CSR disclosure and firm performance: The mediating role of corporate reputation and moderating role of CEO integrity

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CSR Disclosure and Firm Performance:

The Mediating Role of Corporate Reputation and Moderating Role of CEO Integrity

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Abstract

This paper investigates the roles which corporate reputation and CEO integrity play in the relationship between CSR disclosure and firm performance. Analysing a dataset of 3,588 firm-year observations of 833 Fortune World Most Admired firms in 31 countries from 2005-2011, the paper shows a positive effect of CSR disclosure on firm reputation, which in turn significantly contributes to a firm's financial performance. The paper finds that CEO integrity strengthens the positive impact of CSR disclosure on firm reputation significantly. The findings are consistent across three measures of a firm's financial performance (Tobin's Q, ROA and ROE) and three proxies of CEO integrity. The paper offers insight into how corporate reputation

and CEO integrity intervene the benefits of CSR disclosure to firm performance and how the lack of consideration of such factors could be the reason for the inconsistent findings in the previous studies.

Keywords: CEO integrity, corporate reputation, corporate social responsibility disclosure, firm performance

1. Introduction

Since the issuance of ISO 26000 on corporate social responsibility (CSR) in 2010, most big corporations have prepared annual reports in which they voluntarily release the information about what they have done in relation to CSR activities. Mathews (1997) highlights three possible explanations for why firms provide CSR information beyond that required by law: to satisfy a sense of 'social contract', to enhance their legitimacy and to enhance their economic/financial performance (FP). A possible link between CSR disclosure and FP may arise through firms being proactive in giving the impression of doing good by publishing the CSR information which meets or exceeds stakeholder expectations (Brooks & Oikonomou, 2018).

The latter positions have led CSR to be viewed with scepticism from the observers who believe that such firms' motives are less than sincere, raising the spectre of 'greenwashing' where firms improve social performance for purely presentational reasons or worse, deliberately announcing excellent performance on some aspects of CSR while hiding poor performance on others (Brooks & Oikonomou, 2018). There is evidence that when disclosures are voluntary, firms will only supply a selected portion of the information that presents them in a positive light (Holder-Webb, Cohen, Nath, & Wood, 2009). The critical perspective argues that what the firm has claimed about their CSR practices may not actually be implemented, and so CSR reporting may do more harm than good (Burritt & Schaltegger, 2010, p. 829). The superficial nature of the

activities could lead to a counter-effect on the firm's reputation because people see the operations as the image over substance; this could damage the firm's FP. Thus, a robust answer about how CSR disclosure affects FP is imperative for management practices.

In the literature, despite many empirical studies examining the direct relationship between CSR disclosure and FP, the findings are inconsistent. Some scholars (e.g. Ullmann 1985; Wang, Dou, and Jia 2016) claim that positive, negative or neutral results obtained by examining the direct relationship between CSR and FP can be misleading. This link may be affected by some other intervening factors which have been omitted in the empirical studies. Unfortunately, as shown in various reviews of the literature on CSR disclosure and FP (e.g., Ullmann 1985, Orlitzky, Schmidt & Rynes 2003, Pérez 2015, Wang et al. 2016, Abernathy, Stefaniak, Wilkins & Olson 2017 and Brooks & Oikonomou 2018), research examining the factors that may intervene this link remains underdeveloped.

Motivated by the theoretical discussion about building a corporate reputation through CSR initiatives by Fombrun (2005) and the empirical evidence of the indirect effect of CSR performance on FP transferred through corporate reputation by Lai, Chiu, Yan and Pai (2010), Galbreath and Shum (2012), Saeidi, Sofian, Saeidi, Saeidi and Saaeidi (2015); this study examines if firm reputation mediates the effect of CSR disclosure on FP.

Moreover, inspired by the findings from Waldman, Siegel, and Javidan (2006) about the link between ethical leadership and strategic choices relating to CSR as well as the research gap suggested by Veríssimo and Lacerda (2015) about the underlying mechanisms that connect leaders' integrity with the organisational orientation to CSR, this study also investigates if CEOs' integrity moderates the effect of CSR disclosure on FP.

The findings of this study are drawn from the analysis of a global dataset which includes 3,588 firm-year observations of 833 Fortune World Most Admired firms in 30 industries

classified by Fortune from 31 countries during the period 2005-2011. The Instrumental Variable Two-Stage Least Square (2 SLS IV) regression method is used for data analysis. Data analysis is enabled by Stata 13 software.

The paper is structured as follows: Section 2 outlines the theoretical underpinnings of the paper and hypotheses. Section 3 presents the methods used, while Sections 4 outlines the findings. Section 5 discusses the results in relation to the existing literature, followed by theoretical contributions and implications to practice.

2. Theoretical background and hypotheses

2.1. CSR disclosure and financial performance

CSR disclosure refers to corporations' communication about their actions in relation to their employees, communities, and the environment (Gray, Kouhy & Lavers 1995). CSR disclosures may be mandatory – a legal requirement to deliver this information – or voluntary, where the extent and nature of reporting may vary substantially between firms (Brooks & Oikonomou 2018). Over time, mandatory reporting requirements have been introduced in a variety of countries as disclosure regulations have developed, and this increased disclosure levels in these countries. However, in many countries, mandatory CSR reporting for all firms appears a long way off since the disclosure regulations are typically introduced on a 'comply or explain' basis (Brooks & Oikonomou 2018).

For the CSR reporting beyond mandatory requirements, firms can either be pro-active – voluntarily going beyond minimal stakeholder expectations, or re-active – responding to social pressures when and to the degree that they arise (Norris & O'Dwyer 2004). Regardless of the cases, firms' CSR disclosure, to some extent reflects what the firms have done in relation to CSR practices.

Research examining the direct link between CSR disclosure and FP is mainly drawn from the stakeholder theory and legitimacy theory. According to the stakeholder theory initiated by Freeman (1984), firms' stakeholders such as employees, customers, suppliers, investors who control resources can facilitate the implementation of corporate decisions. Attention to stakeholder concerns and expectations may help a firm avoid decisions that might prompt stakeholders to undercut or thwart corporate objectives (Wang et al., 2016). The legitimacy theory conceptualised by Suchman (1995) suggests an entity is a member of the community and is expected to operate in a way that meets the societal expectations. If the entity fails to behave by social standards, it will face threats to its legitimacy. Hence, firms with bad CSR practices will face threats of being seen as illegitimate. In contrast, firms with good CSR practices will appear to be legitimate in the eyes of the public and their stakeholders who have the power to influence the firms' economic outcomes. Drawing on these perspectives, a large number of studies posit a positive link between CSR practices and FP.

Given that CSR disclosure to some extent reflects what the firm has done in relation to CSR practices, a possible positive link between CSR disclosure and FP has been thought to arise from firms' being proactive in giving the impression of doing good by publicising the CSR information which meets or exceeds stakeholder expectations (Brooks & Oikonomou 2018). Following this flow of thought, several researchers (Bowman 1978, Laskar & Maji 2016, Platonova, Asutay, Dixon & Mohammad 2018) find the evidence for a positive effect of CSR disclosure on FP. In line with these studies, we expect:

Hypothesis 1: A firm's CSR disclosure positively affects its financial performance.

However, it is worth to note that empirical evidence about the direct link between CSR disclosure and FP is inconsistent. Some studies reported a negative (e.g. Ingram & Frazier 1983) or no correlation (Freedman & Jaggi 1982). What has been found in the previous research about

this link remains limited compared to what it might be. We argue that the inconsistent findings in the earlier studies may arise from their incomplete theoretical models that omit intervening factors. In the following section, we will propose that corporate reputation and CEO integrity are the two critical variables among such factors.

2.2. The mediating role of corporate reputation

In an attempt to open the black box in the CSR-FP relation, several studies have suggested the mediating role of firm reputation in this link. Specifically, based on the survey of 96 purchasing managers of Taiwan manufacturing and service companies; Lai et al. (2010) report that corporate reputation partially mediates the relationship between CSR and brand performance. Similarly, using the sample of 280 Australian firms participated in their survey, Galbreath and Shum (2012) discover that reputation fully mediates the CSR–FP relationship. In the same vein, Saeidi et al. (2015), based on the survey of 205 Iranian firms, suggest CSR promotes firm performance through enhancing reputation and customer satisfaction. These studies inspire us to explore if the corporate reputation is also a channel through which CSR disclosure may exert effects on a firm's performance. To our knowledge, such empirical evidence is scant.

Note that corporate reputation is an evaluation of a firm's quality (Love, Lim & Bednar 2017). It reflects the assessment of a firm by its stakeholders, who compare the firm's behaviours to the behaviours of other firms and their instrumental and normative expectations for practices (Deephouse & Carter 2005, Deephouse, Newburry & Soleimani 2016). In a substantial review of previous research on corporate reputation, Lange, Lee and Dai (2011) summarise three facets of a firm's reputation: being known, being known for something, and generalised favourability. In this research, we focus on the generalised favourability dimension and define a firm's reputation is as overall public opinion about a firm.

Fombrun (2005) suggests that firms can build a reputation through CSR initiatives. When a firm demonstrates socially responsible behaviour, the firm appears to be legitimate in the eyes of the public, and so their judgments of the firm are positively influenced. For the public to be aware of the firm's engagement in CSR, the firm needs to communicate with the public about their CSR activities. Without communication, no matter how many CSR initiatives companies develop, the positive impact of CSR activities on public perceptions would be negligible (Du, Bhattacharya, & Sen 2010). Therefore, through the demonstration of CSR via CSR disclosure, the firm could gain positive perceptions of the constituents, which leads to a better reputation.

Meanwhile, drawing on the resource-based view (Barney 1991), many studies suggest the positive contribution of corporate reputation to FP. In a seminal work, Hall (1993) posits corporate reputation as the most valuable intangible asset contributing to its sustainable competitive advantage. Following Hall (1993), many studies argue that good corporate reputations have strategic value and firms with such assets may expect to earn superior returns. A good amount of empirical evidence demonstrates that reputation positively relates to FP (e.g. Roberts & Dowling 2002, Eberl & Schwaiger 2005, Lee & Jungbae Roh 2012).

Taken together, we believe that CSR disclosure can create a positive impact on corporate reputation, which, in turn, exert a positive effect on FP. Thus, we propose:

Hypothesis 2: A firm's reputation mediates the relationship between CSR disclosure and the firm's financial performance.

2.3. The Moderating Role of CEO Integrity

Management scholars have focused attention on the instances when managers use CSR instrumentally; that is, promoting CSR either for their own benefit (Friedman 1970) or for their firm profitability (McWilliams & Siegel 2001). Although these perspectives are useful, they do

not take into account the personal attributes of key decision-makers such as CEOs who are charged with the responsibility of formulating corporate strategy and may dramatically change the strategic direction of the firm, including decisions relating to CSR (Waldman et al. 2006). Furthermore, despite the compelling arguments in favour of the instrumental use of CSR, corporate executives may also be inclined to adopt CSR practices for moral or ethical reasons that characterise ethical leadership (Daft 2002).

Indeed, management literature has witnessed emergences of ethical leadership perspective that has increasingly emphasised the role of ethical leaders in developing an organisation's attention on ethical values. In particular, theorists such as Treviño, Hartman, and Brown (2000), and Brown and Treviño (2006) suggest that a moral manager has a strong influence on ethical leadership, which in turn affects subordinators' satisfaction and performance. Treviño et al. (2000) argue that an ethical leader must be not only a moral person, who is characterised in terms of an individual trait as integrity but also a person who can create a strong ethics message that influences employees' thoughts, behaviours; and lead the organisation's attention on ethical values. Waldman et al. (2006) assert that ethical leaders could affect organisations' strategic decision making and implementation relating to CSR. Their work sets out the theoretical foundation for understanding the potential relationship between CEO integrity and strategic choices regarding CSR disclosure and firm reputation.

Integrity is broadly defined in many English dictionaries as the quality of being honest and having strong moral principles. In the ethical leadership literature, however, there is little agreement about the definition and conceptualisation of integrity. Many of the definitions of integrity overlap with other concepts such as honesty, ethics, morality, justice, and authenticity (Veríssimo & Lacerda, 2015). In extensive reviews of the literature on integrity, Audi and Murphy (2006), Palanski and Yammarino (2007), and Bauman (2013) summarised many faces

of the integrity of which are widely cited as critical moral characteristics. Hence, we adapt the concepts from Audi and Murphy (2006), Palanski and Yammarino (2007), and Bauman (2013) to define CEO integrity as CEO's quality of being honest, fidelity, and moral courage.

Drawing on the ethical leadership perspective, we argue that a CEO who makes decisions with integrity will not cut-corners or decide to do something that may be unethical. A CEO who acts with integrity would inspire others with his or her own behaviour, inducing follower self-esteem, honesty, fidelity, and moral courage. Also, CEOs with high integrity would have strong moral values and so would be likely to capture and filter ethical aspects of a particular decision-making situation, to process such aspects carefully and to put ethical considerations at the heart of their business decisions (Eisenbeiss, Van Knippenberg & Fahrbach 2015). These actions consequently lead to firm' genuine implementation of CSR. Observing the firm's genuine engagement in CSR, the public would trust CSR information disclosed by the firm.

Moreover, CEOs with high integrity would be honest in disclosing information about CSR activities and performance of their firms; as a result, the trust of the public in the firm's genuine performance of CSR would be enhanced. These actions contribute to a good image of the firms in the eyes of the public, strengthening the firm's reputation. In sum, the high level of CEO integrity probably enhances the effect of CSR disclosure on corporate reputation. Therefore, we hypothesise that:

Hypothesis 3: CEO integrity moderates the relationship between CSR disclosure and corporate reputation such that their positive relationship is stronger when the CEO has higher integrity.

3. Research methods

3.1. Data and research sample

We selected a sample of the firms from the Fortune World Most Admired (FWMA) list. The data collection process comprised of three stages. In the first stage, we manually collected firm names, industry and the corresponding head-quarter countries from FWMA companies released on the Fortune website from March 2006 to March 2012. The FWMA survey had been conducted in the year before the year the ranking results were released; hence we used annual surveys between 2005 and 2011. We finalised the list, only keeping the firms that meet the criteria of being an active public company as of July 2012.

In the second stage, we manually collected the data for global reputation and financial soundness rankings of each firm from the Fortune website; ranging from 1 for the best reputation ranking result to 17 for the least. We then collected annual data on sales revenue, ROA, ROE, CEO perks, the percentage of independent directors on board, total asset, net income, expenses, debt to equity ratio, other financial data for calculation of Tobin's Q ratio, and the number of employees between 2005 and 2011 automatically from Bloomberg. We used financial reports of firms to check CEO duality. Annual data for environment, social and governance disclosure score from 2005 to 2011 were collected from Bloomberg to measure CSR disclosure. After deleting observations with missing data, we had the final dataset of 3,588 firm-year observations from 833 firms in 30 industries classified by Fortune across seven years from 2005 to 2011. This dataset is unbalanced.

Finally, we manually collected the annual score of institution and strength of auditing and reporting standard of each country from the World Economic Forum's Global Competitive Reports (GCR). GCR has been issued annually since 2006 to provide assessments of different aspects of competitiveness aspects of 125 economies. Specifically, GCR evaluates the institution

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of each country through 22 indicators to reflect public institution aspects[1] and private institutions[2]. The score is given based on the evaluation by executives participated in the GCR's annual survey on those aspects of the institution in each country. The score for each specific element within the institution pillar was calculated based on a 7-point Likert-scale, starting from 1 for lowest to 7 for highest. The score for the overall institution is a weighted score of the specific aspects within the institution pillar.

3.2. Empirical model

To test hypothesis 1, we use Equation (1) in which firm performance is the dependent variable, while CSR disclosure is the key predictor. We include various control variables in Equation (1) due to their potential effects on firm performance, as described later. Based on the assumption that firm performance of the current year is the outcomes of operations in the previous year (Bear, Rahman, & Post, 2010), we develop the empirical models with the one-year lag of the explanatory and control variables.

$$Performance_{i;t} = \beta0 + \beta1\ CSRdisclosure_{i;t-1} + \beta2\ CEOduality_{i;t-1} +$$

$$\beta3\ Bindependence_{i;t-1} + \beta4\ Leverage_{i;t-1} + \beta5\ Asset_{i;t-1} + \beta6 Employee_{i;t-1} +$$

$$\beta7\ Industryaverage_{i;t-1} + \beta8\ Insitutions_{i;t-1} + \beta9\ Crisis + \beta10\ Countrydummy_i +$$

$$\beta11\ Yeardummy_i + \varepsilon it \quad \textbf{(1)}$$

To test hypothesis 2, following Cole and Maxwell's (2003) suggestion on the use of structural equational modelling (SEM) approach, we develop two structural equation models:

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[1] The public institution aspects included in GCR report are property rights, intellectual property protection, diversion of public funds, public trust in politicians, irregular payments and bribes, judicial independence, favouritism in decisions of government officials, the wastefulness of government spending, the burden of government regulation, the efficiency of the legal framework in settling disputes, efficiency of the legal framework in challenging regulations, transparency of government policymaking, provision of government services for improved business performance, business costs of terrorism, business costs of crime and violence, organised crime, reliability of police services.

[2] The public institution aspects included in GCR report are corporate ethics, the strength of auditing and reporting standards, efficacy of corporate boards, protection of minority shareholders' interests, strength of investor protection)

Equation (2) and (3). In Equation (2), CSR disclosure is the predictor, and firm reputation is the dependent variable. In Equation (3), firm reputation is the predictor and firm performance is the dependent variable. Various control variables are included due to their potential impacts on firm reputation and firm performance to be discussed later.

$Firmreputation_{i;t} = \beta0 + \beta1\ CSRdisclose_{i;t-1} + \beta2\ Asset_{i;t-1} + \beta3Employee_{i;t-1} +$

$\beta4\ Industryaverage_{i;t-1} + \beta5\ Insitution_{i;t-1} + \varepsilon it$ **(2)**

$Performance_{i;t+1} = \beta0 + \beta1\ Firmreputation_{i;t} + \beta2\ Asset_{i;t} + \beta3Employee_{i;t} +$

$\beta4\ CEOduality_{i;t} + \beta5\ Bindependence_{i;t} + \beta6\ Leverage_{i;t} + \beta7\ Industryaverage_{i;t} +$

$\beta8\ Insitution_{i;t} + \beta9\ Crisis + \varepsilon it$ **(3)**

To test hypothesis 3, following Baron and Kenny's (1986) guidance on the hierarchical regression procedure for testing moderating effect, we examine the impact of the interaction variable which is the product of CEO integrity and CSR disclosure on firm reputation. Specifically, we employ Equation (4) in which firm reputation is the dependent variable while CSR disclosure, CEO integrity and the interaction variable are predicting variables. Various control variables are included in Equation (4) because of their potential effects on firm reputation, as discussed below. We also use one-year lag of the independent variables based on the assumption that a firm reputation of the current year is the outcomes of operations in the previous year.

$Firmreputation_{i;t} = \beta0 + \beta1\ CSRdisclose_{i;t-1} + \beta2\ CEOintegrity_{i;t-1} +$

$\beta3\ CSRdisclose_{i;t-1} * CEOintegrity_{i;t-1} + \beta4\ CEOduality_{i;t-1} +$

$\beta5\ Bindependence_{i;t-1} + \beta6\ Leverage_{i;t-1} + \beta7\ Asset_{i;t-1} + \beta8Employee_{i;t-1} +$

$\beta 9\ Industryaverage_{i;t-1} + \beta 10\ Insitution_{i;t-1} + \beta 11\ Crisis\quad +$

$\beta 12\ Countrydummy_i + \beta 13\ Yeardummy_i + \varepsilon it \quad \textbf{(4)}$

In which:

Firm reputation *(Firmreputation)* is measured by Fortune overall reputation rank for each of the firms in a year (Lee & Jungbae, 2012). In the Fortune website, global overall reputation ranking of each firm ranges from 1 for the best reputation ranking result to 17 for the least. We reverse them into 17 for the best reputation ranking result to 1 for the least.

Firm's performance $(Performance)$

We measure FP with Tobin's Q, ROA and ROE as widely done and calculated in many prior studies (e.g., Laskar & Maji 2016, Platonova et al. 2018)

CEO integrity *(CEOintegrity)*

The literature on CEO integrity is relatively new, and so the measure for CEO integrity needs to be further developed. While there are few attempts to measure CEO integrity (Eisenbeiss et al. 2015, Palanski & Yammarino, 2007), most of them use information from surveys of employee opinions about CEOs. This approach has two shortcomings. *First,* the information is less objective as it is subject to the evaluation of employees about their boss's characteristics. *Second,* such surveys are often conducted on cross-sectional rather than longitudinal basis. This cross-sectional data is unable to reflect any changes in the level and type of CEO integrity across time in which a change of CEO or in a CEO's awareness and attitude could happen.

According to the ethical leadership theory, CEOs with high integrity would have strong moral values. Such CEOs are likely to capture and filter the ethical aspects of a particular decision-making situation, to process such aspects carefully and to put ethical considerations at the heart of their business decisions (Eisenbeiss et al. 2015). Such CEOs also performs their role

for the best of their company. In contrast, CEOs with little integrity who are likely to be opportunistic as depicted by the agency theory would act in opposite ways.

According to the agency theory (Jensen & Meckling 1976, Jensen 1986), the CEO's opportunistic behaviours would cause agency costs to his/her company shareholders. Ang, Cole, and Lin (2000) operationalise two indicators to measure agency costs, namely the asset utilisation ratio (annual sales divided by total assets) and the expenditure efficiency ratio (annual sales divided by expenses). The first ratio is a measure of how effectively the firm's management deploys its assets and the second ratio is a measure of how effectively the firm's management controls costs, including excessive perquisite consumption and other direct agency costs. In particular, the asset utilisation ratio (sales-to-asset ratio) demonstrates the efficiency of using a unit of company assets to generate sales. Accordingly, this ratio reflects "the loss in revenues attributable to inefficient asset utilisation, which can result from poor investment decisions or management's shirking (e.g., exerting too little effort to help generate revenue)" (Ang et al. 2000). Firms with lower asset utilisation ratio are inferred to be making non-optimal investment decisions or using funds to purchase unproductive, i.e. non-revenue-generating assets (Henry 2010). Hence asset utilisation ratio indicates the quality of management or management efficiency in other words. Similarly, expenditure efficiency ratio also reflects management efficiency.

Because the agency theory depicts a phenomenon opposite to that suggested by the ethical leadership theory, the measures for the agency cost developed by Ang et al. (2000) can be adapted to proxy CEO integrity. Arguably, the management efficiency is determined by the capability of managers and the level of their honesty, fidelity and moral courage to do things for the good sake of their firm which is defined earlier in this research as managerial integrity. Note

that apart from the capability and integrity of the CEO, the management efficiency can also be affected by other factors relating to internal and external control.

Specifically, at corporate-level governance, agency theorists argue that the primary roles of the board are to exercise the governance function through monitoring managerial decision making and performance. A board that acts as an effective monitor will ensure that the management is working in the best interest of the company (Fama & Jensen 1983). In doing so, a board with more outside/independent directors, who are considered less likely than insiders to collude with managers to expropriate residual claimants, plays a better supervising role (Westphal 1999). Thus, board independence, defined as a proportion of independent directors on board, is arguable to strengthen the effectiveness of management decisions. In other words, board independence is one of the determinants of management efficiency.

At country-level governance, Verhezen (2010) suggests that a culture of compliance with rules and regulations likely reduces the legal liabilities of crossing into illegal behaviours, and leads to improved [legal] accountability for one's actions and behaviours. Hence, an effective external control system such as robust auditing and reporting standards can enhance the culture of compliance that in turn, can contribute to the reduction of opportunistic behaviours and improve management efficiency. A firm's management efficiency, that is, can be affected by auditing and reporting standards in a country where a firm operates.

As a result, management efficiency can be determined by capability and integrity of CEO, internal governance (e.g. board independence) and external control (e.g. a nation's auditing and reporting standards). Given other factors such as CEO capability unchanged, management efficiency is likely to be affected by CEO integrity, board independence and strength of auditing and reporting standards in a firm's home country simultaneously. The interaction of these three factors determines management efficiency when other factors are constant. Therefore,

management efficiency can be seen as a function of the interaction effect among CEO integrity, board independence and a nation's auditing and reporting standards.

$$\text{Management efficiency}_{it} = \mathcal{F}(\text{CEO integrity}_{it} * \text{Board independence}_{it} * \text{Streng of auditing \& reporting standard}_{it}) \quad (5)$$

It can be induced from Function (5) that CEO integrity is a function of the interaction effect among management efficiency, inversion of board independence, and inversion of the strength of auditing and reporting standards.

$$\text{CEO integrity}_{it} = \Gamma\left(\frac{\text{Management efficiency}_{it}}{\text{Board independence}_{it} * \text{Strength of auditing \& reporting standard}_{it}}\right) \quad (6)$$

From Function (6), we posit that CEO integrity can be proxied by the ratio of management efficiency divided by board independence and a nation's strength of auditing and reporting standards.

In short, to proxy for CEO integrity, we adapt the two indicators that Ang et al. (2000) use to measure the agency costs, taking into account of corporate governance (i.e. board independence) and external control (i.e. a nation's auditing and reporting standards).

Apart from the above indicators, we develop another proxy that accounts for individual factors related to CEO integrity. To do this, we draw on the widespread view in the literature on perks which suggests that executive perks exemplify the agency problem. By the term *perks*, we refer to types of nonmonetary pay offered to managers such as the use of an executive jet or a chauffeur-driven car or a glossy office or accommodation or luxury paid holiday. CEO perks are a route through which managers can misappropriate a firm's surplus (Rajan & Wulf 2006). Managers can do so because perks are hard to observe by distant outsiders, and the value of perks is typically underreported to shareholders.

Although a talented CEO who helps the firm earning a high income is entitled to receive a reasonable amount of nonmonetary compensation, CEO perks he/she claims should be a legitimate proportion of his/her firm's profit. An opportunistic CEO tends to ask for excessive

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perks unreasonably high compared to the amount of net income the firm gets. In contrast, a CEO with high integrity would not take advantage of the company's income for their own luxury consumption. Consequently, it is arguable that the ratio of a firm's net income to CEO perks can reflect CEO integrity. A high integrity CEO can be manifested by the high net-income-to-CEO-perk ratio, meaning that a CEO with high integrity helps to earn high net income for the firm while modestly claim his/her perks. Meanwhile, a low integrity CEO can be reflected by a low ratio of net income per CEO perks, indicating that a CEO with little integrity claims his/her value of perks excessive compared to the net profit which the firm earned.

In sum, we use three indicators to proxy for CEO integrity in this research. CEO integrity 1 is formulated as the product of sales to asset ratio divided by board independence and the strength of a nation's auditing and reporting standards. Similarly, CEO integrity 2 is calculated through the product of sales to operating expenditure ratio divided by board independence and the strength of a nation's auditing and reporting standards. CEO integrity 3 is proxied by the ratio of a firm's net income to CEO perks.

CSR disclosure (*CSRdisclose*)

We measured CSR disclosure with ESG disclosure scores released by the Proprietary Bloomberg ESG group. This score is calculated based on the amount of environmental, social and governance information that a company disclosed. The scores demonstrate the degree to which a company reports non-financial information. The scores span from 0.1 for firms that revealed a minimum amount of data to 100 for those that communicated on every data point. Firms that are not listed by the Proprietary Bloomberg ESG group and firms that do not disclose anything will have no score.

Interaction variable *(Interaction)*

We used the mean centring approach suggested by Aiken and West (1991) to calculate the interaction variable to eliminate the possibility of multicollinearity as below.

Interaction = (*CSRdisclose* - mean score of *CSRdisclose*) * (*CEOintegrity* - mean score of *CEOintegrity*)

Control variables

CEO duality (*CEOduality*). When the CEO is also a board chair of a firm, this may help establish robust and unambiguous leadership, but it may promote CEO entrenchment (Peng 2004). Therefore, CEO duality may potentially affect FP and also firm reputation. We use a dummy variable for CEO duality with 1, indicating the CEO is also a board chair and 0 otherwise.

Board independence (Bindependence) has long been posited as a potential determinant of FP because it helps to address the agency problem in a public corporation. We measure board independence by a proportion of independent directors on board as the previous corporate governance literature did (e.g., Pham & Tran 2019).

Financial leverage (Leverage) has also been widely suggested as a potential determinant of FP because it helps to address the agency problem in a public corporation. We measure financial leverage by the ratio of debt per equity as done in previous studies (e.g. Ang *et al.* 2000, Henry 2010).

Firm size has long been cited as a potential determinant of firm performance and reputation. We capture firm size with total assets (*Asset*) and employee number (*Employee*) as popularly done by previous studies as reported in Malmi and Brown (2008).

Industry performance (Industryaverage). We control the industry to capture the industry effect as conventionally done in previous studies on firm performance. Following Le and

O'Brien (2010), we capture the industry effect through the industry's average return which is measured by mean ROA for each industry in each year.

Institutions. Institutions are constraints that structure political, economic and social interactions (North, 1991). Institution set up the rules of the game. In other words, legal institution shapes behaviours of economic agents in an economy. Therefore, a legal institution can potentially affect the reputation and performance of the firm originating from that institution. Thus, we control the institution in the estimation models to capture the effect of the institution on the firm's reputation and performance. We use the overall score of institutions of each country from the World Economic Forum's Global Competitive Reports as described earlier to control for the potential effect of home country institution on operations of the firms in our research sample.

Crisis (Crisis). The last global financial crisis which started in 2007 and reached its peak in 2008 was likely to affect firm reputation and performance during the crisis time. As our dataset spans the global financial crisis, we add the shock to the model by using a dummy variable, *Crisis*, for control. *Crisis* takes the value equal to 1 for the 2007-2008 observations and 0 for other year observations.

Country (Countrydummy). Home country factors may influence firm performance due to the heterogeneity in demand and capital costs among countries. Country factors also provide sources of competitive advantage to firm performance and reputation in international markets. Therefore, we control for the country to capture potential country effect.

Year (Yeardummy): We control year effect due to some potential events which are not captured in our models but may happen and affect a firm's business activities and performance.

3.3. Estimation Strategy

First, we check the multicollinearity problem by examining correlation coefficients of each pair of the predictors and their Variance Inflation Factor (VIF). All of the VIFs are smaller than 4, which is much smaller than the thread hold of 10, suggesting that multicollinearity is not a problem with our dataset (Mansfield & Helms 1982). The correlation matrix is presented in Table 1.

(Insert Table 1 here)

Second, we examine the potential endogeneity of our key predictors (*CSRdisclose*). A variable is endogenous when it is correlated with the error term of a model or when a loop of causality between the independent and dependent variables of a model exists (Wooldridge 2013).

We investigate if *CSRdisclose* is endogenous with the error term. The residuals R1, R2 and R3, were drawn from the pooled OLS models using *Tobin's Q*, *ROA* and *ROE* as dependent variables respectively. We examine the correlation between *CSRdisclose* and R1, R2 and R3, respectively using the Pearson correlation test, OLS, and fixed-effects estimations alternatively. The results show no significant correlation between *CSRdisclose* and each of the residuals ($p > 0.05$).

To deal with the endogeneity problem of *CSRdisclose* in case a loop of causality between the independent and dependent variables, we use the Instrumental Variable Two-Stage Least Square regression method as suggested by Wooldridge (2013). Following Pham & Tran (2019), we employ sound finance reputation of a firm (*Soundfinance*) as the IV for *CSRdisclose*. *Soundfinance* is measured by the Fortune rankings of the financial soundness of a firm.

To check if the endogeneity of *CSRdisclose* is addressed with the IV, we conduct the Durbin (score) chi-sq test and Wu-Hausman F test of endogeneity of *CSRdisclose*. The large P-

values obtained from these tests show that the hypothesis of exogenous regressor cannot be rejected (p > 0.1). The first-stage regression summary statistics of the Wald test shows that p < 0.05, indicating that the IV is not weak. Moreover, the results of the Sargan (score) chi2 tests and Basmann chi2 tests (p < 0.05) demonstrate that our models have no over-identifying restrictions. Thus, the endogeneity issue is not serious in our models.

Third, we estimate Equation (1) and Equation (3) using Tobin's Q, ROA and ROE alternatively as the dependent variable. *Firmreputation* is the dependent variable in Equation (2) and Equation (4). When estimating Equation (4), we alternatively use *CEOintegrity1 and Interaction 1* or *CEOintegrity2 and Interaction 2* or *CEOintegrity3 and Interaction 3* as predictors. To estimate Equation (1) and (4), we employ the two-stage least square (2SLS) instrumental variable method. To estimate Equation (2) and (3), we run SEM bootstrap and request for 1000 replications at 95% confidence. Bootstrapping provides an empirical approximation of sampling distributions of indirect effects to provide confidence intervals of estimates. If zero does not fall within the confidence interval, one can conclude that an indirect effect is different from zero (Shrout and Bolger, 2002). This SEM bootstrap command is enabled by Stata 13 software.

4. Results

The descriptive statistics of our dataset is presented in Table 1. Regarding the total assets of the firms, the mean average total asset is 78,324.81 million USD. The mean average number of employees of a firm is 66,872 staff while ROA and ROE are respectively 5.15 and 14.63 percent on the mean average. Tobin's Q ranges from -0.05 to 11.23 and has a mean of 1.31.

The 2SLS estimation results of the Equation (1) are demonstrated in Table 2. As can be seen, CSR disclosure is significantly and positively associated with ROA (β =0.137; p=0.000)

and ROE (β =0.355; p=0.006) but its effect on Tobin's Q is insignificant (β =0.003; p=0.446). So, our hypothesis 1 about the direct effect of CSR disclosure on FP is confirmed when FP is measured by accounting performance (ROA, ROE) but not confirmed in term of market performance (Tobin's Q).

(Insert Table 2 here)

Table 3 displays the simultaneous estimation results of Equations (2) and Equation (3) obtained from SEM bootstrap. Model 4, 5 and 6 report the results for the structure of Equation 2 and Equation 3 when firm performance is measured by Tobin's Q, ROA and ROE, respectively. As can be seen from the top half of Table 3 which reports the results of Equation (2), CSR disclosure is positively associated with a firm reputation (β =0.136; p=0.053 in case of Tobin's; β =0.114; p=0.097 in case of ROA). From the bottom half of Table 3 which presents the results of Equation (3), it can be seen that a firm reputation is significantly and positively correlated with financial performance in all cases (β =0.004; p=0.000 for Tobin's Q; β =0.029, p=0.000 for ROA and β =0.064, p=0.001 for ROE).

(Insert Table 3 here)

Table 4 shows the SEM bootstrap results of the indirect effect of CSR disclosure on FP. The results in this table demonstrate that the indirect effect for *CSRdisclose* on FP is positive (β= 0.001 and p=0.039 on TobinQ; β= 0.003 and p=0.085 on ROA). These figures indicate that CSR disclosure has an indirect effect on FP, which is transmitted through firm reputation. Taken together, we conclude that hypothesis H2 about the mediating impact of firm reputation on CSR disclosure-FP link is accepted.

(Insert Table 4 here)

The hierarchical regression results using the 2SLS IV method for moderating effect of CEO integrity are presented in Table 5. The results show that *Interaction* is significantly and

positively associated with a firm reputation for the three indicators of *CEOintegrity* (β =83.654 and p=0.015 when *CEOintegrity1* was proxied by sale-to-asset ratio; β =0.237 and p=0.023 when *CEOintegrity2* was reflected by the sale-to expense ratio; β =0.162 and p=0.021 when *CEOintegrity3* was proxied by the income-to-CEO perk ratio). Therefore, our hypothesis is accepted.

(Insert Table 5 here)

Robustness check

We follow all the procedures used the baseline models but this time using two-year lagged values for the independent variables of Equation (4). The results presented in Table 6 are almost consistent with the findings from the estimations of the baseline models shown in Table 5. Therefore, our results are relatively robust.

(Insert Table 6 here)

5. Discussions and conclusion

The results of our estimation models which account for the indirect impact of CSR disclosure on FP consistently shows that CSR exerts an indirect effect on FP through firm reputation. A large number of prior studies assume a direct impact of CSR disclosure on firm performance, and consequently, their findings are inconclusive. The similar inconsistency happens in our research when we examine the direct impact of CSR disclosure on Tobin'Q without considering the mediating variable (firm reputation). Our results are in line with Lai et al. (2010), Galbreath and Shum (2012) and Saeidi et al.(2015) that examine the mediating effect of firm reputation on the CSR-FP relation. Unlike these studies that are based on their cross-sectional data from small samples of firms participated in their surveys; our findings were drawn from the longitudinal data of a large global sample of firms from many countries. In this respect, our results robustly

show that CSR disclosure enhances corporate reputation, which in turn fortifies firm performance.

Our findings show the apparent channel which transfers the benefit of CSR disclosure to firm performance. In the process of transmitting the benefits of CSR disclosure to firm performance, there may be some intervening factors destructing the benefits, leading to negligible effect on firm performance. The lack of consideration of the intervening factors that potentially alter the relationship between CSR disclosure and firm performance is likely to be the reason for their inconsistent findings in the previous studies. In contrast to the earlier studies, our research includes such intervening factors and finds their significant effects on the relationship between CSR disclosure and firm performance.

Our results suggest that CEO integrity is a crucial factor moderating the effectiveness of CSR disclosure to building corporate reputation. Our finding adds insight into the role of CEO integrity in driving the credibility of CSR disclosure which Abernathy et al. (2017) highlight in their review of literature on the link between CSR disclosure and firm performance.

5.1. Theoretical implications

Our paper offers several contributions to the literature. *First*, this study extends previous research by providing a more comprehensive view and evidence about the CSR disclosure - FP relation. We posit and show that firm reputation and CEO integrity respectively mediates and moderates the effect of CSR disclosure on FP. The link between CSR disclosure and FP demonstrated in our study is more complicated than the straightforward - direct relationship as widely assumed in the previous literature. Developing comprehensive models and using global dataset together with different contemporary regression techniques, we believe our findings are more robust than those reported in prior studies on the direct relationship between CSR disclosure-FP.

Second, our paper robustly proves the channel that transmits the effect of CSR disclosure onto firm performance is through corporate reputation. Although several studies suggest the mediating role of firm reputation in the CSR-FP relation, the evidence for the benefit of CSR disclosure to firm performance transmitted through corporate reputation remains scant.

Third, our paper is among the first, which argues and evidences the significant role of leader's integrity in driving the effectiveness of CSR disclosure. CSR research started to focus on the role of leadership in selecting and implementing such CSR disclosure practices. Still, the underlying mechanisms that connect leaders' integrity to the organisational orientation to CSR practices remain understudied (Veríssimo & Lacerda, 2015). Our study offers insight into the critical role of CEO integrity in moderating the benefits of CSR disclosure while hardly any previous studies examine this effect.

Fourth, our paper sets some foundations for the development of measurement for CEO integrity. CEO integrity is an abstract concept which is difficult to measure. Most of the previous studies use information from surveys of employee opinions about CEOs which inevitably lack objectiveness as they are subject to respondents' views. By using a firm's accounting data, our study offers objective proxies for CEO integrity.

5.2. Practical Implications

We advise firms to engage in CSR disclosure as it helps to build a firm reputation and hence beneficial to FP. Supervision board had better keep close eyes on CSR disclosure when there is suspicion about the low level of CEO integrity. Supervision board should also consider a replacement of a CEO when the problem of a low level of CEO integrity is detected. The underlying reason is that CEO with little integrity is likely to engage in fraudulent activities which may harm the credibility of CSR disclosure and consequently undermines the firm's reputation and FP.

5.3. Limitations and suggestions for future research

The limitation of this research is associated with the proxy of CEO integrity that may not adequately capture the many facets of CEO integrity. We suggest further advancement in measuring CEO integrity, which can be derived from our proxies but takes more account of individual aspects of CEO integrity. Furthermore, we advise other researchers to consider the moderating role of CEO integrity when examining the effects of strategies and decisions made by a firm's top management on the firm's performance. Our study indicates that CEO integrity significantly moderates the effectiveness of the policies and decisions of a firm's top management (i.e. CSR disclosure in this paper). An omission of CEO integrity from a research model could lead to biased findings of the relationship under examination.

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Table 1: Descriptive statistics and correlation matrix

	Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	*TobinQ*	1.31	0.85	-0.05	11.23	1.00															
2	*ROA*	5.16	7.34	-68.65	38.73	**0.53**	1.00														
3	*ROE*	14.57	26.42	-245.61	433.12	**0.32**	**0.70**	1.00													
4	*Firmreputation*	12.05	3.51	1.00	17.00	**0.07**	0.02	0.02	1.00												
5	*CSRdisclose*	31.36	15.29	1.51	79.75	**-0.13**	0.00	0.00	**-0.14**	1.00											
6	*CEOintegrity1*	-0.01	0.86	-42.37	10.17	**-0.07**	**0.18**	**0.14**	0.03	**-0.08**	1.00										
7	*CEOintegrity2*	0.66	0.70	-9.16	6.29	**0.39**	**0.48**	**0.31**	**0.06**	0.04	**0.28**	1.00									
8	*CEOintegrity3*	30.00	10.12	-10.58	86.91	**-0.13**	**-0.25**	**-0.10**	0.00	**-0.21**	-0.01	**-0.23**	1.00								
9	*Institutions*	4.83	0.34	3.08	6.15	-0.03	**-0.04**	-0.03	**-0.07**	**0.21**	-0.04	-0.04	**0.14**	1.00							
10	*CEOduality*	0.77	0.42	0.00	1.00	**0.23**	**0.09**	**0.08**	**0.29**	**-0.43**	0.05	**0.10**	-0.01	**-0.33**	1.00						
11	*Bindependent*	73.07	22.86	0.00	100.00	**0.19**	**0.12**	**0.11**	**0.22**	**-0.23**	0.05	**0.13**	-0.06	**-0.12**	**0.58**	1.00					
12	*Leverage*	4.06	1.39	-6.39	10.44	**-0.19**	**-0.33**	-0.03	0.00	**0.06**	-0.02	**-0.12**	0.06	0.04	0.02	0.02	1.00				
13	*Asset*	78.33	266.32	0.00	3500.41	**-0.11**	**-0.11**	-0.06	-0.01	**0.18**	0.00	**0.08**	**-0.24**	0.08	**-0.11**	0.02	**0.25**	1.00			
14	*Employee*	10.32	1.34	0.00	14.56	**-0.10**	0.03	**0.05**	**-0.12**	**0.37**	**0.16**	-0.01	**-0.21**	**0.17**	**-0.31**	**-0.14**	**0.07**	**0.26**	1.00		
15	*Industryaverage*	5.14	2.18	1.33	9.15	**0.20**	**0.30**	**0.15**	0.02	**0.05**	0.04	**0.16**	-0.02	-0.03	**0.05**	**0.09**	**-0.22**	**-0.25**	-0.03	1.00	
16	*Soundfinance*	12.01	3.53	1.00	17.00	**0.07**	0.02	0.02	**0.91**	**-0.13**	0.02	**0.04**	0.02	**-0.07**	**0.27**	**0.18**	0.02	-0.03	**-0.13**	0.02	1.00

Bold text indicates significance at the 5 % level or better.

Mean VIF = 1.37 [1.38] [1.38] when using TobinQ [ROA] [ROE] as the dependent variable.

Table 2: The direct effect of CSR disclosure on FP without the role of firm reputation

	Model 1	Model 2	Model 3
	TobinQ	*ROA*	*ROE*
L.CSRdisclose	**0.003**	**0.137*****	**0.355*****
	(0.466)	(0.000)	(0.006)
L.CEOduality	0.438***	3.228***	6.577**
	(0.000)	(0.000)	(0.021)
L.Bindependent	0.001	0.020**	0.135***
	(0.265)	(0.032)	(0.000)
L.Leverage	-0.069***	-1.099***	2.381***
	(0.000)	(0.000)	(0.000)
L.Asset	-0.000	-0.001*	-0.009***
	(0.447)	(0.057)	(0.001)
L.Employee	-0.020	0.097	0.079
	(0.298)	(0.589)	(0.913)
L.Industryaverage	0.056***	0.680***	1.606***
	(0.000)	(0.000)	(0.000)
L.Institutions	0.012	-1.076**	-2.611
	(0.839)	(0.047)	(0.234)
Crisis	0.051	-0.368	-2.295
	(0.249)	(0.377)	(0.179)
Countrydummy	Y	Y	Y
Yeardummy	Y	Y	Y
N	3,588	3,588	3,588
R^2	0.138	0.138	0.050

p-values in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

*L.*One-year lagged value of the independent variables.

Table 3: The mediating role of firm reputation in the CSR disclosure - FP relation

	Model 4 *Firmreputation*	Model 5 *Firmreputation*	Model 6 *Firmreputation*
CSRdisclose	**0.136***	**0.114***	**0.111**
	(0.053)	(0.097)	(0.114)
Asset	0.015***	0.016***	0.016***
	(0.000)	(0.000)	(0.000)
Employee	4.568***	4.411***	4.394***
	(0.000)	(0.000)	(0.000)
Industryaverage	0.918**	1.052**	1.055***
	(0.031)	(0.011)	(0.010)
Institutions	-2.565	-2.832	-2.857
	(0.316)	(0.247)	(0.256)
	TobinQ	*ROA*	*ROE*
Firmreputation	**0.004*****	**0.029*****	**0.064*****
	(0.000)	(0.000)	(0.001)
Asset	-0.000*	-0.001**	-0.006***
	(0.066)	(0.013)	(0.003)
Employee	-0.052**	0.237	0.388
	(0.023)	(0.154)	(0.680)
CEOduality	0.374***	1.822***	3.085*
	(0.000)	(0.001)	(0.072)
Bindependent	0.002***	0.010	0.081***
	(0.007)	(0.215)	(0.009)
Leverage	-0.085***	-1.270***	1.512
	(0.000)	(0.000)	(0.261)
Industryaverage	0.068***	0.835***	1.915***
	(0.000)	(0.000)	(0.000)
Institutions	0.024	-0.416	-1.271
	(0.635)	(0.221)	(0.288)
Crisis	0.060	0.217	0.065
	(0.269)	(0.664)	(0.971)
N	3,588	3,588	3,588

p-values in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: The Indirect effect of CSR disclosure on FP

	Model 4			Model 5			Model 6		
	TobinQ	95% CI		*ROA*	95% CI		*ROE*	95% CI	
Firmreputation	0 (no path)			0 (no path)			0 (no path)		
CSRdisclose	**.001****	.0000316	.001188	**.003***	-.0004559	.0071403	**.007**	-.0026939	.0168956
	(0.039)			**(0.085)**			**(0.155)**		
Asset	.0001***	.0000338	.0001031	.0005***	.0002119	.0007287	.001**	.0000853	.0019624
	(0.000)			(0.000)			(0.033)		
Employee	.020***	.0108487	.0300579	.129***	.0600118	.1993436	.281**	.0251518	.5374878
	(0.000)			(0.000)			(0.031)		
Industryaverage	.004**	.0001411	.0080805	.031**	.0037414	.0580983	.067*	-.0097629	.1448276
	(0.042)			(0.026)			(0.087)		
Institutions	-.011	-.0318082	.0088427	-.083	-.2131129	.046609	-.182	-.4966887	.1308481
	(0.268)			(0.209)			(0.253)		
CEOduality	0 (no path)			0 (no path)			0 (no path)		
Bindependent	0 (no path)			0 (no path)			0 (no path)		
Leverage	0 (no path)			0 (no path)			0 (no path)		
Crisis	0 (no path)			0 (no path)			0 (no path)		

p-values in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Hierarchical regression results of moderating effects of CEO integrity

Firmreputation	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13
Direct effects							
L.CSRdisclose	0.581***	0.589***	0.328*	5.627***	-0.928	0.226	5.722***
	(0.000)	(0.000)	(0.053)	(0.008)	(0.105)	(0.206)	(0.005)
Moderator variables							
L.CEOintegrity1		230.761**			1363.132***		
		(0.022)			(0.005)		
L.CEOintegrity2			13.064***			12.956***	
			(0.000)			(0.000)	
L.CEOintegrity3				0.597			1.378
				(0.323)			(0.106)
Interaction effects							
L.Interaction1					83.654**		
					(0.015)		
L.Interaction2						0.237**	
						(0.023)	
L.Interaction3							0.162**
							(0.021)
Control							
L.CEOduality	17.015***	16.810***	10.914***	115.684**	10.575***	9.319***	104.660**
	(0.000)	(0.000)	(0.002)	(0.014)	(0.003)	(0.010)	(0.014)
L. Bindependent	0.116**	0.119**	0.082*	-1.797**	0.085	0.075	-1.780**
	(0.020)	(0.017)	(0.095)	(0.020)	(0.109)	(0.126)	(0.014)
L.Leverage	-1.469**	-1.357*	-0.420	-4.484*	-0.992	-0.465	-7.229**
	(0.043)	(0.062)	(0.565)	(0.077)	(0.182)	(0.521)	(0.021)
L.Asset	0.015***	0.014***	0.052***	-0.004	0.019***	0.055***	0.012
	(0.000)	(0.000)	(0.000)	(0.833)	(0.000)	(0.000)	(0.418)
L.Employee	5.190***	5.524***	5.806***	-3.350	7.434***	5.957***	-0.870
	(0.000)	(0.000)	(0.000)	(0.462)	(0.000)	(0.000)	(0.814)

L.Industryaverage	-0.041	-0.137	0.049	-7.952**	0.401	0.050	-6.693**
	(0.941)	(0.806)	(0.929)	(0.031)	(0.447)	(0.928)	(0.030)
L.Institutions	1.222	1.248	-1.847	64.901	1.091	-2.377	54.125
	(0.652)	(0.645)	(0.503)	(0.107)	(0.696)	(0.388)	(0.142)
Crisis	8.677***	7.960***	6.310**	6.057	6.062**	6.158**	1.774
	(0.002)	(0.005)	(0.025)	(0.551)	(0.043)	(0.028)	(0.865)
Countrydummy	Y	Y	Y	Y	Y	Y	Y
Yeardummy	Y	Y	Y	Y	Y	Y	Y
N	3,588	3,588	3,588	3,588	3,588	3,588	3,588
R^2	0.183	0.186	0.268	.	0.133	0.273	.

p-values in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

*L.*One-year lagged value of the independent variables.

In some models, R^2 is not reported. This is because Stata's ivregress command suppresses the printing of an R^2 on 2SLS/IV when the R^2 is negative. Whether a negative R^2 should be reported or simply suppressed is a matter of taste. At any rate, the R^2 really has no statistical meaning in the context of 2SLS/IV (Stata, 2019). For detailed discussion about when R^2 will be negative and why the R^2 has no statistical meaning in the context of 2SLS/IV, please see Stata (2019).

Table 6: 2SLS regression results - Robustness check

Firmreputation	Model 7*	Model 8*	Model 9*	Model 10*	Model 11*	Model 12*	Model 13*
Direct effects							
L2.CSRdisclose	0.433**	0.449**	0.169	18.761	-0.492	0.041	15.147
	(0.037)	(0.031)	(0.447)	(0.573)	(0.416)	(0.864)	(0.439)
Moderator variables							
L2.CEOintegrity1		279.677**			1124.061**		
		(0.017)			(0.047)		
L2.CEOintegrity2			12.875***			12.472***	
			(0.000)			(0.000)	
L2.CEOintegrity3				2.976			3.823
				(0.656)			(0.533)
Interaction effects							
L2.Interaction1					56.465		
					(0.126)		
L2.Interaction2						0.280*	
						(0.062)	
L2.Interaction3							0.366
							(0.480)
Control							
N	3,588	3,588	3,588	3,588	3,588	3,588	3,588
R^2	0.129	0.136	0.214	.	0.120	0.215	.

p-values in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

L2.Two-year lagged value of the independent variables.