns divided by the maximum number of community concerns, and possible values range between −1 and 1.

[10] Our results are not affected if we define *Leverage* as the ratio of long-term debt (item 9) plus debt in current liabilities (item 34) to total assets.

absorbed by the firm fixed effects. In all the regressions, we cluster standard errors at the firm level.

The above regression specification allows us to explore whether fraudulent firms adjust their CSR performance in the fraud-committing period relative to control firms and to their own benchmark years. Our main interest is the coefficient estimates of β_1 and, especially, β_2. The coefficient β_1 captures whether control firms have better or worse CSR performance in the fraud period compared with that during their own benchmark period. Based on the arguments presented above, we conjecture that control firms do not significantly change their CSR activities and performance, and β_1 should therefore be insignificant. Of greater interest, the coefficient β_2 captures whether fraudulent firms have higher or lower CSR scores in the fraud period compared with control firms in the same fraud period, and also to their own benchmark period. If CSR is considered to be an ethical obligation that is likely to decline when firms are committing financial fraud, then we expect β_2 to be negative. On the other hand, if CSR is coordinated with fraudulent activities as part of the overall corporate strategy, then firms will have better CSR performance in the fraud-committing period, and β_2 should be positive. It is thus an empirical question as to which effect dominates.

Summary Statistics

Table 1 provides the summary statistics for the study variables. As Panel A shows, the descriptive statistics for the sample firms have mean raw and scaled CSR scores (*CSR1* and *CSR2*) of 0.452 and −0.027, respectively. The components of stakeholder and third-party CSR (*CSR_Stakeholder* and *CSR_ThirdParty*) have mean values of 0.370 and 0.082, respectively; the mean values of *CSR_Strength* and *CSR_Concern* are 0.245 and 0.272, respectively.[11] In our sample, fraudulent firms comprise 23.7% of the observations and the remaining observations are from control firms, reflecting the one-to-multiple matching method employed. A total of 45.5% of the observations in our sample are from fraud-committing periods, suggesting that our sample is relatively balanced.

Panel B presents the correlation matrix of major variables in our analyses. The raw CSR scores (*CSR1*) and scaled CSR scores (*CSR2*) are highly correlated at the 1% significance level, with an estimated coefficient of 0.919. In addition, the coefficients estimated on all CSR activities and fraud variables are positive and statistically significant. For example, the coefficient between *CSR1* and *Fraud* is 0.168 and is statistically significant at less than 1% level, suggesting that fraudulent firms exhibit better CSR performance than non-fraudulent control firms.

Empirical Results

Univariate Comparisons

We provide univariate comparisons of CSR scores between fraudulent and control firms over the benchmark and fraud-committing periods in Table 2. Panel A focuses on raw aggregate CSR scores (*CSR1*). The average CSR score for control firms is 0.188 in the benchmark period and 0.278 in the fraud period, and the difference is not statistically significant, with a p value of 0.258. In contrast, fraudulent firms increase their average CSR score from 0.903 in the benchmark period to 1.449 in the fraud-committing period and this increase is statistically significant at the 5% level, with a p value of 0.035.

Comparing the control and fraudulent firms, the difference between the two group's average CSR scores is 0.715 in the benchmark period. However, the difference between their average CSR scores increases to 1.171 in the fraud-committing period, with a p value lower than 0.001. The above evidence shows that fraudulent firms have better CSR performance in the fraud period relative to their own benchmark periods and relative to control firms in the fraud period.

Panel B of Table 2 uses the scaled aggregate CSR score (*CSR2*) to make equivalent comparisons. The overall pattern is similar to that of Panel A: fraudulent firms appear to be more socially responsible in the fraud period than during their own benchmark periods, and compared with control firms.

Main Results

Table 3 presents the main regression results based on the specification in Eq. (1) after controlling for other determinants of CSR performance.[12] Columns (1) and (2) use the raw CSR score, *CSR1*, as the dependent variable, with column (1) focusing only on fraud-related variables and column (2) including firm controls. In both columns, the coefficient estimates of *During* are insignificant, implying that control firms (*Fraud* = 0) do not change their social policies in the fraud period relative to the benchmark period. In contrast, the coefficient estimates of the interaction term *Fraud*×*During* are positive and significant at less than the 1% level in both columns, confirming that fraudulent firms (*Fraud* = 1)

[11] The definition of these variables can be found in "Appendix 1".

[12] We also include the model-based measures of EM in our main regressions as additional control variables, and our results remain unchanged.

Table 1 Summary statistics

	Mean	SD	Q1	Median	Q3
Panel A: Descriptive statistics					
CSR variables					
CSR1	0.452	2.399	−1.000	0.000	2.000
CSR2	−0.027	0.458	−0.333	0.000	0.200
CSR_Stakeholder	0.370	1.763	−1.000	0.000	1.000
CSR_ThirdParty	0.082	1.116	0.000	0.000	0.000
CSR_Strength	0.245	0.362	0.000	0.125	0.333
CSR_Concern	0.272	0.298	0.000	0.200	0.400
Fraud variables					
Fraud	0.237	0.426	0	0	0
During	0.455	0.498	0	0	1
Control variables					
Size	7.973	1.739	6.793	7.888	9.141
MB	3.378	4.501	1.533	2.274	3.656
Leverage	0.153	0.149	0.021	0.116	0.247
ROA	0.053	0.093	0.014	0.046	0.091
Dividends	0.013	0.022	0.000	0.006	0.019
R&D	0.025	0.057	0.000	0.000	0.028
Advertising	0.011	0.036	0.000	0.000	0.004
Employee	1.682	1.751	0.584	1.714	2.856
Insti_holding	0.685	0.229	0.555	0.710	0.846
Analysts	2.396	0.842	1.946	2.565	3.045

No.	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
Panel B: Correlation matrix														
	CSR variables													
1	*CSR1*	1.000												
2	*CSR2*	0.949[a]	1.000											
	Fraud variables													
3	*Fraud*	0.168[a]	0.117[a]	1.000										
4	*During*	0.049[a]	0.046[b]	0.044	1.000									
	Control variables													
5	*Size*	0.317[a]	0.283[a]	0.307[a]	0.103[a]	1.000								
6	*MB*	0.165[a]	0.157[a]	0.096[a]	0.029	−0.025	1.000							
7	*Leverage*	−0.002	0.004	0.089[a]	0.019	0.171[a]	0.074[a]	1.000						
8	*ROA*	0.085[a]	0.090[a]	0.012	−0.008	−0.028	0.240[a]	−0.158[a]	1.000					
9	*Dividends*	0.084[a]	0.065[a]	−0.003	0.012	−0.014	0.282[a]	0.033[c]	0.258[a]	1.000				
10	*R&D*	0.078[a]	0.065[a]	0.051[a]	−0.015	−0.275[a]	0.176[a]	−0.138[a]	−0.170[a]	−0.035[c]	1.000			
11	*Advertising*	0.079[a]	0.070[a]	−0.024	−0.010	−0.127[a]	0.199[a]	−0.041[b]	0.105[a]	0.083[a]	−0.011	1.000		
12	*Employee*	0.267[a]	0.251[a]	0.251[a]	0.072[a]	0.552[a]	0.114[a]	0.098[a]	0.195[a]	0.152[a]	−0.153[a]	0.097[a]	1.000	
13	*Insti_holding*	−0.004	−0.014	0.119[a]	0.074[a]	−0.055[a]	0.037[b]	0.068[a]	0.114[a]	−0.107[a]	0.051[a]	−0.035[c]	0.086[a]	1.000
14	*Analysts*	0.218[a]	0.196[a]	0.263[a]	0.056[a]	0.519[a]	0.236[a]	0.062[a]	0.143[a]	0.049[a]	0.086[a]	0.015	0.492[a]	0.170[a]

This table presents the summary statistics of variables, as defined in the "Appendix 2". Q1 and Q3 in panel A represent the first and third quartiles, respectively. The superscripts a, b, and c in panel B indicate significance at the 1%, 5%, and 10% confidence levels, respectively

Table 2 Univariate comparison of CSR scores

Time Periods	Control firms	Fraud firms	Difference: *p* value
Panel A: Means of CSR1			
Benchmark	0.188	0.903	0.000
During	0.278	1.449	0.000
Difference: *p* value	0.258	0.035	
Panel B: Means of CSR2			
Benchmark	−0.066	0.026	0.000
During	−0.045	0.113	0.000
Difference: *p* value	0.184	0.062	

This table presents the univariate comparisons of CSR scores. Benchmark is the pre-fraud benchmark period and During is the fraud-committing period

Table 3 Financial fraud and CSR

	Dep. = *CSR1*		*Dep.* = *CSR2*	
	(1)	(2)	(3)	(4)
Fraud variables				
During	−0.114	−0.104	−0.024*	−0.021
	(−1.62)	(−1.56)	(−1.79)	(−1.63)
Fraud×*During*	0.335***	0.348***	0.055**	0.060**
	(2.90)	(3.02)	(2.23)	(2.44)
Control variables				
Size		−0.170		−0.043
		(−0.75)		(−1.24)
MB		−0.012		−0.002
		(−1.00)		(−1.01)
Leverage		0.646		0.029
		(1.03)		(0.22)
ROA		0.120		0.014
		(0.17)		(0.10)
Dividends		3.608		0.460
		(1.11)		(0.66)
R&D		−3.152		−0.629
		(−1.19)		(−1.24)
Advertising		−2.682		−0.506
		(−1.35)		(−1.34)
Employee		0.114		−0.007
		(0.90)		(−0.27)
Insti_holding		−0.123		−0.051
		(−0.24)		(−0.50)
Analysts		−0.167*		−0.031
		(−1.71)		(−1.47)
Constant	0.465***	2.107	−0.023***	0.458
	(15.72)	(1.14)	(−3.94)	(1.58)
Firm fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Observations	3015	3015	3015	3015
Adjusted R^2	79.19%	79.34%	73.86%	74.01%

This table presents the results of regressing CSR scores on fraud variables. All variables are defined in "Appendix 2". Firm-clustered, heteroskedasticity-robust *t*-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% confidence levels, respectively

tend to be more socially responsible during periods when they are committing fraud (*During* = 1), compared with both control firms in the same period and their own benchmark periods.

The economic significance of the coefficient estimates is also non-trivial. Using column (2) of Table 3 as an example, the coefficient of 0.348 on *Fraud*×*During* implies that fraudulent firms' CSR in the fraud period will be 0.348 higher than that for control firms in the same period, which represents 76.99% of the absolute value of the sample mean (0.452), or 14.51% of the sample standard deviation (2.399).

Columns (3) and (4) use the scaled CSR score, *CSR2*, as the dependent variable. The results are similar to those presented in columns (1) and (2): the coefficients of *Fraud*×*During* are positive and statistically significant at less than the 5% level for both columns, indicating that fraudulent firms have higher CSR scores in the fraud period compared with control firms in the same period. Using column (4) as an example, the coefficients imply that fraudulent firms increase their CSR by 0.060 more than control firms do in the fraud-committing period, which represents 222.22% of the sample mean (−0.027), or 13.10% of the sample standard deviation (0.458).

Overall, the results from both the univariate comparisons in Table 2 and the regressions in Table 3 suggest that control firms do not adjust their CSR performance in the fraud period relative to the benchmark period by much. In contrast, fraudulent firms meaningfully improve their CSR performance when they are committing financial fraud, which is consistent with the conjecture that self-interested managers use CSR performance strategically to coordinate with their fraudulent financial reporting practice.

Our findings shed light on the strategic role of CSR activities, as mentioned by McWilliams et al. (2006) and Flammer (2015b, 2017). However, different to the previous literature, we document a context in which CSR strategies are misused by corporate managers. These findings also highlight the potential agency problems behind observed CSR performance, wherein self-interested managers will use CSR activities to actively manage the firm's reputation in order to disguise their misconduct.[13]

[13] As a robustness check, we also investigate the association between corporate within-GAPP earnings management and CSR performance. The (untabulated) results show that corporate CSR performance is positively associated with its previous earnings management activities (both accrual-based and real earnings management).

Components of CSR

In this subsection, we examine various components of aggregate CSR scores in order to shed more light on how self-interested managers improve corporate CSR performance during the fraud-committing period. We predict that managers use CSR activities to maintain good relationships with key stakeholders and manage the firm's corporate image to reduce public suspicion, in order to reduce the likelihood of detection of their financial fraud. Specifically, we classify the five categories included in our aggregate CSR scores into two groups, and construct two CSR variables by summing the category scores within each group. The first group, denoted *CSR_Stakeholder,* includes the diversity and employees categories; and the second group, denoted *CSR_ThirdParty*, includes the community, environment, and human rights categories.

The first two columns of Table 4 present the regression results obtained using *CSR_Stakeholder* and *CSR_ThirdParty* as the dependent variables, respectively. In column (1) the coefficient estimates of *During* are not statistically significant, and in column (2) the coefficient of *During* is negative and marginally significant. The coefficients of *Fraud*×*During* are significantly positive for both columns, suggesting that fraudulent firms increase investments in both stakeholder and third-party CSR during the fraud-committing period, compared with non-fraudulent control firms during the same period. These findings are consistent with our argument that maintaining good relationships with key stakeholders can be used to reduce the risk of being subject to whistleblowing, and that creating a better public image can be used to decrease public suspicion about firms' fraudulent activities. Both channels can be used by managers to mitigate the risk that their fraudulent financial reporting is detected, and this explains why self-interested managers are motivated to adjust their CSR performance in the fraud-committing period.

Second, we separately examine CSR strengths and concerns. Whereas CSR strengths and CSR concerns both contribute to the aggregate CSR score, they may have different causes. CSR strengths are more likely to be affected by corporate efforts and decisions, and CSR concerns are likely to be the consequences of other corporate activities (e.g., Dong et al. 2015; Hoi et al. 2013; Servaes and Tamayo 2013). For example, firms could improve their community strength scores by providing more charitable donations, whereas concerns about pollution are driven by existing corporate production technology. Consequently, we conjecture that where firms try to improve their CSR performance in the fraud period, the improvement is more likely to be manifested in increased CSR strengths than in reduced CSR concerns.

Consistent with prior studies, we separately sum strength and concern scores over the five categories of community, diversity, employees, environment, and human rights, and denote the total scores *CSR_Strength* and *CSR_Concern*, respectively. The significantly positive coefficient of *Fraud*×*During*, reported in column (3) of Table 4, confirms that fraudulent firms increase their CSR strengths in the fraud-committing period. As reported in column (4), we find that the equivalent coefficient is insignificant for CSR concerns, suggesting that while fraudulent firms also reduce CSR concerns, this effect is not significant. Furthermore, the magnitude of the coefficient on *Fraud*×*During* is also much larger in column (3) than column (4). The evidence

Table 4 Financial fraud and CSR: CSR performance subdivision

	Dep. = *CSR_*			
	Stakeholder	*ThirdParty*	*Strength*	*Concern*
	(1)	(2)	(3)	(4)
Fraud variables				
During	−0.052	−0.052*	−0.026***	−0.005
	(−1.02)	(−1.70)	(−2.66)	(−0.57)
Fraud×*During*	0.185**	0.163**	0.040**	−0.021
	(2.18)	(2.35)	(2.48)	(−1.07)
Control variables				
Size	0.048	−0.218**	−0.014	0.029
	(0.30)	(−2.16)	(−0.33)	(1.08)
MB	−0.006	−0.006	−0.003*	−0.001
	(−0.75)	(−0.79)	(−1.90)	(−0.95)
Leverage	0.355	0.291	0.127	0.098
	(0.77)	(0.89)	(1.32)	(1.12)
ROA	−0.168	0.288	0.074	0.060
	(−0.27)	(1.16)	(0.76)	(0.88)
Dividends	3.678	−0.070	0.916*	0.456
	(1.40)	(−0.06)	(1.66)	(1.21)
R&D	−1.635	−1.517	−0.497	0.132
	(−0.78)	(−1.57)	(−1.39)	(0.58)
Advertising	−1.828	−0.854	−0.211	0.295
	(−1.29)	(−1.06)	(−0.93)	(1.31)
Employee	0.049	0.065	−0.003	0.004
	(0.65)	(0.87)	(−0.14)	(0.18)
Insti_holding	0.226	−0.348	−0.107	−0.056
	(0.61)	(−1.60)	(−1.34)	(−1.20)
Analysts	−0.090	−0.077*	−0.008	0.023
	(−1.21)	(−1.67)	(−0.49)	(1.56)
Constant	−0.044	2.151***	0.452	−0.006
	(−0.03)	(2.70)	(1.31)	(−0.03)
Firm fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Observations	3015	3015	3015	3015
Adjusted R^2	76.95%	72.65%	79.11%	67.43%

This table presents the results of regressing alternative CSR scores on fraud variables. All variables are defined in "Appendix 2". All regressions include firm and year fixed effects. Firm-clustered, heteroskedasticity-robust *t*-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% confidence levels, respectively

therefore supports our conjecture that the increase in CSR performance in the fraud period is the consequence of intentional decisions of corporate management.

The Influence of Corporate Governance

We then explore what factors can cause managers to improve their firms' CSR performance to disguise their financial fraud. Self-interested managers use CSR strategies speculatively to pursue their own interests, suggesting an agency problem inherent in these activities. Hypothesis H2 asserts that the association between CSR performance and financial fraud should be more pronounced in firms with poor governance environments because a sound governance system can effectively constrain managerial opportunism (Bebchuk et al. 2009; Ferrell et al. 2016; Gompers et al. 2003; Harford et al. 2012).

Following Bebchuk et al. (2009), we consider the effectiveness of corporate governance in the context of managerial entrenchment. Their study shows that managerial entrenchment is an important threat to effective corporate governance and significantly reduces firm value. Following their method, we use the E-index (i.e., aggregation over six governance provisions which are closely related to managerial entrenchment) to proxy for corporate governance and construct a dummy variable, *Entrenchment*, which equals 1 if a firm's E-index is in the highest tercile compared with its industry peers in a given year, and 0 if it is in the lowest tercile, and include the interactions of *Entrenchment* with *Fraud* × *During* in the baseline regression in Eq. (1).[14,15] Table 5 presents the results of this augmented regression.

In columns (1) and (2) of Table 5, we use *CSR1* and *CSR2*, respectively, as dependent variables. The insignificant coefficients of *Fraud* × *During* indicate that the CSR performance of fraudulent firms with less-entrenched managers (better governance environments) is unchanged in the fraud period. However, the coefficients of the three-way interaction of *Fraud, During,* and *Entrenchment*—that is, *Fraud* × *During* × *Entrenchment*—are positive and significant at less than the 5% level, suggesting that more entrenched managers use increased CSR activities in the fraud-committing period; hence, a more pronounced association is identified in our tests.

The economic significance is also non-trivial, according to our results. The coefficient of *Fraud* × *During* suggests that fraudulent firms with less-entrenched managers have CSR scores that are 0.175 larger than those of control firms in the fraud period. This is equivalent to 33.72% of the absolute sample mean. In contrast, fraudulent firms with more entrenched managers have CSR scores that are 0.606 (= 0.175 + 0.431) higher than those of control firms in the same period. This represents 134.07% of the absolute

Table 5 Financial fraud and CSR: Good versus poor corporate governance

	Dep. = *CSR1*	*Dep.* = *CSR2*
	(1)	(2)
Fraud variables		
During	−0.097	−0.020
	(−1.28)	(−1.33)
Fraud × *During*	0.175	0.012
	(1.27)	(0.42)
Moderating effect		
Fraud × *During* × *Entrenchment*	0.431**	0.105***
	(2.14)	(2.73)
Control variables		
Entrenchment	0.001	−0.002
	(0.01)	(−0.14)
Size	−0.115	−0.029
	(−0.52)	(−0.73)
MB	−0.011	−0.002
	(−0.91)	(−0.97)
Leverage	0.595	0.032
	(0.80)	(0.21)
ROA	0.312	0.071
	(0.40)	(0.48)
Dividends	4.738	0.829
	(1.33)	(1.06)
R&D	−3.618	−0.702
	(−1.18)	(−1.17)
Advertising	−4.518*	−0.921*
	(−1.72)	(−1.80)
Employee	0.173	0.001
	(1.28)	(0.03)
Insti_holding	−0.445	−0.045
	(−0.72)	(−0.36)
Analysts	−0.159	−0.030
	(−1.52)	(−1.32)
Constant	1.710	0.312
	(0.88)	(0.91)
Firm fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
Observations	2391	2391
Adjusted R^2	79.11%	73.69%

This table presents the results of regressing CSR scores on fraud variables and corporate governance (proxied by managerial entrenchment). The variable *Entrenchment* is a dummy that takes the value one if a firm's E-index is in the highest tercile of the sample and zero if in the lowest tercile. All other variables are defined in "Appendix 2". Firm-clustered, heteroskedasticity-robust *t*-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% confidence levels, respectively

[14] The Bebchuk E-index is provided up to 2006; we thus construct the index for more recent years using the method proposed by Bebchuk et al. (2009).

[15] Our results are not affected if we also include the interaction of *Entrenchment* with the *Fraud* and *During* dummies—that is, *Fraud* × *Entrenchment* and *During* × *Entrenchment*.

sample mean. The above findings, taken together, indicate that managers in ineffective governance environments are more able to use CSR activities speculatively to serve their own interests, which supports hypothesis H2.

Our findings contribute to the corporate governance literature by shedding light on the role of corporate governance in constraining the misuse of CSR strategies and provides strong ethical implications in that although CSR activities may be strategically misused by managers to serve their own interests, a sound corporate governance system can act as a safeguard to restrict such opportunism. Our findings also indicate that CSR activities should be analyzed and interpreted under a more comprehensive framework incorporating additional dimensions, such as governance environment, to understand whether those activities generate value for shareholders.

The Influence of Religiosity

Next, we consider a factor relevant to how useful CSR strategies are for managers seeking to disguise and avoid detection of fraud: the religiosity of the state in which a firm is located. Hypothesis H3 proposes that the improved CSR performance during fraud-committing periods should be more pronounced for fraudulent firms located in states with higher religiosity, since CSR activities are valued more by high-religiosity people.

To test this conjecture, we construct an indicator variable, *Religiosity*, that equals 1 if a firm's headquarters are in a state with a high level of religiosity (in the highest tercile of the sample), and 0 if they are in a state with a low-religiosity level (in the lowest tercile). Consistent with prior studies (e.g., Angelidis and Ibrahim 2004; Deng et al. 2013), the religiosity level is measured using the proportion of individuals in a state who are religious adherents using data from the Association of Religion Data Archives. Because the data are only available for 2000 and 2010, we linearly extrapolate the values to all years for which data are not available.

We then include the interactions of the *Religiosity* indicator with *Fraud*×*During* in the baseline regression in Eq. (1).[16] Table 6 presents the results of this augmented regression. In columns (1) and (2), where the dependent variables are *CSR1* and *CSR2*, respectively, regression results are similar: CSR performance for fraudulent firms is not significantly changed when these firms are located in states with low religiosity, as evidenced by the significant coefficients of *Fraud*×*During*. More importantly, we find that the coefficients of the three-way interaction of *Fraud, During,* and *Religiosity*—that is, *Fraud*×*During*×*Religiosity*—are positive and statistically significant at the 5% level.

[16] Our results are not affected by the inclusion of the interaction of *Religiosity* with the *Fraud* and *During* dummies—that is, *Fraud*×*Religiosity* and *During*×*Religiosity*.

Table 6 Financial fraud and CSR: High versus low religiosity

	Dep. = *CSR1* (1)	*Dep.* = *CSR2* (2)
Fraud variables		
During	−0.135	−0.025
	(−1.59)	(−1.45)
Fraud×*During*	0.098	0.007
	(0.59)	(0.19)
Moderating effect		
Fraud×*During*×*Religiosity*	0.613***	0.105**
	(2.73)	(2.21)
Control variables		
Religiosity	0.007	0.004
	(0.06)	(0.15)
Size	−0.129	−0.025
	(−0.48)	(−0.61)
MB	−0.015	−0.003
	(−1.01)	(−1.14)
Leverage	0.509	−0.022
	(0.73)	(−0.16)
ROA	0.227	0.021
	(0.23)	(0.12)
Dividends	4.965	0.785
	(1.28)	(0.92)
R&D	−1.924	−0.366
	(−0.55)	(−0.57)
Advertising	−4.214	−0.720
	(−1.57)	(−1.53)
Employee	0.032	−0.029
	(0.26)	(−1.07)
Insti_holding	−0.565	−0.090
	(−0.93)	(−0.73)
Analysts	−0.136	−0.028
	(−1.18)	(−1.04)
Constant	2.093	0.369
	(0.96)	(1.09)
Firm fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
Observations	2117	2117
Adjusted R^2	78.67%	72.51%

This table presents the results of regressing CSR scores on fraud variables and religiosity. The variable *Religiosity* is a dummy that takes the value one if a firm's headquarters are in a state with religiosity level in the highest tercile of the sample and zero if in a state with religiosity level in the lowest tercile. All other variables are defined in "Appendix 2". Firm-clustered, heteroskedasticity-robust *t*-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% confidence levels, respectively

This finding suggests a significant difference in the CSR performance of fraudulent firms in the fraud period between firms located in high- versus low-religiosity states.

To gauge the economic significance of the impact of religiosity on CSR performance, we use column (1) as an illustration. The coefficient of *Fraud*×*During* suggests that

fraudulent firms with low religiosity have CSR scores that are higher by 0.098 than those of control firms in the same fraud period. This amounts to 21.68% of the sample mean. In contrast, fraudulent firms with high religiosity have CSR scores that are higher by 0.711 (=0.098+0.613) than those of control firms in the same period. This represents 157.30% of the absolute sample mean. The above findings are consistent with hypothesis H3, that the misuse of CSR strategies is more likely to achieved in high-religiosity states, since the high-religiosity environment can enhance the usefulness of CSR activities in achieving the firm's strategic goal.

Our findings suggest a different view on religiosity compared with prior studies that focus on the ethical perspective of religion and document how ethically people behave under the influence of religiosity (e.g., Cochran and Akers 1989; Diaz 2000; Evans et al. 1995; Hilary and Hui 2009; McGuire et al. 2012). In contrast, our findings show that the higher attention and importance religious people attach to socially responsible activities may be exploited by managers who misuse CSR activities to disguise their fraudulent activities.

Fraud Length

If fraudulent firms increase their CSR performance when committing fraud, we expect the increase in annual CSR activities to be more pronounced for firms with a longer fraud duration. First, fraud incidents that are of a longer duration are more severe and egregious, and are more likely to be detected. In recognition of this higher detection risk, firms have a greater incentive to window-dress their CSR performance. Second, a longer duration enables firms to adjust their CSR activities with sufficient time and discretion whilst committing fraud.

We measure *Fraud_Length* as the logged number of months from the fraud start date to the fraud end date, and use this to replace the *Fraud* indicator in our baseline regression in Eq. (1). As shown in Table 7, we find that the coefficients of *During* are insignificant, suggesting that control firms do not change their CSR activities much from the benchmark period to the fraud-committing period. More importantly, we find that the coefficients of *Fraud_Length*×*During* are positive and significant at the 5% level, implying that fraudulent firms with longer fraud duration engage more in CSR activities in the fraud period.

To gauge the economic significance of the effect described, we use the estimated results in column (1) as an example, for which the dependent variable is *CSR1*. For fraudulent firms in our sample, the mean fraud length is 22 months, which translates into a mean value of *Fraud_Length* of 3.1.[17]

[17] Note that we define *Fraud_Length* as the logged number of months from the fraud start date to the fraud end date.

Table 7 Financial fraud and CSR: Long versus short fraud length

	Dep. = *CSR1* (1)	*Dep.* = *CSR2* (2)
Fraud variables		
Fraud_Length	−9.874*	−3.095***
	(−1.87)	(−6.70)
During	−0.094	−0.018
	(−1.38)	(−1.38)
Fraud_Length×*During*	0.104***	0.018**
	(2.84)	(2.30)
Control variables		
Size	−0.142	−0.034
	(−0.62)	(−1.01)
MB	−0.009	−0.001
	(−0.80)	(−0.65)
Leverage	0.612	0.016
	(0.98)	(0.13)
ROA	0.160	0.026
	(0.23)	(0.20)
Dividends	3.897	0.551
	(1.18)	(0.79)
R&D	−2.642	−0.471
	(−1.06)	(−1.02)
Advertising	−2.738	−0.522
	(−1.37)	(−1.38)
Employee	0.092	−0.013
	(0.76)	(−0.54)
Insti_holding	−0.051	−0.030
	(−0.10)	(−0.28)
Analysts	−0.166*	−0.030
	(−1.70)	(−1.44)
Constant	9.476**	2.767***
	(2.26)	(7.42)
Firm fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
Observations	3015	3015
Adjusted R^2	79.46%	74.34%

This table presents the results of regressing CSR scores on fraud length variables. The variable *Fraud_Length* is the logged number of months from the fraud start date to the end date for fraud firms and zero otherwise. All other variables are defined in "Appendix 2". All regressions include firm and year fixed effects. Firm-clustered, heteroskedasticity-robust *t*-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% confidence levels, respectively

The coefficient of 0.104 for the interaction term *Fraud_Length*×*During* suggests that the CSR score of a fraudulent firm with mean fraud length will be 0.322 higher than the score for a control firm, which represents 71.33% (13.42%) of the absolute sample mean (sample standard deviation). This suggests that these findings are economically significant.

Table 8 Financial fraud and CSR: Robust tests

	Dep. = *CSR1* (1)	*Dep.* = *CSR2* (2)
Panel A: Adding post-fraud period		
Fraud variables		
During	−0.304** (−2.53)	−0.076*** (−3.22)
Fraud×*During*	0.376** (2.58)	0.056* (1.86)
After	−0.595*** (−2.96)	−0.160*** (−3.67)
Fraud×*After*	0.182 (0.67)	0.006 (0.12)
Control variables		
Constant	2.338 (1.21)	0.513* (1.71)
Control	Yes	Yes
Firm fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
Observations	3015	3015
Adjusted R^2	79.66%	74.73%
Panel B: Using size-matched sample		
Fraud variables		
During	−0.116* (−1.94)	−0.032*** (−2.77)
Fraud×*During*	0.327*** (2.86)	0.065*** (2.64)
Control variables		
Constant	1.738 (0.71)	0.317 (0.70)
Control	Yes	Yes
Firm fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
Observations	3254	3254
Adjusted R^2	77.86%	73.35%

This table presents the results of regressing CSR scores on fraud variables. The variable *After* in panel A is a dummy variable that takes the value 1 if in the post-fraud-committing years and zero otherwise. All other variables are defined in "Appendix 2". Firm-clustered, heteroskedasticity-robust *t*-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% confidence levels, respectively

Additional Analyses

Adding Post-fraud Years

In the main analysis, we focus on the comparison of CSR performance between fraud and control firms over the benchmark and fraud-committing periods. In this subsection, we first show that our findings are robust to including post-fraud years in the main analysis. We construct a dummy variable, *After*, that equals 1 for the first two fiscal years after the end of the fraud-committing period, and 0 otherwise. A 2-year period is chosen for the *After* period for reasons of comparability, because we define 2 years before the start of fraud as the benchmark period, and our sample fraudulent firms have an average fraud length of 2 years.

Panel A in Table 8 presents the results obtained when we add the *After* variable and its interaction with the *Fraud* indicator—that is, *Fraud*×*After*—to the baseline specification in Eq. (1). The coefficients of *Fraud*×*During* remain positive and significant in all columns, with a magnitude similar to those reported in Table 3, confirming that fraudulent firms improve their CSR performance in the fraud-committing period. In contrast, the coefficients of *Fraud*×*After* are insignificant, implying that there is no significant change in CSR activities in the post-fraud period compared with the pre-fraud period. This evidence reinforces our postulation that self-interested managers actively use CSR strategies in coordination with their fraudulent financial reporting practices.

Size-Matched Sample

To mitigate concerns of endogeneity, we use a PSM method to select control firms based on absolute distance in the probability of committing fraud. To test for robustness to alternative methods of control firm selection, we generate a sample of control firms by matching each fraudulent firm to the firms of the closest size (measured by total assets) in the same industry. The results in Panel B of Table 8 confirm that our findings are robust to this alternative matching method. Fraudulent firms increase their raw CSR score by 0.327 more than control firms in the fraud period, which represents 72.35% of the absolute sample mean.

CSR Disclosure

We finally examine whether firms are more likely to disclose their CSR activities in the fraud-committing period. If firms use CSR as part of their overall fraud-coordinating strategy, then they will have stronger incentives to disclose their CSR activities in order to boost their reputation and image as socially responsible enterprises. To address this issue, we construct an indicator variable, *CSR_Disclosure*, to capture whether or not a firm issues a standalone CSR report in a given year. Following prior studies (e.g., Dhaliwal et al. 2011, 2012), we collect standalone CSR reports from the Corporate Social Responsibility Newswire, CorporateRegister.com, and our own Internet searches. The untabulated results from logistic regressions imply that firms are more likely to disclose their CSR activities in the fraud-committing period compared with control firms in the same period, and compared with themselves in the benchmark period. This finding further enriches and buttresses our main finding

that fraudulent firms use CSR performance as a strategic tool.

Conclusion

In this study, we document that managers of fraudulent firms actively improve their CSR performance in fraud-committing periods, compared with that in non-fraud-committing periods as well as compared with control firms, suggesting that fraudulent firms tend to use CSR activities as an orchestrating tool to mask their fraudulent financial reporting practices. When the overall CSR score is subdivided, we find that fraudulent firms perform better in both stakeholder and third-party CSR activities, showing that managers use CSR strategy to maintain good relationships with key stakeholders and manage the corporate image to reduce public suspicion. Furthermore, the cross-sectional tests reveal that a good governance environment and low religiosity of the state in which the firm is located can constrain the misuse of CSR strategies, which reinforces our argument that agency problems are behind this usage of CSR performance.

One limitation of this study needs to be noted here. Our empirical design focuses on the dynamic patterns of CSR performance in fraudulent firms. However, the fraudulent firms in our sample are only those whose fraud is actually detected and observed. Any undetected fraud is excluded from our sample, and hence our identification relies critically on the assumption that there is no systematic difference between firms with detected and undetected fraud. Given the fact that undetected fraud cannot be observed, this assumption cannot be tested empirically.

Our study makes several contributions to the literature. First, we contribute to the fraud literature by showing that social performance can be adopted strategically to coordinate with corporate fraudulent reporting activities, providing additional evidence that fraudulent activities are not performed in a standalone manner. We suggest that further studies can follow this path further and examine other patterns that fraudulent firms exhibit during fraud-committing periods in order to depict more comprehensively the characteristics of fraudulent firms, which can help the detection of financial fraud in a timely manner, and thereby help to prevent it.

In addition, differing from previous studies that focus on the association between EM and CSR, we circumvent the measurement problems by examining the CSR activities in fraudulent firms. Our results add to this line of literature by showing that CSR activities can be strategically misused by self-interested managers, highlighting the agency problem behind CSR strategies. From this perspective, our findings emphasize that caution is needed when interpreting corporate CSR performance, since these activities can be deliberately designed to serve the interests of managers. Further studies could investigate how the motivations behind corporate socially responsible activities can be differentiated. Our discussion of the moderating role of corporate governance sheds some light on this issue, showing that the power held by managers can facilitate their misuse of CSR performance. Thus, well-governed firms are more likely to avoid this problem. In a similar vein, further studies could address the circumstances under which CSR activities are more likely to be misused, and what mechanisms can constrain such misuse. All these potential extensions, taken together, can build a framework to help better understand the purpose behind corporate socially responsible activities.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Research Involving Human Participants and/or Animals This research does not involve Human Participants and/or Animals.

Appendix 1: Sample selection

	Firm cases
Total securities class action litigation lawsuits	7607
Less	
Cases without the fraud start or end date	(1093)
Cases are not finished	(1063)
Cases with non-Compustat firms as lead defendants	(1837)
Cases within 4 years from the end of previous fraud	(1585)
Cases with fraud length shorter than 1 year	(1092)
Remaining fraud cases	938
Fraud firms covered by MSCI STATS	498
Less	
Fraud firms with missing MSCI STATS data before or after the fraud start date	(356)
Fraud firms with no matched control firms covered in MSCI STATS	(11)
Sample fraud firms	131
Matched control firms	456
Final sample (1995–2016)	587

Appendix 2: Variable definitions

CSR variables	
CSR1	The summation of raw CSR scores over community, diversity, employee, the environment, and human rights, where the raw CSR score in each category is the number of strengths minus the number of concerns
CSR2	The summation of scaled CSR scores over community, diversity, employee, the environment, and human rights, where the scaled CSR score in each category is the scaled value of strengths (scaled by total strength dimensions in that category) minus the scaled value of concerns (scaled by total concern dimensions in that category)
CSR_Stakeholder	The summation of CSR scores over diversity and employees
CSR_ThirdParty	The summation of CSR scores over community, the environment, and human rights
CSR_Strength	The summation of CSR strength scores over community, diversity, employee, the environment, and human rights
CSR_Concern	The summation of CSR concern scores over community, diversity, employee, the environment, and human rights
CSR_Disclosure	A dummy variable that takes the value 1 if a firm issues a standalone CSR report during the year and 0 otherwise
Fraud variables	
Fraud	A dummy variable that takes the value 1 for fraud firms and 0 for non-fraud firms
During	A dummy variable that takes the value 1 if a fraud firm is committing financial fraud and 0 otherwise
After	A dummy variable that takes the value 1 if after the fraud-committing period and 0 otherwise
Fraud_Length	The logged number of months from the fraud start date to the fraud end date
Control variables	
Size	The logged value of total assets (item 6)
MB	The ratio of market equity to book equity (item 60), where market equity is defined as the closing stock price at the fiscal year end (item 199) multiplied by the number of shares outstanding (item 25)
Leverage	The ratio of long-term debt (item 9) to total assets
ROA	The ratio of income before extraordinary items (item 18) to lagged total assets
Dividends	The ratio of common dividends (item 21) and preferred dividends (item 19) to total assets
R&D	The ratio of R&D expense (item 46) to total assets
Advertising	The ratio of advertising expense (item 45) to total assets
Employee	The logged value of total number of employees
Insti_holding	The percentage of shares held by institutional shareholders
Analysts	The logged number of analysts who follow the firm
Fraud_Length	The logged number of months between the fraud start date and end date
Religiosity	The dummy variable that takes the value 1 if a firm's headquarters are in a state with a religiosity level in the highest tercile of the sample and zero if in a state with a religiosity level in the lowest tercile. Religiosity level is measured using the ratio of the number of religious adherents in a state to the total population in that state
Entrenchment	The value of E-index before 2006 is obtained from Professor Bebchuk's website (http://www.law.harvard.edu/faculty/bebchuk/data.shtml), while the value after 2006 is computed following the method described in Bebchuk et al. (2009) using data from ISS database

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