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## Corporate social responsibility and corporate fraud

#### Abstract

#### Purpose

This study examines the impact of corporate culture, measured by corporate social responsibility (CSR), on the likelihood and severity of corporate fraud. CSR literature indicates that corporate managers are moral actors and are obliged to exercise their discretionary decisions according to their moral standards. Based on moral development theory, this study argues that higher managers' ethical values reflected by higher CSR activities are less likely to commit fraud and have lower severity of fraud.

#### Design/methodology/approach

This study argues that at the firm level, corporate culture can be measured by firms' CSR activities. Using probit, match-pair, propensity matching, and Heckman regressions on a sample of 152 criminal corporate fraud cases in the U.S. from the US Department of Justice (DOJ) during 2000 and 2010, this study empirically examines the impact of CSR, CSR strengths, and concerns scores on the likelihood and the severity of corporate fraud.

#### **Findings**

Firms with higher CSR and CSR strengths (concerns) scores have lower (higher) likelihood and lower (higher) severity of corporate fraud. This study finds that firms with higher community, employee, environment, and product related CSR have lower likelihood of fraud and firms with higher diversity, employee, environment, and product related CSR have lower fraud severity.

#### **Practical Implication**

Establishing positive corporate ethical culture is essential to curb the outbreak of corporate fraud that threatens our societal norms. The findings also shed some light for investors, corporate board of directors, and regulators to consider CSR as a reflection of top managers' moral values that is negatively related to the occurrence and severity of corporate fraud.

#### Social implication

Strengthening moral values among top executives and employees in corporations by encouraging CSR activities aid our society to alleviate future outbreak of epidemic problem for corporate fraud.

#### **Originality/value**

This study brings a new perspective that there is a relationship between corporate ethical culture within an organization, measured by CSR activities, and corporate fraud based on the cognitive moral development theory in organization.

Keywords: Corporate fraud; Cognitive moral development; Corporate culture; CSR

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#### Introduction

Corporate fraud has become the center of public concern including but not limited to regulators, investors, board of directors, and academics. Since the outbreak of corporate scandals in 2000 and the 2007 financial crisis, there have been increasing regulatory restrictions and scrutiny to reduce the opportunity and incentive for corporate fraud. However, according to the PricewaterhouseCoopers (PwC) report, the economic crime across the globe still represents more than a third of all criminal activities. The Federal Bureau of Investigation (FBI) also reported that pending cases for corporate fraud in the U.S. continue to rise in recent years. Therefore, despite increased regulations, corporate fraud seems to be a serious continuing epidemic problem.

Extant literature have examined factors that are related to corporate fraud including managerial incentives (Burns and Kedia 2006; Efendi et al. 2007; Johnson et al. 2009), opportunities and consequences (Wang 2006; Erickson et al. 2006; Karpoff et al. 2008a; Cohen et al. 2010), likelihood of detections (Dyck et al. 2010; Wang 2011), connections between top executives and the board of directors (Khanna et al. forthcoming; Chidambaran et al. 2011), and its impact on firms' value (Palmrose and Scholz 2004; Karpoff et al. 2008b). However, these existing studies have not examined the role of corporate ethical culture to predict the likelihood and the severity of corporate fraud.

Jennings (2006) indicates that the top sign of ethical collapse in corporations (i.e., Enron, HealthSouth, etc.) is the culture that focuses too much on achieving a greater profit. The U.S. Attorney for the Southern District of New York, Preet Bharara, indicates that corporate ethical culture plays significant role the likelihood of corporate fraud а on (see In this study, we examine the relationship between http://www.cnbc.com/id/48286908).

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corporate ethical culture, measured by corporate social responsibility (CSR) activities, and the likelihood and the severity of corporate fraud.

#### **Theoretical Background and Hypothesis**

Given that the increased regulatory restrictions has not been quite effective to prevent corporate fraud, we turn our attention to the social psychology literature that examines the development of individual (un)ethical in a group setting (Baldwin 1906; Kohlberg 1969). Kohlberg (1969) indicates that moral and ethical views for adults are formed based on abstract reasoning of universal ethical principles that are shaped from collective ethical consensus of a group. Trevino (1986) extends Kohlberg's theory and argues that organizational culture influences (un)ethical behavior. Trevino (1990) indicates that the thoughts and actions of individuals in organizations are influenced by organizational culture and individuals can act and operate according to different standards and criteria depending on the context and socialization processes in organizations. Jones (1991) indicates that moral intensity activities in a corporation have significant effect on employees' (un)ethical decisions. Rockness and Rockness (2005) indicate that a strong corporate culture plays a significant role for establishing corporate ethical actions. Kaptein (1998; 2011) find that unethical behavior by employees and managers was caused by a failing organizational culture.

Economic literature has also examined the roles of corporate culture. Kreps (1990) argues that corporate culture is a set of unwritten cooperative agreements and shared belief among employees in the firm resulting from cooperative and repeated games. Lazear (1995) argues that top managers' preferences toward ethical (unethical) behavior determine the ethical culture among employees through self-selection processes. Hodgson (1996) believes that

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corporate culture consists of shared practices and social responsibility activities that provide a cognitive framework for employees to conform with other employees to harmonize their ethical belief. Hermalin (2001) indicates that corporate culture is an implicit contract that define acceptable behavior within the firm to economize the formal contracts among employees. Based on Schein's theory (1985), Waldman et al. (2006) indicate that organizational culture is associated with CSR actions that top managers apply on their decision-making.

Existing literature in corporate social responsibility also indicates that there is a relationship between CSR and corporate ethical behavior. Davis (1973) indicates that corporations are obliged to consider social interests since the society grants the legitimacy and power to corporations to conduct their businesses. Carroll (1979) indicates that corporations have ethical and discretionary responsibilities that go beyond their economic and legal responsibilities. Preston and Post (1975) indicate that corporations are responsible for solving problems and social issues related to their activities. Carroll (1991) defines the moral management as corporate managers who follow ethical principles and conform with accepted professional conducts. Donaldson and Preston (1995) define the normative aspect of stakeholder theory as collective persons or groups with legitimate interests in corporate activities that are consistent with shared moral and philosophical values within the company. Thus, at the organizational (firm) level, corporate managers are moral actors who are obliged to exercise their discretionary actions in socially responsible ways that manifest into CSR activities (Wood, 1991; Carroll, 1979). Hemingway and Macland (2004) argue that corporate managers' ethical values is reflected in CSR actions because managers have discretionary power to exercise corporate actions that are consistent with their values.

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Recent empirical studies demonstrate that corporate culture is measured by firms' CSR activities. Based on surveys, Genest (2005) finds that CSR serves as a reflection of employees' social values. Van de Ven and Graafland (2006) find that CSR performance is strongly correlated with corporate culture. Hoi et al. (2013) find a strong relation between excessive corporate social irresponsibility activities and unethical behavior measured by more aggressive tax avoidance. Baumgartner (2014) demonstrates that normative management practices provide a direct link between corporate culture and CSR activities. Eccles et al. (2014) find that firms which ethical corporate culture is measured by deeper level of stakeholders' engagement, greater attention to nonfinancial measures, and higher level of transparency. Bereskin et al. (2016) find that employees of firms with higher ethical cultures, measured by higher charitable corporate giving and deemed as the best places to work, are more likely to whistle blow when they observe misconduct.

Thus, this study contributes to existing literature by establishing the relationship between corporate ethical culture and corporate fraud. Based on these recent empirical studies, we argue that corporate ethical culture has found to be closely related to CSR activities. Therefore, we can expect that CSR is related to corporate ethical behavior. We form our hypothesis as the following:

## Hypothesis: Firms with higher ethical culture, measured by greater CSR and CSR strengths (lower CSR concerns), are less likely to conduct corporate fraud and have lower severity of corporate fraud

Our study empirically tests our hypothesis to examine the relationship between corporate ethical culture, measured by CSR activities, and the likelihood and the severity of corporate fraud. Our study contributes to existing literature by connecting the literature from cognitive moral development in organizations (i.e., Kohlberg 1969; Trevino 1986), corporate culture (i.e.,

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Kreps 1990; Hermalin 2001; Van den Steen 2010), CSR literature (i.e., Carroll 1991; Wood 1991; Donaldson and Preston 1995), and corporate fraud (Wang 2006; Erickson et al. 2006; Karpoff et al. 2008a; Cohen et al. 2010).

#### **Empirical Measures**

#### Sample Construction

We compile a list of *significant* criminal corporate fraud from the US Department of Justice (DOJ) website (http://www.justice.gov/archive/dag/cftf/cases.htm). There are 177 cases across 92 different companies listed in the DOJ website. The list of 92 companies is presented in Appendix B. We use these cases since all cases listed in this DOJ have been completed and have no pending appeals. We manually searched the dates when frauds were detected and counted the number of convicted fraud cases using Google search and Factiva database (Cohen et al. 2010). We use the end of year of dates when frauds were detected as the detection year (Wang and Winton 2014).

Based on the company names, we manually match the company names with publicitly traded companies in the Compustat database. We find 75 company matches across 152 corporate fraud cases that are detected to occur during 2000 and 2010 while 17 companies with 25 fraud cases are not publicly traded firms. Next, we match and append these 75 companies with 11,737 companies in the KLD database. We use firms' financial information, auditors, and audit opinions from Compustat and calculate the standard deviation of daily stock returns from the Center for Research in Securities Prices (CRSP). After merging all these databases, our final sample consists of 11,318 observations across 1,294 firms from 2000 to 2010.

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#### Dependent Variables Measurements

Consistent with the argument that the cost of crime can be measured by the probability of being detected (Wang 2011; Cumming et al. 2015; Khanna et al. forthcoming), our first dependent variable is a corporate fraud indicator variable (PROB(FRAUD)) which takes on a value of one if a firm was convicted for a *significant* criminal fraudulent case defined by the DOJ on specific year or zero otherwise. Our second dependent variable of corporate fraud measures the intensity of corporate fraud. We categorize the types of convicted crimes into twelve categories (i.e., securities fraud, insider trading, false statement fraud, obstruction, etc.). We count how many types of convictions received as our measure of fraud severity (C\_FRAUD).

#### Independent Variables Measurements

We measure corporate ethical culture from firms' CSR based on the widely used MSCI ESG or KLD Stats data (e.g., Waddock and Graves 1997; Deckop et al. 2006; Nelling and Webb 2008). KLD collects CSR data based media reports, conference calls, regulatory filings, and other sources and categorizes a firm's CSR performance in seven different categories (i.e., community, diversity, employee relations, environment, product characteristics, corporate governance, and human rights). In each category, KLD measures firms' CSR strength and concern scores and uses an indicator value (i.e., one (zero) for meeting (not meeting) the criteria)<sup>1</sup>. To avoid a spurious correlation in the regressions, we exclude corporate governance category in our CSR measure because corporate governance in KLD directly measures corporate fraud<sup>2</sup>.

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<sup>&</sup>lt;sup>1</sup> See http://app.msci.com/products/esg/stats/ or

http://cdnete.lib.ncku.edu.tw/93cdnet/english/lib/Getting\_Started\_With\_KLD\_STATS.pdf for further description of MSCI ESG (KLD) Stats database.

<sup>&</sup>lt;sup>2</sup> Corporate governance concerns in the KLD Stats indicates the severity of controversies related to a firm's business ethics practices such as a history of involvement in bribery, tax evasion, insider trading, accounting irregularities, etc. which are directly correlated with our dependent variables (corporate fraud).

Instead, we control for firms' corporate governance using the Gompers-Ishii-Metrick index or GINDEX (Gompers et al. 2003)<sup>3</sup>. We closely examine each category and find that each KLD category represents some measures of (un)ethical behavior. Community category reflects firms' charitable giving toward the community. Diversity and employee categories indicates managers' commitments to establish a diverse workplace and empowering employees that are negatively related to corporate fraud (Cummings et al. 2015; Bereskin et al. 2016). Environment, product, and human rights categories reflect firms' commitments to uphold business conducts according to ethics and the societal norms.

We measure firms' net CSR (CSR) as CSR strengths scores subtracted by CSR concerns scores in all six different categories (community, diversity, employee, environment, product, and human rights) from the MSCI ESG Stats. Consistent with existing literature that argue CSR strengths and CSR concerns have different constructs (e.g., Chatterji et al. 2009; Mattingly and Berman 2006), we investigate the impacts of CSR strengths (CSRSTR) and CSR concerns (CSRCON) separately in the regression models. Finally, we measure overall CSR performance, CSR strengths minus concerns in each category: community, diversity, employee, environment, product, and human rights<sup>4</sup>. We use one-year lag of CSR measures to account for the fact that corporate fraudulent activities may not be observable until they are detected or discovered (Wang 2011)<sup>5</sup>.

Based on our hypothesis, we define our empirical models as the followings:

$$PROB(FRAUD) = \alpha_0 + \alpha_1 CSR(t-1) + \sum_{j=2}^n \alpha_j CONTROL VARIABLES(t-1) + \varepsilon$$
(1)

<sup>&</sup>lt;sup>3</sup> We retrieve the GIM index from http://faculty.som.yale.edu/andrewmetrick/data.html and reconstruct it for the years that are not covered in the data.

<sup>&</sup>lt;sup>4</sup> See Nelling and Webb (2008) for a detailed list and descriptions of CSR strengths and concerns criteria for MSCI ESG (KLD) Stats database.

<sup>&</sup>lt;sup>5</sup> We conduct robustness checks by using three-year and five-year lag of CSR separately and the results are discussed in the Robustness Tests section.

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$$FRAUD_C = \alpha_0 + \alpha_1 CSR(t-1) + \sum_{j=2}^n \alpha_j CONTROL VARIABLES(t-1) + \varepsilon$$
(2)

Since the dependent variable on model (1) is an indicator variable, we utilize the probit regression to examine the relationship between firm's CSR activities as our measure of corporate ethical culture and the probability of a firm to conduct corporate fraud. The dependent variable on model (2) takes on positive integer values (number of counts). Therefore, we use the Poisson regression analysis (Greene 2011).

#### Control Variables

Following existing literature, we include a series of control variables. First, we control for firms' profitability (return on assets or ROA) since profitable firms are less likely to commit fraud to satisfy their shareholders. We control for financial leverage (LEV) since firms with higher leverage are considered riskier. We also control for firms' total assets (SIZE) since larger firms with more complex operations provide opportunities for managers to commit fraud.

Consistent with Wang (2006), we include both research and development expense (RNDR) and capital expenditure (CAPEXR) since new investments create volatility in firms' future cash flows and create opportunities to commit fraud. Erickson, Hanlon, and Maydew (2006) and Wang (2011) indicate that firms with more acquisitions activities (ACQR) are more likely to commit fraud.

We expect that older firms (FIRMAGE) have more reputation and therefore they are less likely to commit fraud since their reputational loss from committing fraud is larger than younger firms. We also expect that firms with higher stock returns volatility (DEVRET) are more likely to commit fraud since higher stock returns volatility represents higher uncertainties of firms' future cash flows. We use the GINDEX control for firms' corporate governance. Gompers,

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Ishii, and Metrick (2003) indicate that higher GINDEX represents weaker corporate governance and higher agency problem and therefore, we expect higher GINDEX increases the likelihood and severity of corporate fraud.

We control for the auditors' reputation using a dummy variable equals to one if the auditor is one of the big four auditors (Ernst & Young, KPMG, Delloitte, and PwC). We also control for audit opinion to reflect any concerns and negative tones from the auditors (AUDITOP) and any material weaknesses that have been identified by the auditors (WEAK). Appendix A provides a description of all our variables measures.

#### [Insert Table 1]

#### **Descriptive Statistics**

#### Descriptive Statistics

Panel A of Table 1 summarizes the 152 corporate fraud cases that are in our final sample across different year. We notice that most cases are clustered during 2001 and 2005 which represent the periods after the Dot Com bubble and major corporate scandals (i.e., Enron, Worldcom, etc.). Based on the frequencies of occurrences, we manually categorize the violations in each case into twelve types of fraud: securities fraud, insider trading, false statement fraud, obstruction, aiding and abetting, bank fraud, false book entry, conspiracy, mail fraud, financial statement fraud, wire fraud, and last but not least bribery, money laundering and other types of fraud. Panel B of Table 1 indicates that most of the accused corporate frauds are convicted as conspiracy, securities fraud, wire fraud, financial statements fraud, false statement, false book entry, aiding and abetting, and mail fraud. Insider trading, bribery, money laundering

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and others, and obstruction of justice represent the least convictions in our sample. Panel C of Table 1 displays the distribution of fraud cases across different industries<sup>6</sup>. We find that utilities, telecommunications, banks, electronic equipment, pharmaceutical products, and retail represent the top five industries that have the most corporate fraud cases in our sample.

#### [Insert Table 2]

Table 2 presents the descriptive statistics of our 11,318 sample observations. We find that firms that are convicted for corporate fraud tend to have lower overall (net) CSR and CSR strengths and higher CSR concerns than firms with no corporate fraud cases. We find that firms with fraud significantly have lower CSR activities in community, environment, product, and human rights. We also find that firms with corporate fraud have lower profitability (ROA), higher leverage (LEV), larger assets (SIZE), more research and development spending (RNDR), higher volatility of stock returns (DEVRET) than firms without corporate fraud. We find that firms with corporate fraud are more likely to employ the big four accounting firms as their auditors (BIG4) and are more likely to have adverse or concern opinions from their auditors' (AUDITOP).

Table 3 shows the correlation coefficients between the likelihood, intensities, and amount of fraud and CSR measure along with firm characteristics and audit variables. The first column of Table 3 represents the correlations for the likelihood of fraud (PROB(FRAUD)) using the entire sample of 11,318 observations. It shows that firms with higher net CSR (CSR) have lower likelihood of fraud. We find both CSR strengths (concerns) is negatively (positively) correlated to the likelihood of fraud. We find that community, environment, product, and human rights

<sup>&</sup>lt;sup>6</sup> We use the Fama-French 48 industry classifications to classify the industry (Fama and French 1998).

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CSR are negatively correlated with fraud while CSR diversity measure is positively related with fraud. We also find that higher profitability (ROA) is negatively correlated with fraud while financial leverage (LEV) and firms' asset size (SIZE) are positively correlated with fraud.

## [Insert Table 3]

The second column of Table 3 shows the correlations for count types of fraud convicted (C\_FRAUD) CSR measures, and control variables. We find that the firms' net CSR scores (CSR) and CSR strengths scores are negatively related to the probability of fraud and count types of fraud convicted. We also find that diversity and employee related CSR are negatively related to the count types of fraud convicted while the human rights related CSR is positively related to the count types of fraud convicted. We find that firms assets (SIZE) is negatively correlated with the count of fraud convicted. The volatility of stock returns (DEVRET) is positively correlated with the count types of fraud convicted. The unreported correlations between CSR measures and control variables and correlations among control variables are less than 0.3 and therefore, we do not suspect any multicollinearity issue among independent variables.

[Insert Table 4]

#### **Regression Results**

Probability of Fraud Regression Analysis

Table 4 shows that one unit increase in net CSR score (CSR) reduces the likelihood of corporate fraud (PROB(FRAUD)) by 6.12%. The CSR strengths score (CSRSTR) reduces the

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likelihood of fraud by 4.18% while the CSR concerns score (CSRCON) increases the likelihood of fraud by 8.11%. Both the t-statistics and economic magnitudes of the slopes for CSR, CSR strengths, and concerns are significant. We also find that community (COM), employee (EMP), environment (ENV), and product (PRO) related CSR scores reduce the likelihood of corporate fraud by 21.11%, 5.33%, 11.59%, and 12.17%.

We find that one unit increase in environmental strengths (ENVSTR) and product strengths (PROSTR) scores reduce the likelihood of fraud by 16.38% and 56.4% respectively. We also find community concerns (COMCON), employee concerns (EMPCON), and environmental concerns (ENVCON) increase the likelihood of fraud by 66.21%, 15.23%, and 8.94% respectively. Overall, our findings from the probit regression provide strong (economic and statistical) evidence to support our hypothesis that corporate ethical culture, measured by CSR activities, significantly reduce the probability of corporate fraud.

Examining the impact of control variables, we find that firms with higher leverage (LEV), larger total assets (SIZE), higher research and development expense relative to total assets (RNDR) have higher likelihood of fraud. Firms with higher volatility of stock returns (DEVRET) also have higher likelihood of fraud while older firms (FIRMAGE) have less likelihood of fraud. These findings on the control variables are consistent with findings documented in existing literature (Wang 2011; Khanna et al. forthcoming; Cumming et al. 2015).

#### Poisson Regression for the Counts of Fraud

We examine the relationship between corporate ethical culture, measured by CSR activities, and the number of counts for types of convicted fraud in each case for each company. First, the number of fraud convictions (fraud counts) as a measure of fraud intensity is consistent

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with Cumming et al. (2015). Second, in this analysis, we focus only on firms that have been convicted for corporate fraud. Thus, our sample size for this analysis consists of 152 observations across 75 unique firms.

## [Insert Table 5]

Table 5 shows that firms with higher net CSR (CSR) and CSR strengths (CSRSTR) have lower counts of convicted fraud. One unit increase in CSR and CSRSTR reduce the count of fraud by 0.20 and 0.28 respectively. We find that firms with higher CSR concerns (CSRCON) have 0.17 higher count of fraud conviction. We find diversity (DIV), employee (EMP), environment (ENV), and product (PRO) reduce the count of fraud by 0.9, 0.94, 0.54, and 1.6 respectively. We find that community strengths (COMSTR), employee strengths (EMPSTR), and product strengths (PROSTR) reduce the fraud counts by 0.88, 0.59, and 4.14 respectively while firms with higher community concerns (COMCON), diversity concerns (DIVCON), and product concerns (PROCON) have higher fraud counts by 1.22, 3.19, and 1.55 respectively. Overall, we find empirical evidence to support our hypothesis that firms with higher CSR strengths (concerns) activities have lower (higher) intensity of fraud.

Examining the impact of control variables, we find that larger firms (SIZE), higher research and development (RNDR), and higher capital expenditure (CAPEXR) have lower convicted fraud counts while firms with higher volatility of stock returns (DEVRET) and GINDEX (as a proxy for weaker corporate governance), and older firms (FIRMAGE) have higher fraud counts.

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#### [Insert Table 6]

#### **Robustness Tests**

Several studies indicate that firms' corporate philanthropic activities may be used to offset corporate fraudulent activities (greenwashing or offsetting motive). If this offsetting effect occurs, we expect that corporate fraud positively affects CSR activities. It is also possible that the direction of causality between corporate fraud and CSR is running the other way around where corporate fraud affects CSR activities. To examine this issue, we conduct a reverse causality test and examine the impact of corporate fraud on firms' CSR activities (CSR, CSR strengths, and concerns) in a contemporaneous period<sup>7</sup>. Table 6 presents the results for a reverse causality and shows that corporate fraud does not significantly affect firms' CSR activities. Therefore, we do not find evidence for the offsetting motive and reverse causality effect.

Genest (2005) argues that corporate philanthropic culture represents a long history of commitment to CSR activities. Therefore, the role of CSR as a measure of corporate culture may have long lags prior to corporate fraudulent activities. Wang (2011) indicates that the most challenging issue in empirical studies of fraud is that fraud is not observables until it is discovered. Wang and Winton (2014) discovered that the average time between the beginning of fraud and the litigation filing is approximately three years. To ensure that we are measuring the corporate ethical culture (CSR activities) established prior to the occurrence of fraudulent activities, we use three-year and five-year lags of CSR activities. The untabulated results of the probit and the Poisson regressions using three-year and five-year lags of CSR on the probability

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<sup>&</sup>lt;sup>7</sup> We also examine one-year and two-year lags of corporate fraud on current year CSR and the results are consistent with the contemporaneous results.

(PROB(FRAUD)) and fraud counts (C\_FRAUD) are consistent with the results in Tables 4 and 5.

#### [Insert Table 7]

Wang (2011) argues that some corporate frauds go undetected and therefore, our detected fraud cases suffer from sample selection bias and endogeneity issues. To account for this selection bias and endogeneity issues, first, we conduct a match-pair for each company with corporate fraud cases with a company that never engaged in corporate fraud in the same industry (4-dgit SIC code) and approximately has similar market capitalization. Second, we follow Wang (2011) measures for firms' ex-ante detection factors (i.e., research and development expenditure, capital expenditure, and mergers and acquisitions) to calculate the propensity (likelihood) of firms to conduct fraud for firms that never conducted fraud. Then, we conduct a propensity score matching with our 75 firms that conducted frauds. Third, we use the bivariate probit model for our PROB(FRAUD) and the two-stage Heckman correction regression model for the number (count) of cases (C\_FRAUD). The results from match-pair, propensity matching, bivariate probit, and Heckman correction regression models tabulated in panels A, B and C of Table 7 are also consistent with our results on Tables 4 and 5.

#### Conclusion

Corporate fraud has received considerable public attention and has become our societal concern. The theory from social psychology argues that individuals' (un)ethical decisions are influenced by the ethical values that are developed in an organization. Our study connects the

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literature from corporate fraud literature, cognitive moral development theory in organization literature, literature on corporate culture, and CSR literature. While extant literature has started to bring literature from social psychology, we believe that our study brings a new insight to the literature by examining the corporate fraud prevention through strengthening corporate ethical culture, reflected in CSR activities.

Our findings imply that ethical corporate actions, reflected in firms' CSR provide a predictive power to indicate the likelihood and the severity of corporate fraud (Hoi et al 2013; Baumgartner 2014; Genest 2005; Bereskin et al 2016). Our findings also shed some light for investors, board of directors, and especially the regulators (i.e., SEC and SIPC) to consider a formal CSR annual report that discloses CSR activities as a part of regulatory filings for publicly traded firms since CSR activities reflects top managers' moral values that is negatively related to the occurrence and severity of corporate fraud. We urge regulators and researchers around the world to conduct further studies that examine the role of CSR report to increase information transparencies for investors to detect fraud, especially for countries with weaker investors' protections. We believe that future studies can be done by examining the impact of the initiations for a corporate sustainability board committee and CSR report to prevent corporate fraud.

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## Appendix A Variable Definitions

Variables	Definitions
FRAUD	A dummy variable equals one if a firm was identified to have a corporate fraud by the DOJ in current year.
	(Source: DOJ website http://www.justice.gov/archive/dag/cftf/cases.htm).
C_FRAUD	Total number types of fraud convicted by the DOJ in current year. There are twelve types of fraud: securities,
_	insider trading, false statement fraud, obstruction, aiding and abetting, bank fraud, false book entry, conspiracy,
	mail fraud, financial statement fraud, wire fraud, and last but not least other types of fraud such as bribery, money
	laundering and others. (Source: DOJ and SEC websites).
CSR	Net CSR strengths scores (CSRSTR) minus CSR concerns scores (CSRCON) from the previous year. (Source:
	MSCI ESG Stats).
CSRSTR	Sum of CSR strengths scores across six criteria (community, diversity, employee, environment, product, and
	human rights) from the previous year. (Source: MSCI ESG Stats).
CSRCON	Sum of CSR strengths scores across six criteria (community, diversity, employee, environment, product, and
	human rights) from the previous year. (Source: MSCI ESG Stats).
COM	Net community strengths scores (COMSTR) minus community concerns scores (COMCON) from the previous
	year. (Source: MSCI ESG Stats).
DIV	Net diversity strengths scores (DIVSTR) minus diversity concerns scores (DIVCON) from the previous year.
	(Source: MSULESG Stats).
EMP	Net employee strengths scores (EMPSTR) minus employee concerns scores (EMPCON) from the previous year.
ENIX	(Source: MSULESU Stats).
EINV	Net environment strengths scores (ENVSTK) minus environment concerns scores (ENVCON) from the previous
PRO	year. (Source, MISCI ESO Stats). Net product strengths scores (PROSTR) minus product concerns scores (DDOCON) from the previous year
FKO	(Source: MSCLESC State)
HUM	(Source, MISCEESO Stats). Net human rights strengths scores (HUMSTR) minus human rights concerns scores (HUMCON) from the
IIUWI	new number rights sublights solves (from size) and an indian rights concerns solves (from conv) non-inter- previous way: (Source: MSCI ESC State)
COMSTR	Sum of community strengths scores from the previous year (Source: MSCLESG Stats)
COMCON	Sum of community concern scores from the previous year. (Source: MSCLESG Stats)
DIVSTR	Sum of diversity strengths scores from the previous year (Source: MSCI ESG Stats).
DIVGIN	Sum of diversity schemen scores from the previous year. (Source: MSCI ESG Stats).
EMPSTR	Sum of employee strengths scores from the previous year. (Source: MSCI ESG Stats)
EMPCON	Sum of employee concern scores from the previous year (Source: MSCI ESG Stats).
ENVSTR	Sum of environment strengths scores from the previous year (Source: MSCI ESG Stats)
ENVCON	Sum of environment concern scores from the previous year (Source: MSCI ESG Stats)
PROSTR	Sum of product strengths scores from the previous year. (Source: MSCI ESG Stats).
PROCON	Sum of product concern scores from the previous year. (Source: MSCI ESG Stats).
HUMSTR	Sum of human rights strengths scores from the previous year. (Source: MSCI ESG Stats).
HUMCON	Sum of human rights concern scores from the previous year. (Source: MSCI ESG Stats).
ROA	Income before extraordinary items divided by total assets from the previous year. (Source: Compustat).
LEV	Total debt divided by total assets from the previous year. (Source: Computat).
SIZE	Natural log of total assets from the previous year. (Source: Compustat).
RNDR	R&D expenditure divided by total assets from the previous year. (Source: Compustat).
CAPEXR	Capital expenditure divided by total assets from the previous year. (Source: Compustat).
ACQR	Acquisitions expenditure divided by total assets from the previous year. (Source: Compustat).
FIRMAGE	One year lag of number of years since firms' IPO. (Source: Compustat and CRSP).
DEVRET	Standard deviation of daily stock returns from the previous year. (Source: CRSP).
GINDEX	Gompers, Ishii, Metrick Index from the previous year. (Source: Professor Andrew Metrick website at from
	http://faculty.som.yale.edu/andrewmetrick/data.html)
BIG4	A dummy variable equals one if the firm's auditor is one of the BIG 4 auditors from the previous year. (Source:
	Compustat).
AUDITOP	A dummy variable equals one if the auditor issued unqualified with additional language or adverse opinion from
	the previous year. (Source: Compustat).
WEAK	A dummy variable equals one if the auditor issued adverse material weaknesses from the previous year. (Source:
	Compustat)

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## Appendix B List of 92 Companies with Fraud Cases from the US Department of Justice

AEP Energy Services, Inc.	Lason
Adaptec	Leslie Fay
Adelphia	Manhattan Bagel
Allfirst	Maryland Retirement and Pension System
Alliance	McKesson
Allou Healthcare	Medi-hut
America OnLine, Inc	Media Vision
American Banknote Corporation	Mercury Finance
American International Group (AIG) Inc.	Merrill Lynch
Anicom	Micrus Corporation
AremisSoft	Monsanto Company
Arthur Andersen LLP	Mortgage Corporation of America
Biocontrol	Motorcar Parts & Accessories
Canadian Imperial Bank of Commerce (CIBC)	National Century Financial Enterprises
Capital City Bank	National Environmental Service Company (NESCO)
Capital Consultants	Network Associates
Cendant	Network Technologies Group
Charter Communications	NewCom
Computer Associates International	NextCard. Inc.
Countrymark	Nicor Energy
Credit Suisse First Boston Corporation (CSFB)	PNC Corp.
Critical Path	Peregrine Systems
Cylink Corporation	PinnFund
Dynegy	PurchasePro
eConnect	Quintus
Enron	Owest
Enterasys	Reliant Energy Services Inc
FLIR Systems	Rent-Way
FLP Capital Group	Republic NY Securities
FPA Medical Management	Rite Aid
Financial Advisory Consultants	San Clemente Securities
GenesisIntermedia Inc (GENI)	Sirena Apparel
Golden Bear Golf	Smith Technologies
HPL Technologies	Standard Automotive
Hamilton Bancorp	Stevens Financial Group
Health Maintenance	Suprema Specialties
HealthSouth	Symbol Technologies
Holmes Harbor Sewer District (HHSD)	Targus Group
Homestore	U S Technologies
ImClone	U S Wireless
Indus	Unify
Informix	Vari-L Company Inc
Intrust	Waste Management
Just for Feet	Westar
Katun Corporation	Worldcom
L90. Inc.	Zurich Payroll

Available at http://www.justice.gov/archive/dag/cftf/cases.htm

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Table 1		
Types and Industries of Com	pleted Corporate Fraud C	ases

Panel A		Panel B	
Year	# Fraud Cases	Types of Fraud	Percentage
2000	7	Securities Fraud	45.8%
2001	16	Insider Trading	7.3%
2002	34	False Statement	35.0%
2003	44	Obstruction	9.6%
2004	31	Aiding & Abetting	26.0%
2005	10	Bank Fraud	18.1%
2006	7	False Book Entry	27.7%
2008	1	Conspiracy	49.7%
2009	1	Mail Fraud	19.8%
2010	1	Financial Statements Fraud	36.2%
Total	152	Wire Fraud	44.1%
		Bribery, Money Laundering etc.	8.5%

Panel C	
Industries	Percentage
Food	5.2%
Pharmaceutical Products	7.2%
Utilities	31.3%
Telecommunications	11.2%
Business Services	5.6%
Computer	6.4%
Electronic Equipment	9.2%
Wholesale	5.2%
Retail	7.2%
Banks	10.0%
Insurance/Other Financial Services	1.2%

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Variables	All Sample	No-Fraud	Fraud	T-test
CSR	0.014	0.029	-0.687	4.52***
CSRSTR	1.749	2.289	1.737	3.46***
CSRCON	1.735	1.707	2.976	-10.15***
COM	0.092	0.097	-0.124	5.57***
DIV	0.424	0.417	0.443	-1.62
EMP	-0.112	-0.114	-0.016	-1.61
ENV	-0.074	-0.064	-0.498	7.75***
PRO	-0.245	-0.236	-0.651	9.03***
HUM	-0.072	-0.071	-0.141	3.68***
ROA	0.122	0.123	0.103	3.25***
LEV	0.229	0.227	0.332	-8.81***
SIZE	7.999	7.979	8.916	-8.98***
RNDR	0.028	0.028	0.035	-1.82*
CAPEXR	0.043	0.043	0.045	-0.68
ACQR	0.022	0.022	0.021	0.44
FIRMAGE	26.527	26.521	26.755	-0.19
DEVRET	0.104	0.104	0.111	-2.03**
GINDEX	9.187	9.183	9.353	-1.02
BIG4	0.938	0.938	0.968	-1.95*
AUDITOP	0.502	0.500	0.566	-2.07**
WEAK	0.025	0.025	0.021	1.27
Observations	11318	11166	152	

Table 2Descriptive Statistics of Sample

\*\*\*, \*\*, and \* represent statistical significance at 1%, 5%, and 10%

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Table 3	
Correlation	Coefficients

	(1)		(2)
Variables	FRAUD	Variables	C_FRAUD
FRAUD	1	CFRAUD	1
CSR	-0.0424*	CSR	-0.3601*
CSRSTR	-0.0326*	CSRSTR	-0.4673*
CSRCON	0.0950*	CSRCON	-0.0541
COM	-0.0523*	COM	-0.0988
DIV	-0.0341*	DIV	-0.4671*
EMP	0.0151	EMP	-0.3422*
ENV	-0.0727*	ENV	0.1298
PRO	-0.0846*	PRO	-0.1264
HUM	-0.0346*	HUM	0.2451*
ROA	-0.0306*	ROA	-0.033
LEV	0.0825*	LEV	0.1166
SIZE	0.0841*	SIZE	-0.3798*
RNDR	0.0171	RNDR	0.07
CAPEXR	0.0064	CAPEXR	0.0156
ACQR	-0.0041	ACQR	-0.1436
FIRMAGE	0.0018	FIRMAGE	0.1561
DEVRET	0.0191	DEVRET	0.3554*
GINDEX	0.0096	GINDEX	0.0447
BIG4	0.0184	BIG4	0.1558
AUDITOP	0.0194	AUDITOP	-0.1664
WEAK	-0.0162	WEAK	-0.101

\* represents statistical significance at 1% level or less.

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	PROB(FRAUD)	PROB(FRAUD)	PROB(FRAUD)	PROB(FRAUD)
CSR	-0.0612			
CSRSTR	(5.55)	-0.0418		
CSRCON		(3.35)*** 0.0811 (5.20)***		
СОМ		(3.30)	-0.2111	
DIV			(4.07)*** 0.0079	
EMP			(0.36) -0.0533 (2.22)**	
ENV			-0.1159 (4.30)***	
PRO			-0.1217 (3 49)***	
HUM			-0.0189	
COMSTR			(0.22)	0.0722
COMCON				(1.35) 0.6621 (10.21)***
DIVSTR				0.0154
DIVCON				(0.51) 0.0878 (1.63)
EMPSTR				0.0665
EMPCON				0.1523
ENVSTR				-0.1638
ENVCON				$(2.90)^{***}$ 0.0894 $(2.21)^{**}$
PROSTR				-0.5640
PROCON				0.0225
HUMSTR				-0.5261
HUMCON				-0.0427
ROA	-0.0433	-0.1664	-0.2098	-0.0271
LEV	(0.12) 0.9618	(0.47) 0.9551	0.9439	0.9326
SIZE	(6.62)*** 0.2144 (11.00)***	(6.55)*** 0.1823	(6.46)*** 0.1727	(6.30)*** 0.1430
RNDR	2.7352	2.4606	2.2801	2.2146
CAPEXR	0.7203	0.6405	0.5063	0.1225
ACQR	0.0796	0.0769	0.0862	0.1078
FIRMAGE	(1.52) -0.0059	(1.47) -0.0070	(1.65)* -0.0077	(1.75)* -0.0065
DEVRET	(4.24)*** 1.0293	(4.4/)*** 0.9862	(5.37)*** 1.1508	(3.52)*** 1.4987

## Table 4Probit Regression for Probability of Fraud

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	(2.60)***	(2.46)**	(2.94)***	(3.11)***
GINDEX	0.0164	0.0179	0.0160	0.0185
	(1.53)	(1.62)	(1.52)	(1.53)
BIG4	0.1815	0.1566	0.1417	0.2875
	(1.28)	(1.11)	(1.01)	(1.85)*
AUDITOP	0.0344	0.0178	0.0191	0.0120
	(0.63)	(0.32)	(0.34)	(0.20)
WEAK	-0.3610	-0.3680	-0.3622	-0.3043
	(1.33)	(1.36)	(1.34)	(1.10)
Observations	11318	11318	11318	11318
Pseudo R2	0.0926	0.0946	0.1107	0.1550

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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	C_FRAUD	C_FRAUD	C_FRAUD	C_FRAUD
CSR	-0.2012 (3.68)***			
CSRSTR	(0.00)	-0.2769		
CSRCON		(2.45)** 0.1652 (2.77)***		
COM		(2.77)	-0.2321	
DIV			(0.95) -0.9024 (3.48)***	
EMP			-0.9371 (4.28)***	
ENV			-0.5418	
PRO			$(2.56)^{**}$ -1.6052 $(4.86)^{***}$	
HUM			0.5240 (0.60)	
COMSTR				-0.8786
COMCON				1.2199
DIVSTR				0.0451
DIVCON				(0.21) 3.1927 (7.07)***
EMPSTR				-0.5894
EMPCON				0.3125
ENVSTR				(1.13) -0.4787 (1.53)
ENVCON				(1.33) 0.2841 (1.20)
PROSTR				-4.1381
PROCON				$(3.50)^{***}$ 1.5522 $(6.39)^{***}$
HUMSTR				0.1130
HUMCON				(0.01) 0.5141 (0.72)
ROA	2.0251	2.0050	-1.4126	-3.7945
LEV	-0.3933	(0.82) -0.3823 (0.28)	(0.43) -2.8124 (1.73)*	$(1.00)^{-1}$ -1.3351 (1.45)
SIZE	-0.9073	-0.8008	-0.9257	-1.1852 (6.04)***
RNDR	-7.7453 (1.89)*	-6.5976 (1.50)	-11.3364 (2.49)**	-12.2888 (3.06)***
CAPEXR	-17.3014	-16.0115	-10.7542	-8.8399
ACQR	-0.6096 (1.72)*	-0.5860	0.1344	-0.1557
FIRMAGE	0.0457 (3.34)***	0.0441 (3.02)***	0.0652	0.1063 (7.06)***
DEVRET	15.8453	15.4827	10.3827	12.9041

## Table 5Poisson Regression for the Count of Frauds

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	(4.21)***	(3.99)***	(1.39)	(3.48)***
GINDEX	0.2441	0.2690	0.3872	0.5897
	(2.86)***	(2.69)***	(2.89)***	(6.10)***
BIG4	0.7260	0.8288	-0.1657	0.1333
	(1.55)	(1.69)*	(0.29)	(0.15)
AUDITOP	-0.2779	-0.2228	-0.4554	-0.2391
	(0.95)	(0.72)	(1.37)	(0.74)
WEAK	-2.5359	-2.3418	-3.7845	-20.7783
	(1.83)*	(1.33)	(2.25)**	(0.00)
Observations	152	152	152	152
Pseudo R2	0.2119	0.2136	0.3071	0.3793

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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Table 6		
Reverse	Causality	Test

	CSR	CSRSTR	CSRCON	CSR	CSRSTR	CSRCON
PROB(FRAUD)	-0.9117	-0.1394	0.7723			
	(1.35)	(0.32)	(1.23)			
FRAUD C				-0.4874	-0.2654	0.2220
_				(1.49)	(1.07)	(1.26)
ROA	3.6483	4.5675	0.9193	-8.1535	-0.8806	7.2728
	(5.27)***	(6.06)***	(1.84)*	(1.45)	(0.23)	(1.41)
LEV	-1.0887	-0.7698	0.3189	-2.8745	-0.3186	2.5560
	(4.22)***	(3.46)***	(1.57)	(1.66)	(0.35)	(1.71)*
SIZE	0.3645	0.8236	0.4591	-0.2524	0.7529	1.0053
	(4.59)***	(9.46)***	(10.33)***	(0.83)	(2.80)***	(3.33)***
RNDR	8.1491	9.6175	1.4684	-13.8105	6.6708	20.4812
	(7.01)***	(9.05)***	(2.58)***	(0.51)	(0.88)	(0.75)
CAPEXR	-4.2722	-0.8273	3.4449	-9.1436	3.0994	12.2430
	(3.79)***	(1.06)	(3.82)***	(0.44)	(0.56)	(0.70)
ACQ	0.1502	0.0766	-0.0736	0.7183	0.6005	-0.1179
	(1.60)	(1.13)	(1.15)	(1.70)*	(1.00)	(0.37)
FIRMAGE	-0.0074	0.0228	0.0302	-0.0299	-0.0066	0.0233
	(1.65)*	(5.82)***	(9.70)***	(1.19)	(0.42)	(1.05)
DEVRET	0.3616	1.8158	1.4542	-0.3229	-2.4116	-2.0887
	(0.56)	(3.37)***	(2.10)**	(0.06)	(0.46)	(0.55)
GINDEX	0.0423	-0.0310	0.0733	0.1923	-0.2921	0.0998
	(1.86)*	(1.53)	(4.64)***	(1.18)	(4.05)***	(0.86)
BIG4	-0.1080	0.0947	0.2027	-2.4894	-0.1170	2.3724
	(0.62)	(0.64)	(1.19)	(1.76)*	(0.13)	(4.74)***
AUDITOP	-0.2423	-0.1417	0.3840	-1.1570	0.0001	1.1571
	(3.56)***	(1.92)*	(3.73)***	(2.44)**	(0.00)	(6.47)***
WEAK	-0.0797	0.0132	0.0928	0.9195	2.2386	1.3191
	(0.41)	(0.09)	(0.80)	(0.69)	(123.38)***	(0.84)
Constant	-3.2013	-6.1595	-2.9582	7.7286	-6.1463	-13.8749
	(3.97)***	(7.86)***	(7.69)***	(1.81)*	(1.80)*	(3.50)***
Observations	11318	11318	11318	152	152	152
R-squared	0.0894	0.3531	0.3221	0.4041	0.5952	0.4155

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#### Table 7

## Panel A Match-pair and Propensity Matching for Probability of Corporate Fraud

	MATCHPAIR	PROPENSITYMATCH	MATCHPAIR	PROPENSITYMATCH	
	PROBIT	PROBIT	PROBIT	PROBIT	
	PROB(FRAUD)	PROB(FRAUD)	PROB(FRAUD)	PROB(FRAUD)	
CSR	-0.1017	-0.0490			
	(6.32)***	(3.02)***			
CSRSTR			-0.0690	-0.0422	
			(3.60)***	(2.12)**	
CSRCON			0.1281	0.0550	
			(6.51)***	(2.57)**	
ROA	-0.5295	-1.8033	-0.5801	-1.8064	
	(1.47)	(4.66)***	(1.58)	(4.66)***	
LEV	1.3855	0.0447	1.3467	0.0442	
	(6.75)***	(0.21)	(6.58)***	(0.21)	
SIZE	0.1354	-0.0168	0.0989	-0.0287	
	(5.70)***	(0.57)	(3.60)***	(0.75)	
RNDR	1.6913	-2.5521	1.1268	-2.6791	
	(2.30)**	(2.56)**	(1.47)	(2.59)***	
CAPEXR	-2.0681	-0.8608	-2.0996	-0.9075	
	(2.62)***	(1.03)	(2.65)***	(1.08)	
ACQR	0.1764	-0.0553	0.1521	-0.0606	
	(2.10)**	(0.58)	(1.81)*	(0.64)	
FIRMAGE	-0.0015	-0.0027	-0.0025	-0.0031	
	(0.68)	(1.30)	(1.12)	(1.36)	
DEVRET	2.4267	-1.4161	2.3974	-1.4218	
	(4.81)***	(2.34)**	(4.73)***	(2.35)**	
GINDEX	-0.0399	0.0178	-0.0504	0.0176	
	(2.48)**	(0.95)	(3.14)***	(0.94)	
BIG4	-0.1542	-0.4326	-0.1729	-0.4453	
	(0.97)	(2.45)**	(1.08)	(2.49)**	
AUDITOP	0.0197	0.1069	-0.0064	0.0985	
	(0.23)	(1.09)	(0.07)	(1.00)	
WEAKNESS	0.2103	0.3490	0.1113	0.3145	
	(0.43)	(0.47)	(0.23)	(0.43)	
Intercept	-1.8859	-0.0813	-1.5012	0.0294	
	(6.35)***	(0.20)	(4.70)***	(0.07)	
Chi-square	195.44	52.31	201.09	52.49	
Pseudo R-					
square	0.1269	0.0518	0.1309	0.0520	
Observations	304	304	304	304	

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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	PROB(FRAUD)	PROB(FRAUD)	PROB(FRAUD)	PROB(FRAUD)
CSR	-0.1029			· ·
CODOTE	(8.83)***	0.0(04		
CSRSTR		-0.0624		
CSRCON		0 1305		
esheen		(9.65)***		
COM		<b>``</b>	-0.1903	
			(3.80)***	
DIV			0.0138	
EMD			(0.62)	
LIVII			(2.08)**	
ENV			-0.1279	
			(4.72)***	
PRO			-0.1279	
			(3.70)***	
HUM			(0.39)	
COMSTR			(0.57)	0.0712
				(1.29)
COMCON				0.6141
DUVETD				(10.31)***
DIVSIR				(0.0179)
DIVCON				0.0702
				(1.57)
EMPSTR				-0.0633
EMBCON				(1.40)
EMPCON				0.1410
ENVSTR				-0.1518
				(2.87)***
ENVCON				0.1060
<b>DD</b> OOTD				(2.93)***
PROSTR				-0.58/0
PROCON				0.0331
				(0.74)
HUMSTR				-0.5313
				(1.27)
HUMCON				-0.0370
Rho	0.3522	0.3556	0.3516	0.3315
Chi-square of Rho	(45.35)***	(46.50)***	(45.82)***	(39.31)***
Control Variables	Yes	Yes	Yes	Yes
Observations	11318	11318	11318	11318
Chi-square	1960.21***	1999.74***	1976.41***	2139.64***

## Panel B Bivariate Probit for the Probability of Fraud

Rho is the correlation between the estimated error term for the probability of fraud (PROB(FRAUD)) and the estimated error term for the probability of fraud being detected (Wang 2011).

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Panel C Heckman Regressions for Count of Frauds (C\_FRAUD)

	C FRAUD	C FRAUD	C FRAUD	C FRAUD
CSR	-0.2012	<u> </u>	<u> </u>	0_110100
0011	(3.68)***			
CSRSTR	(2100)	-0.2769		
		(2.45)**		
CSRCON		0.1652		
		(2.77)***		
COM			-0.2321	
			(0.95)	
DIV			-0.9024	
			(3.48)***	
EMP			-0.9371	
			(4.28)***	
ENV			-0.5418	
<b>PP</b> 0			(2.56)**	
PRO			-1.6052	
			(4.86)***	
HUM			0.5240	
COMETD			(0.60)	0.070/
COMSTR				-0.8/80
COMCON				1 2100
COMCON				(3.42)***
DIVSTR				(3.+2) 0.0451
DIVOIR				(0.21)
DIVCON				3.1927
				(7.07)***
EMPSTR				-0.5894
				(2.02)**
EMPCON				0.3125
				(1.13)
ENVSTR				-0.4787
				(1.53)
ENVCON				0.2841
DD O GTD				(1.20)
PROSTR				-4.1381
DDOCON				(3.50)***
PROCON				1.3322
HUMSTR				0.1130
HUMBIK				(0.01)
HUMCON				0 5141
1101010010				(0.72)
Inverse Mill	-9.3929	-6.6311	-9.6155	5.6770
Ratio	$(1.76)^{*}$	(1.57)	(1.69)*	(0.55)
Control Variables	Yes	Yes	Yes	Yes
Observations	152	152	152	152
Pseudo R2	0.2119	0.2136	0.3071	0.3793

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

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#### **Biography:**

Maretno Agus Harjoto received his PhD in economics from the University of Kentucky in 2002. Dr. Harjoto received the 2009 Moskowitz Prize Award from the Center for Responsible Business, University of California Berkeley for his research on the Economics and Politics of Corporate Social Performance. His primary research focuses on examining the relationship between corporate social responsibility and firms' performance. He holds the 2015-2017 Denney Chair Professorship and the Academic Director of MSAF program, the 2011-2012 Julian Virtue Professorship, 2010 and 2012 Rothschild Research award recipient at the Graziadio School of Business and Management – Pepperdine University. He has published over 50 refereed research papers in various journals, such as *Journal of Banking and Finance, Financial Management, Journal of Corporate Finance, Journal of Financial Research, Financial Review, Journal of Business Ethics, Business Ethics: The European Review.* 

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