University of Groningen

An empirical analysis of the complementarities and substitutions between effects of ceo ability and corporate governance on socially responsible performance

García-Sánchez, Isabel-María; Hussain, Nazim; Martínez-Ferrero, Jennifer

Published in:
Journal of Cleaner Production

DOI:
[10.1016/j.jclepro.2019.01.130](https://doi.org/10.1016/j.jclepro.2019.01.130)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2019

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

García-Sánchez, I-M., Hussain, N., & Martínez-Ferrero, J. (2019). An empirical analysis of the complementarities and substitutions between effects of ceo ability and corporate governance on socially responsible performance. *Journal of Cleaner Production*, 215, 1288-1300.
<https://doi.org/10.1016/j.jclepro.2019.01.130>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

An empirical analysis of the complementarities and substitutions between effects of ceo ability and corporate governance on socially responsible performance

Isabel-María García-Sánchez ^a, Nazim Hussain ^b, Jennifer Martínez-Ferrero ^{b,*}

^a IME, Multidisciplinary Institute for Enterprise, University of Salamanca, Spain

^b University of Groningen, the Netherlands

ARTICLE INFO

Article history:

Received 17 July 2018

Received in revised form

10 January 2019

Accepted 12 January 2019

Available online 14 January 2019

Keywords:

Corporate social responsibility

Managerial ability

Corporate governance

Board independence

Incentives

ABSTRACT

Existing empirical and theoretical literature provides excellent insight into many aspects of CEO-related phenomena. However, so far, no study has explored the interrelation between corporate governance and CEO ability in influencing corporate social responsibility practices. From resource-based view perspectives, this research examines the complementarities/substitutions that may exist between social responsibility oriented corporate governance mechanisms and CEO ability in affecting corporate social responsibility performance among United States firms. This research documents that CEO ability is a unique resource that can help firms reduce agency problem associated with social and environmental performance. The analysis of data for the period of 2006–2015 reveals several fact-based findings. This research finds strong complementarities between CEO ability and internal social responsibility oriented governance mechanisms (i.e., board independence, the presence of a sustainability committee, and social performance-related incentives for managers) in enhancing socially responsible performance within a firm. Conventionally, it is considered that CEOs are less likely to engage in socially responsible activities, while findings of this paper shed light on the brighter side of CEO ability.

© 2019 Elsevier Ltd. All rights reserved.

1. Introduction

This paper deals with two related issues in the area of corporate social responsibility (CSR). First, how the ability of a chief executive officer (CEO) influences CSR performance and second, how corporate governance (CG) mechanisms complement or substitute the effect of CEO ability on CSR. The imbalance of power between the CEO and a firm's governance board has long been acknowledged in the literature (Pearce and Zahra, 1991). Suggestions to improve the composition of corporate governance (CG) boards generally focus on solidification of the board's power relative to that of the CEO. These suggestions are based on the assumption that a company's management dominates the board, which can be counterproductive for shareholders (Fama and Jensen, 1983; Nader, 1984).

Similarly, another conventional notion holds that abler managers can use various organizational practices, such as CSR,

instrumentally to build and maintain their legitimacy. However, according to resource-based view (RBV), the CEO ability is defined as the knowledge and skills possessed by managers to create value and gain competitive advantage (Holcomb et al., 2009). In this regard, existing literature lacks consensus about how the ability of a manager affects CSR performance of a firm.

Similarly, the agency view on CG mainly considers CG board as a monitor to prevent managers from misuse of organizational resources. However, anecdotal pieces of evidence show that CEOs are motivated to formulate and implement strategies like CSR through their cognitive process and CG mechanisms significantly support this process (Khan, 2018). Yet, very little is known about the fact that which specific elements of the board's composition can complement or substitute managerial abilities for improving CSR performance. To fill this void, this research deals with two closely related concerns. First, it answers how managerial ability act as a unique resource that is expedient for socially and environmentally responsible firm behaviour. Second, it shows that the strength of the internal CSR-oriented governance mechanisms substitute for a less able CEO to increase a firm's engagement in CSR.

Recent CSR literature provides clear evidence about the

* Corresponding author.

E-mail addresses: lajefa@usal.es (I.-M. García-Sánchez), n.hussain@rug.nl (N. Hussain), jenny_marfe@usal.es (J. Martínez-Ferrero).

instrumental use of CSR by managers (Cespa and Cestone, 2007; Martínez-Ferrero and García-Sánchez, 2015). Therefore, regulators, investors, and non-shareholding stakeholders have shown a keen interest in finding the optimal composition of boards of directors (Kang et al., 2007) to discourage such managerial practices. The effectiveness of governance is considered vital to monitor corporate behaviour. In this sense, board structure and composition could be relevant for ensuring the quality of governance (Eberhardt-Toth, 2017). Generally, the composition of a board is determined by the CG code provided by the country in which the firm operates. However, Hermalin and Weisbach (1998) and Shivdasani and Yermack (1999), among others, have pointed out that the CEO plays a key role in the decision-making process on board composition and structure; even, board directors are appointed by the management (Coles et al., 2014).

The possible influence of the CEO characteristics and board-level governance mechanisms acquired a special consideration in terms of CSR in recent literature (Walls et al., 2012). CSR has deepened its roots recently as an essential part of a corporate strategy for any company to ensure its growth, legitimacy, and survival (Udayasankar, 2008). In this respect, the influence of the management team on CSR is undeniable (Hong and Kostovetsky, 2012). Rajgopal et al. (2006) indicate that CEOs possess a managerial capacity to determine and influence the decision-making process that eventually affects the firm's performance. This capacity is closely related to the CEO's career perspective. This means, for a manager whose managerial ability is higher, concerns about his/her professional career are lower. As their ability increases, they become a unique resource and their probability of being hired by other companies, receiving higher salaries, building a better reputation, and being positively valued by the labour market increases (Chang et al., 2010). Higher ability level results in greater managerial efficiency (Ali et al., 2015). Likewise, lower compensation and risk of dismissal are less likely to be faced by abler CEOs (Gibbons and Murphy, 1992).

In a similar vein, there is a longstanding consensus among researchers that a CEO's decision to invest in CSR can be attributed to his/her ability and career concerns (Oh et al., 2016a,b). This means that CEOs with greater career concerns (low managerial ability) have short-term investment horizons in order to obtain immediate profits (Holmström, 1999). Professionally concerned CEOs are willing to reduce long-term investments to meet short-term objectives so that the market does not consider them as 'untrained managers' (Graham et al., 2005). Additionally, proponents of RBV perspective consider CEO ability as a unique resource and argue that this ability is able to generate greater value from available firm resources (Holcomb et al., 2009).

Thus, it is legitimate to ask, how does CEO ability impact CSR performance? Moreover, how does CG play its effective role? In general, a positive association can be expected, as CSR is a part of the firms' long-term strategy (Mahoney and Thorne, 2005). In other words, abler CEOs must show a higher preference for CSR investments with a long-term orientation. They have more managerial abilities and skills that lead to lower career concerns (Holcomb et al., 2009). Therefore, they have more incentives to invest in CSR actions that benefit firms from several perspectives (for instance, superior performance, lower cost of capital, and greater reputation (Orlitzky et al., 2003; El Ghouli et al., 2011). Besides, their greater managerial ability allows them to deal with the uncertainties associated with CSR initiatives (Baik et al., 2013; Jiraporn et al., 2016). This argument is in line with a resource-based view of the firm, in which an abler CEO is considered a unique resource that helps exploit business opportunities successfully (Holcomb et al., 2009).

In order to prevent less able CEOs from underinvesting in CSR –

ignoring opportunities for better economic performance and reputation building (Orlitzky et al., 2003; Fombrun, 2005) – and misuses to pursue their personal goals (Petrenko et al., 2016), firms can develop CSR-oriented internal governance mechanisms. The governing boards can be strengthened to enhance monitoring and decision efficiency, and useful corporate strategies can be adopted for the maximization of shareholders' wealth (Gompers et al., 2003). Empowering the board of directors can also help to undermine the CEO's short-termism (Pearce and Zahra, 1991; Hussain et al., 2018a). For better CSR strategy, greater board independence and the formation of a specialized CSR committee can be characterized as board strength (Adams and McNicholas, 2007). The board of directors often plays a central role in influencing the decision process (Parisi et al., 2009); guaranteeing the control, supervision, and monitoring of the management team (Gillan, 2006); and enhancing the corporate orientation towards CSR (Michelon and Parbonetti, 2012).

Derived from the above, this paper postulates that ability of top management in general and CEO, in particular, is socially desirable. Furthermore, the effects of CG on the social performance of companies probably occurs through the board's control and advisory function. These assumptions have been largely ignored in the existing management literature. It is, therefore, necessary to study the relationship between internal governance mechanisms oriented to CSR, the manager's characteristics, and the CSR performance of the firm. To answer these research questions, data was extracted from a sample of US firms for a 10-year period, consisting of 12,166 firm-year observations. To the best of the authors' knowledge, this is the first study to explore this relationship. This study provides unique and relevant findings. After controlling for the endogeneity issue, it is found that strong complementarity exists between the ability of the CEO and CSR-oriented governance mechanisms in the promotion of CSR performance. The study contributes towards the governance and CSR literature and provides useful policy implications by showing that sustainable corporate development agendas can be achieved through changing policies regarding board composition.

The remainder of the paper is structured as follows: The next section summarizes the theoretical framework that underpins the proposed hypotheses. Section three contains the study hypotheses. A detailed description of the research model, data, and the sample is provided in section four. The penultimate section presents the empirical results and a discussion of the findings, and the main conclusions are addressed in the final section.

2. Theoretical background and literature review

Recently, firms have started spending enormous amounts of resources on CSR initiatives (Lev et al., 2009). Researchers have highlighted several benefits that are associated with CSR performance. These benefits include superior financial performance (Wang and Sarkis, 2017), positive returns in the short to mid-term (Rivera-Torres et al., 2015), a lower cost of capital (El Ghouli et al., 2011), higher firm value (Petersen and Vredenburg, 2009), and greater customer attraction and brand reputation (Mason and Simmons, 2014), among a large list of positive CSR performance outcomes. These outcomes determine managers' greater incentive to invest in CSR, under the premise that CSR investment projects can be viewed as a firm's strategic choice. Thus, top-level managers are responsible for making such decisions (Aguinis and Glavas, 2012).

The extant literature unanimously agrees that CSR is a response of the individual cognition of decision makers acting in accordance with personal values, social concerns, and philanthropy or in their self-interest, and, especially, in accordance with their managerial

ability (Hubbard et al., 2017). This argument has its reason for being part of the upper echelons theory (Hambrick, 2007), under which the decisions of a CEO are taken from 'highly personalized lenses' based on their abilities, skills, and personal values (Chin et al., 2013). Similarly, this argument is also supported by the basic premise of RBV. The RBV perspective entails that experience, knowledge, and skills of top managers is a resource that helps firms configure and implement corporate strategies to achieve competitive advantage (Khan, 2018).

In this regard, Barney (1991) reasoned that manager's ability is very critical to the RBV. He argued that the ability of a manager helps him/her understand the optimal use of firm resources to generate sustained competitive advantage. The control, configuration, and reconfiguration of firm resources are under the control of a manager who can use them in a way that generates competitive advantage. The effective utilization of resources accompanied by the market knowledge and experience eases the firm path to sustained competitive advantage (Holcomb et al., 2009). Literature linking CSR with financial performance shows a positive effect of firm's engagement in CSR on above-average financial performance (Hussain et al., 2018b).

Given that CSR investment decisions are very crucial and require fundamental changes in a company's operations, it is reasonable to address the question of how CEO ability influences the CSR commitment of a firm. In this regard, several studies, such as Bertrand and Schoar (2003) and Murphy and Zbojnik (2004), recognize CEO ability as the determinant of the strategic decision-making process. This skill is also closely related to the unfavorable evaluation of business management and, thus, to the professional career concerns of CEOs (Fama, 1980; Gibbons and Murphy, 1992). Thus, to the extent that a CEO's ability determines the manager's career concerns, these concerns could cause distortions in investment decisions such as CSR (Bebchuk and Stole, 1993). Considering that CEOs are concerned about the personal evaluation by the labour market, CEOs with less managerial ability will make short-term investment decisions, given their greater risk aversion – they avoid investments with greater uncertainty, even when these investments would benefit the company in the long term (Graham et al., 2005). Less able CEOs will opt for short-term investments, for projects with lower risk, which quickly transmit their skills to the labour market (Narayanan, 1985).

Recently, CSR visibility in the financial markets has increased substantively. A recent report by the Social Investment Forum (2014) shows that socially responsible investment funds have invested in responsible stocks in the trillions of dollars. Thus, what happens under the lack of CEO ability but with the need to guarantee a CSR strategy? In the current scenario, strategic decisions taken by managers are influenced by their managerial ability and career concerns and could harm shareholder value (Roe, 1994). In order to reduce this agency conflict, shareholders demand control mechanisms or incentives that reduce the discretionary behaviour of the manager. Here corporate governance comes into play, whose main objective is to align the incentives of the manager and the shareholders (Shleifer and Vishny, 1997). Corporate governance mechanisms are expected to supervise and monitor the decision-making process of the CEO, as well as the CSR commitment of the firm (Hussain et al., 2018a).

On the one hand, CG can be viewed as a control mechanism safeguarding the interests of shareholders (Kang et al., 2007). Among CG tools, the board of directors is considered the central axis, a key in generating and preserving investor confidence, providing better access to financing, reducing agency costs, and, thus, improving the efficiency of the organizational structure (Jensen and Meckling, 1976; García-Sánchez and Martínez-Ferrero, 2017). Boards play a pivotal role in monitoring managers to reduce

the problems associated with the separation of ownership and control in public corporations (Fama and Jensen, 1983). The strategic role of boards is increasingly important beyond the mere approval of strategic management decisions (Kim et al., 2009a,b). Therefore, board responsibilities extend beyond controlling and monitoring management to ensure that it adopts decisions that are needed for the firm's long-term survival in the competitive world (Walls et al., 2012). The board represents the primary internal governance mechanism that limits the opportunistic behaviour of managers (Fama and Jensen, 1983) and support managers for a decision that is better for a firm's long-term survival. Based upon the above discussion paper propose following the conceptual framework(see: Fig. 1):

3. Research hypotheses

3.1. Deterrence effect hypothesis

With respect to CSR strategy, recently Khan (2018) reasoned that all the key governance elements in a corporation play important role in formulation and implementation of CSR strategy. CG board is one of the main drivers that promotes consideration of stakeholder perspectives and agendas, leading to general governance in accordance with stakeholder expectations (Law, 2011). CSR is a relevant strategy for meeting stakeholder expectations of customer care, employee involvement, relations with government regulators, local and national communities, social and environmental activists, and other related parties. More specifically, few board aspects closely associated to superior CSR performance are board independence (Jo and Harjoto, 2012) the existence of a CSR committee (Peters and Romi, 2014), and CSR related incentives (Schiehl and Bellavance, 2009).

Regarding board independence, it is one of the main CG mechanisms in constraining managerial discretion, decreasing agency conflicts and promoting socially responsible corporate behaviour (Aguilera et al., 2006). In this respect, board independence minimizes agency conflicts and the risk of managers' expropriation of wealth against shareholders' interests (Agrawal and Knoeber, 1996). Moreover, with respect to CSR, prior literature generally supports the notion that higher board independence increases the focus on social and environmental issues and secures the interests not only of shareholders but also those of the stakeholders (Walls et al., 2012). Nonetheless, some studies note that a greater number of independent directors decreases the socially responsible commitment (Cuadrado-Ballesteros et al., 2015). This shows that the analysis of individual relationships between CG mechanisms and CSR can lead to spurious conclusions.

Further in the CG–CSR nexus, researchers have noted that more and more companies are devoting governance resources to the specialized committees that are responsible for CSR-related issues

Fig. 1. Theoretical framework of CEO ability corporate governance and CSR performance.

(Godos-Díez et al., 2018). The main objective of such specialized committees is to guide the company towards CSR actions (Peters and Romi, 2014), as well as to help CEOs in the formulation and implementation of policies, principles, and practices to achieve sustainable development goals (Khan, 2018). Additionally, board independence and the existence of a CSR committee may reinforce the provision of some incentives to CEOs in order to promote CSR strategies – they act as effective mechanisms to enhance CSR performance.

Other than board effectiveness, firms with stronger CG mechanisms – oriented to shareholders and stakeholders – can establish monetary compensation to managers associated with CSR performance. The extant literature linking managerial incentives related to CSR and responsible behaviour yields inconsistent and inconclusive results. While McGuire et al. (2003) did not find any relationship, Mahoney and Thorne (2005) and Berrone and Gomez-Mejia (2009) suggest a positive association. Fabrizi et al. (2014), meanwhile, suggest that CEO compensation is not the unique aspect that measures their efforts in investing in CSR—it is necessary to include additional metrics beyond mere financial or economic performance (Schiehl and Bellavance, 2009). These incentives are motivational factors that help align the CEO's personal objectives with those of the shareholders, and, thus, to solve the agency problem.

To conclude the above discussion and present the testable hypothesis, it is argued that CSR-oriented governance mechanisms are conditional to CEO ability. More specifically, internal CG oriented to CSR – independence, CSR incentives, and a CSR committee – are required by shareholders and stakeholders as means to deter the undermining effects of lower CEO ability on CSR performance. Therefore, the first hypothesis of this research is:

Hypothesis 1. The effect of CSR-oriented governance mechanisms on CSR increases in the presence of less able CEOs.

The above-expected relationship between CEO ability and CSR-oriented governance mechanisms is proposed based on the premise that firms with less able CEOs would like to have a governance structure oriented to CSR that helps to achieve longer-term growth goals. On this expectation, this research proposed a complementarity effect of these governance mechanisms on the impact of CEO ability on CSR investments.

3.2. Substitution effect hypothesis

The next scenario is the existence of a less able CEO in the firm. There is no evidence in the literature to justify an assertion that less able CEOs pursue longer-term goals. In such a case, CSR-oriented governance mechanisms can be expected to mitigate the negative impact of lower ability on the firm's CSR performance. In order to justify this effect, it is necessary to point out that the purpose of corporate governance is to improve the economic performance of the company and ensure its growth. But, it is necessary that managers possess remarkable ability (Hubbard et al., 2017). Therefore, corporate governance mechanisms seek to guarantee investor confidence by providing a structure that establishes objectives to serve the interests of society, shareholders, and other interested parties (Oh et al., 2016a,b).

Based on these points, it is assumed that CSR-oriented CG ensures that investment decisions made by managers are in line with the interests of the company's shareholders, and stakeholders, to reduce the 'effects of professional concern' of less skilled CEOs. Such supervision, therefore, minimizes the possibility that less able CEOs may opt for short-term investments and avoid the risks and uncertainty (Graham et al., 2017) associated with CSR strategies (Orlitzky et al., 2003). Previously, it has been documented that, in

the presence of conflicting priorities between management and stakeholders, CSR investment decisions are controversial (Jo and Na, 2012). By aligning management and stockholders' goals and closely monitoring management decisions, CG mechanisms provide a means to reduce agency conflicts (Peters and Romi, 2014).

In this respect, selected CG mechanisms are considered as CSR-promoting governance structures. Independent directors decrease agency conflict (Aguilera et al., 2006) and try to satisfy the interests of stakeholders. They are outsiders and less subject to management pressure. Independent directors have better stakeholder orientation; therefore, they maintain the firm's orientation towards CSR (Michelon and Parbonetti, 2012). Similarly, a CSR committee establishes the guidelines, principles, or rules necessary to encourage management to intensify the commitment to CSR (Hussain et al., 2018a). Additionally, CSR incentives can condition the alignment of interests between managers and shareholders; these incentives reduce agency costs and increase legitimacy (Zhao, 2012). In this regard, under an internal governance mechanism which is oriented towards CSR, managers can be aware of internal monitoring and control, which can lead them to promote more CSR investments. Overall, the effect of managerial ability on CSR investments might be greater in those firms with internal CSR-oriented mechanisms. These mechanisms apply powerful surveillance and control over less able CEO to deter CSR underinvestment.

From the above premise, it is proposed that strong CSR-oriented governance mechanisms reinforce the positive effect of managerial ability on CSR investment and substitute the less able CEO for CSR investment decisions. Therefore, the following testable hypothesis is proposed:

Hypothesis 2. CSR-oriented governance mechanisms diminish the negative effect of lower CEO ability on a firm's CSR performance.

4. Method

4.1. Sample

The data for this study were selected due to information availability in different databases for the period of analysis, from 2006 to 2015. First, economic and financial data were collected from Compustat. Second, the internal governance data were collected from Boardex data base. Third, the information about firms' social and environmental performance were combined from the Kinder, Lydenberg, and Domini (KLD), a database that compiles information on social and environmental performance for more than 3000 companies. After excluding observations with missing information in one of the databases used (Boardex, Compustat, and KLD), a final sample of 12,166 firm-year observations spanning over 10 years (2006–2015) was available to test the hypotheses. The sample is unbalanced since not all companies are represented in all years.

4.2. Variables measurement

4.2.1. CSR performance

In line with numerous studies (e.g., Bear et al., 2010), CSR performance is drawn from the KLD database; it is based on ratings of strengths and concerns in a number of areas, including community relations, diversity, employee relations, environmental performance, product responsibility, and social practices. The use of 'strengths' and 'concerns' regarding these dimensions of social performance determines if a company is worthy of being judged as socially responsible. The strengths and concerns were summed along each of these dimensions for each company for constructing a

proxy CSR. Following Siegel and Vitalino (2007), the sum of each firm's strengths minus the sum of its weaknesses was computed.

4.2.2. Internal CSR governance mechanisms

CSRGovMech represents internal CSR-oriented governance mechanisms and is the factor obtained by a principal component analysis of board independence, the existence of a CSR committee, and the degree of the CEO's incentives to CSR that guarantees an alignment with stakeholder demands (see Annex 1). With respect to the three individual factors, the level of board independence is measured by the percentage of independent directors (Khan et al., 2013), the existence of a CSR committee is identified by a dummy variable that takes the value 1 if there is a CG board committee or director responsible for CSR and 0 otherwise (Peters and Romi, 2014), and the CSR incentives is an ordinal variable that takes values between 1 and 30 in order to determine the CSR-orientation degree of CEOs' compensation and non-compensation incentives.

4.2.3. CEO ability

The CEOAbility variable represents an estimate of how efficiently managers use their firms' resources and maintain a strong relationship between efficiency and the managers' ability. Demerjian et al. (2012a) confirm the validity of this measure of managerial ability by showing a strong association between their measure and historical industry-adjusted stock returns, historical industry-adjusted returns on assets, and CEO pay and tenure. In another study, Demerjian et al. (2012b) show that earnings quality positively relates to managerial ability using the measure introduced by Demerjian et al. (2012). Baik et al. (2013), using the same measure of managerial ability, find their results consistent across previous measures of managerial ability. Moreover, Demerjian et al. (2012a) show that this measure of managerial ability dominates alternative measures because (i) their proposed ability measure reflects, largely, individual managers' fixed effects, and (ii) the turnover announcements of outgoing CEOs with low (high) ability are associated with positive (negative) stock price reactions. These associations have not been found for any of the alternative measures of ability. In addition, Demerjian et al.'s (2012a) measure of managerial ability is more precise than the previous one: "[I]t is calculated on easily obtainable financial data and available for a broad cross-section of firms; exhibits an economically significant manager-specific component and contains less noise than existing proxies of managerial ability."

4.2.4. Control variables

In order to control for various factors that can confound the relationship between CEO ability, governance mechanisms, and CSR performance, a number of firm- and CEO-level factors were included as control variables in this research's tests. The firm-level control variables include: (i) firm size measured by the natural logarithm of total assets (*Size*); (ii) profitability is measured through the return on assets ratio (*ROA*) and is calculated by dividing net income by average total assets; and (iii) leverage measured by the ratio of total debt over equity (*Leverage*). Other variables controlled for are R&D intensity measured as the ratio of R&D expenses to sales (*R&D*) and cash flow from operations as the standard deviation of cash flow from $t - 2$ to t (*StdCFO*): firms with higher R&D expenses invest more in CSR, while firms with more cash can afford to conduct more CSR activities (Lys et al., 2015). The study also controlled for cash dividends as the dividend-paying by firms (*Div*): dividend-paying firms have been found to be associated with better CSR performance (Di Giuli and Kostovetsky, 2014). Moreover, the Kaplan-Zingales Index (*KZ-Index*) is a relative measurement of reliance on external financing calculated following Baker, Stein, and Wurgler's (2003)

formulation. Companies with higher KZ-Index scores are more likely to experience difficulties when financial conditions tighten since they may have difficulty financing CSR investments. Finally, capital expenditure measured as physical assets investments is also included (*CapEx*); these are funds used by a company to acquire or upgrade physical assets such as property, industrial buildings, or equipment.

For CEO-level controls, two variables were included that measure certain CEO characteristics. The first variable is a chair dummy (*CEO duality*) that takes the value 1 if a CEO is also the chair of the board of directors and 0 otherwise. Krause et al. (2014) show that a CEO who is also the chair of the board is more likely to have fewer career concerns. The second variable is a gender dummy (*CEOFemale*) that takes the value 1 if the CEO is female and 0 otherwise. Prior literature shows that firms with female CEOs are associated with better CSR performance (e.g., Manner, 2010; Tang et al., 2015). Finally, to control for variation across time and industry, year and industry dummies were included.

4.3. Analytical strategy

This research has two closely related objectives. First, how governance mechanisms affect the CEO ability and CSR relationship. This objective is related to Hypothesis 1 - the effect of CSR-oriented governance mechanisms on CSR increases in the presence of less able CEOs - and is examined in Model 1. In model 1, the internal CSR governance mechanisms on CEO ability and control variables were regressed.

$$\text{CSRGovMech}_{i,t} = \beta_0 + \beta_1 \text{CEOAbility}_{i,t} + \sum_{j=2}^{11} \beta_j \text{Controls}_{i,t} + \beta_{12} \text{Industry}_{i,t} + \beta_{13} \text{Year}_t + \mu_{it} + \eta_i \quad (1)$$

The second objective is to study the complementary and substitutive effect that may exist between CEO ability and internal CSR-oriented governance mechanisms to demonstrate better CSR performance by a firm. This second objective is related to hypotheses 2 - CSR-oriented governance mechanisms diminish the negative effect of lower CEO ability on a firm's CSR performance - and is examined in Model 2. In Model 2, the CSR performance is regressed on CEO ability, CSR oriented governance mechanism, the interaction between both.

$$\text{CSR}_t = \beta_0 + \beta_1 \text{CEOAbility}_{i,t} + \beta_2 \text{CSRGovMech}_{i,t} + \beta_3 \text{CEOAbility} * \text{CSRGovMech}_{i,t} + \sum_{j=4}^{13} \beta_j \text{Controls}_{i,t} + \beta_{14} \text{Industry}_{i,t} + \beta_{15} \text{Year}_t + \mu_{it} + \eta_i \quad (2)$$

All the models incorporate a firm-specific effect, η_i , that controls for the unobservable heterogeneity that affects firms' decision-making processes, while μ_{it} represents the disturbance term. The firm is represented by i , and t refers to the time period. β and ϕ are the parameters to be estimated.

The econometric models used are based on dependence techniques for panel data - 12,166 firm-year observations for the period 2006–2015 -. Regarding the technique of analysis, different regression models are applied to the panel data, with the decision regarding which analytic technique to use depending on the nature of the dependent variable and the type of function that is proposed to relate X and Y (in this case, *CSRGovMech* and *CSR* with *CEOAbility*). In this research, the dynamic panel estimator proposed by

Arellano and Bond (1991), based on the generalized method of moments (GMM) introduced by Hansen (1982), is employed. Initially, a fixed- or random-effects estimator could be used to estimate the four models, but the errors must be conditionally homoscedastic and not serially correlated. Thus, it was necessary first to test whether the model proposed in this research presents heteroscedasticity or serial correlation problems by using the Breusch–Pagan test and the Wooldridge test, respectively. The p-values obtained for each test are 0.0000, which means that the null hypotheses of homoscedastic errors and no serially correlated errors must be rejected.

Another problem, namely endogeneity, could appear in the models, due to reverse causality (Wooldridge, 2010). This arises when a proposed model might suffer from self-selection bias. Instrumental variables (IVs) may solve endogeneity, but the conventional IV estimator (although consistent) is inefficient in the presence of heteroscedasticity (Baum et al., 2003). The dynamic panel estimator proposed by Arellano and Bond (1991), based on the GMM introduced by Hansen (1982), overcomes this limitation. More concretely, the two-step estimator of Arellano and Bond (1991) is used, which was implemented in Stata by Roodman (2009). Suitable instruments adopted in the GMM are the lagged values of the right-hand side variables included in the model as instruments because they are uncorrelated with the error term when deriving the estimator (Arellano and Bond, 1991). The closest lags are the most appropriate, as the furthest do not contain information on the current value of the variables; specifically, $t - 2$ for the lagged value of the dependent variable and $t - 1$ for the remaining explanatory variables that are not strictly exogenous.

5. Results

5.1. Descriptive results

Table 1 reports some descriptive statistics (mean and standard deviation) for all the analysed variables except the industry and year dummies used in the model analysis. *CEOAbility* shows a mean value around 0.55 in a possible range between 0 and 1, while *CSR* shows a negative mean value of -0.107 , which means that, on average, the firms in the sample have more concerns than strengths in the several dimensions examined concerning socially responsible commitment. With respect to the control variables, for instance, around 5% of the CEOs are female, while 46% of the CEOs are also the chair of the firm.

Table 1
Descriptive statistics.

Variable	Mean	Std.Dv.
CEOAbility	0.550	0.261
CSR	-0.107	2.530
Size	6.874	1.854
ROA	0.002	1.005
Leverage	0.246	0.223
R&D	4.853	255.996
StdCFO	0.008	0.007
CapEx	0.740	0.430
Div	26.600	29.600
KZ-Index	-5.164	1.770
Percent		
CEOFemale	0.056	
CEODuality	46.250	

N = 12,166 firm-year observations.

5.2. Basic models: the influence of CEO ability on CSR governance mechanisms

This section presents the results of the GMM regression models used to test the relationships proposed in hypotheses 1 and 2, regressed by using Stata software. For each explanatory variable of the GMM regressions, the coefficient and the standard error associated with it are reported.¹

Table 2 summarizes the main results of Models 1 and 2. The first two columns of Table 2 provide the GMM results for Model 1. The parameter estimates for the included control variables are consistent with prior research. The coefficient of *CEOAbility* is -0.072 and is significant at 95% confidence level; this indicates that CSR-oriented governance mechanisms (*CSRGcMech*) are required by shareholders and stakeholders when firms are managed by CEOs with lower ability, in line with research Hypothesis 1. In other words, internal CSR-governance mechanisms (board independence, the existence of a CSR committee, and CSR incentives for management) are necessary under a CEO with lower managerial ability; these tools act as controlling and monitoring mechanisms that supervise the CEO's decisions (preventing their acting discretionarily in the decision-making process and underinvesting in CSR). Moreover, these tools ensure the promotion of a CSR strategy satisfying stakeholders' demands and providing benefits such as superior firm performance, lower cost of capital, and other possible CSR effects. Therefore, CSR-oriented governance mechanisms safeguard the interests of shareholders (by decreasing agency conflict) and those of stakeholders (by increasing the CSR orientation of the firm); their existence and development are closely related to CEO ability.

The second set of columns of Table 2 provide the GMM results for Model 2, which examined the complementary effect of CEO ability and CSR-governance mechanisms on CSR performance.

Table 2

Basic Models 1 and 2: CEO ability, CSR governance mechanisms and CSR performance.

	CSRGcMech "Model 1"		CSR "Model 2"	
	Coef.	z	Coef.	Z
CSRGcMech			0.495***	10.520
CEOAbility	-0.072**	-2.200	0.393***	4.690
CEOAbility* CSRGcMech			0.436***	5.960
Size	0.201***	7.310	0.374***	4.440
ROA	-0.636***	-7.510	-0.317*	-1.920
Leverage	-0.236***	-2.740	0.628***	3.430
R&D	0.021***	7.420	0.029***	3.470
StdCFO	-0.365**	-2.170	-8.001***	-13.240
CapEx	-0.232	-1.530	2.706***	3.990
Div	0.027**	2.090	0.003	0.670
KZ_Index	-0.344***	-4.570	-1.588***	-6.090
CEODuality	-0.052	-1.520	-0.251***	-2.740
CEOFemale	0.013	0.090	11.202***	15.340
Z	348.63 (12)		3854.23 (13)	
m ₁	-7.43		-7.03	
m ₂			-4.34	
Hansen	293.74 (243)		344.18 (276)	

N = 12,166 firm-year observations.

Significance levels: *p < .10. **p < .05. ***p < .01.

¹ Some additional results are provided for each model: (i) z, which is a Wald test of the joint significance of the reported coefficients; (ii) m₁ (m₁ and m₂), which is a serial correlation test of order i using residuals in first differences; and (iii) Hansen, which is a test of over-identifying restrictions.

Again, the parameter estimates for the included control variables are consistent with prior research. Interesting results come from this table. First, according to the premise of this research, the coefficient of *CEOAbility* on *CSR performance* is 0.393 and is significant at a 99% confidence level. This indicates, as proposed that abler CEOs show a higher preference for long-term investments such as CSR. They have less career concern and, hence, can choose riskier investments. In other words, less able CEOs are less oriented to CSR investments because of: their career concerns, their preference for short-term investments, the uncertainty associated with CSR strategies.

Second, the coefficient of *CSRGvMech* is 0.495 and is significant at a 99% confidence level, indicating the positive impact of internal governance mechanisms oriented to CSR on the promotion of this strategy. In line with expectations, higher board independence, the existence of a CSR committee, and CSR incentives for managers reinforce the CSR commitment of a firm. Finally, as the main result, the evidence is provided of the complementary effect between CEO ability and these governance mechanisms on CSR performance proposed in research *Hypothesis 1*. The coefficient of *CEOAbility* * *CSRGvMech* is 0.436 and is significant at a 99% confidence level. CEO ability positively impacts CSR performance with a coefficient of 0.393. However, the interaction of these CEOs with CSR-oriented CG reinforces the positive impact ($0.393 + 0.436 = 0.839$). Overall, the results support the positive effect of CEO ability and of CSR-oriented governance mechanisms on CSR performance and the complementary relationship between both on CSR.

In order to obtain robust evidence of our previous results by using alternative estimation procedures, *Table 3* reports the results of Model 1 and 2 by using OLS. More specifically, using random effects according to the Hausman test.

Results are precisely similar to the above. First, in Model 1, the coefficient of *CEOAbility* is -0.340 and is significant at a 99% confidence level, in line with research *Hypothesis 1*. We again confirm that internal CSR-governance mechanisms are necessary under a CEO with lower managerial ability. Second, in Model 2, results again are the following. The coefficient of *CEOAbility* on CSR performance is 0.0572 and is significant at 99% confidence level, and the coefficient of *CSRGvMech* is 0.164 and is significant at 99% confidence level, confirming the positive effect of internal governance mechanisms oriented to CSR on its performance. As the main result, the coefficient of *CEOAbility* * *CSRGvMech* is 0.316 and is

significant at a 99% confidence level. From the above, results again support those internal governance mechanisms oriented to CSR moderate the positive influence of CEO ability on CSR performance.

From the above, in line with the scarce prior studies about this topic, this research supports the assertion that less able CEOs show a lower preference for CSR investments; they are more aware of their professional career concerns, a possible negative evaluation by the labor market, and the possible risk of replacement (Hölmstrom, 1999; Hubbard et al., 2017). With these concerns, less able CEOs show a higher preference for short-term investments that lead to positive returns in the short term (Graham et al., 2005). Considering CSR as a long-term investment with more risk and uncertainty, less able CEOs curtail their CSR orientation. Under such circumstances, CG mechanisms play a vital role ensuring ethical firm behaviour, reducing agency problems, and boosting a firm's financial and nonfinancial performance (Gompers et al., 2003; Kang et al., 2007). Thus, it is proposed that CSR-oriented governance mechanisms have a substitutive effect in their relationship with CEO ability. The evidence is provided that CG mechanisms oriented to CSR are conditional to the presence of less able CEOs.

This research provides fact-based evidence regarding superior CSR performance when CEO ability is higher and, mainly, when CSR-oriented governance mechanisms are in place. Thus, first, this research also supports the notions that abler CEOs and CSR-oriented governance mechanisms enhance firms' CSR performance. These facts corroborate the claims of many previous studies about the relationship between managers' abilities and their long-term orientation (Holcomb et al., 2009; Galbreath, 2016). This evidence also supports those prior studies that agree in defending the positive impact of stronger corporate governance on a firm's CSR commitment (Michelon and Parbonetti, 2012; Peters and Romi, 2014). As Law (2011) defends, this research provides findings consistent with the strength of corporate governance contributions to the consideration of stakeholders' perspectives and agendas.

Second, this research supports those prior studies that argue for a negative association between less able CEOs and CSR performance. Given their career concerns, CEOs with lower managerial ability opt for short-term investments – projects with lower risk and uncertainty that quickly transmit their ability to the labor market (Narayanan, 1985); thus, less able CEOs do not promote CSR strategies. This research supports the Graham et al. (2005) study by confirming the CSR strategy of firms with abler CEOs, who are oriented to long-term investments given their lack of career concerns.

Finally, as one of the main contributions of this paper, it supports the complementary effect between CEO ability and CSR oriented CG on the promotion of superior CSR commitment. In other words, internal governance mechanisms oriented to CSR moderate the positive influence of CEO ability on socially responsible performance.

5.3. The role of internal CSR-oriented governance mechanisms and less able CEOs

In the theoretical framework for this research, it is proposed that, in the case of abler CEOs, internal governance complements the abilities of the CEO in achieving superior firm performance. In the same vein, these CG mechanisms should be effective to monitor CEOs with lower ability to achieve similar levels of performance. It is argued that the CEO's decision to invest in CSR is more pronounced when his/her ability is higher. Additionally, this effect is significantly moderated by internal CG mechanisms because of the marginal benefit of monitoring. To explore this issue in more detail, following Chatjuthamard et al. (2016), it was necessary first to determine the non-monotonic U-shaped curve, i.e., negative for

Table 3
Robust Analyses. CEO ability, CSR governance mechanisms and CSR performance by using OLS random effect according Hausman test.

	CSRGvMech "Model 1"		CSR "Model 2"	
	Coef.	z	Coef.	z
CSRGvMech			0.164***	5.130
CEOAbility	-0.340***	-3.110	0.572***	9.790
CEOAbility * CSRGvMech			0.316**	2.160
Size	0.203***	12.450	0.193***	3.760
ROA	-0.047	-1.140	-1.176***	-2.860
Leverage	-0.058	-0.690	0.346	1.180
R&D	0.034***	2.620	0.050	1.010
StdCFO	-0.233***	-2.630	-0.284	-0.970
CapEx	0.000***	4.240	0.000***	3.230
Div	0.014	1.630	0.012	0.080
KZ_Index	-0.172***	-10.250	-0.089*	-1.810
CEODuality	-0.000	-0.020	-0.309***	-3.390
CEOFemale	0.307***	3.050	5.386***	14.540
R ²	0.377***		0.406***	

N = 12,166 firm-year observations.

Significance levels: *p < .10. **p < .05. ***p < .01.

lower managerial ability and positive for stronger managerial ability. For this, CSR in Model 2 was regressed on *CEOAbility* and the square of it, *CEOAbility*², in a first stage. This makes it possible to estimate the threshold where CEOs are more and less oriented to CSR investments according to their managerial ability.

Table 4 shows the regression results for Model 2 including these two variables.² The results reflect that less able CEOs perceive investments in CSR as diverting resources away from other corporate activities; the coefficient of *CEOAbility* is -0.758 and is significant at a 99% confidence level. As a result, they discourage CSR investments and opt for short-term investments that generate positive returns quickly. However, the coefficient of *CEOAbility*² is 0.581 and is significant at the 99% confidence level. Hence, CEOs with strong managerial ability view investments in CSR as beneficial to the firm and, therefore, promote CSR activities. They also have lower career concerns and, therefore, are able to invest in long-term and risky investments such as CSR.

Regarding the monotonic effect of managerial ability on CSR, in order to determine the point Φ_1 where the change in the effect of this variable takes place, it was necessary to estimate $\Phi_1 = -(\beta_1/2\beta_2) = -(-0.758/2*0.581) = 0.652$. Thus, those managers who rank above the 75th percentile can be considered inclined towards CSR, whereas those below this threshold are considered against CSR investments. When CEO ability (between 0 and 1) takes a value above 0.652, the manager's preference for CSR investments is higher, and the firm shows a superior socially responsible commitment.

As can be observed in the second model of Table 4, Model 2 was regressed again, but *CEOAbility* was replaced with *LessAbleCEO*.³ Regressing Model 2 with these changes, again, the presence of internal CG mechanisms positively impacts CSR performance (coeff.

0.830, significant at 99% confidence level). Results also show that the coefficient of *LessAbleCEO* on CSR is -0.444 and is significant at a 99% confidence level. Thus, firms headed by CEOs with lower managerial ability show a weaker socially responsible performance. However, when these CEOs operate in firms with stronger corporate governance, the negative impact on CSR performance is lower. The coefficient of *LessAbleCEO * CRGvMech* is -0.340 and is significant at a 99% confidence level. This shows a stronger moderating effect of CG mechanisms on the relationship between CEO ability and CSR. On the other hand, the coefficient of CG mechanisms is much larger than in Table 3. This shows that when CEOs are weaker in their abilities, CG mechanisms substitute for them in influencing the firm's orientation towards CSR.

Overall, this first analysis evidenced the following: First, there is a threshold level of CEO ability that uplifts CSR in a firm (i.e., 0.652). Second, CG mechanisms that are oriented towards CSR are able to complement higher-ability CEOs in positively affecting CSR performance. Third, despite the fact that less able CEOs decrease CSR investments, this behaviour can be discouraged by the CG board if it devotes resources for the promotion of CSR. Finally, through CG mechanisms, shareholders can reduce agency concerns associated with underinvestment in CSR, monitor CEOs, and reinforce the firm's CSR orientation.

5.4. CEOs and high-growth firms

This section examines the previous relationships for firms under the circumstance of superior growth opportunities. In this respect, Barth et al. (1999) note that the market reacts negatively towards companies that interrupt a sequence of positive results, despite higher-growth opportunities. It is, therefore, necessary that a CEO maintain this growth tendency. Kim et al. (2012) document that more socially responsible companies have more opportunities for growth and better economic performance than companies that are less socially engaged. Keeping these evidence in view, this research considered whether growth opportunities affect the relationship between CEO ability and CSR. Table 5 presents the results.

In addition to the previous results, the same analysis results of CEO ability, CSR-oriented governance, and CSR relationship are presented. The main results are related to the interaction with growth opportunities. Here, the negative association between CEO ability and CSR-governance mechanisms is moderated in firms with higher growth opportunities (coeff. *CEOAbility* -0.053 + coeff. *GrowthOpp * CEOAbility* $0.001 = -0.052$). Although the effect is reduced, it is argued that the need of CSR-governance mechanisms as a result of a lack of CEO ability is lower in firms with superior growth opportunities (-0.052) than in firms with lower opportunities (-0.053). One possible reason could be the positive impact of *GrowthOpp* on CSR. Economically, it is assumed that firms with growth opportunities are willing to invest in CSR to gain the associated benefits of long-term higher financial performance, lower cost of capital, and better image building (Fombrun, 2005; El Ghoul et al., 2011). This research also supports the complementary relationship between CEO ability and CSR-governance mechanisms. More specifically, the complementary association between CEO ability and CSR-governance mechanisms on CSR performance is higher in firms with higher growth opportunities (coeff. *CEOAbility * CRGvMech* 0.285 + coeff. *GrowthOpp * CEOAbility * CRGvMech* $0.004 = 0.289$). The complementary role is higher for those firms with higher growth opportunities (0.289) than for those firms with lower opportunities (0.285).

Overall, this research supports the moderating effect of growth opportunities on the effect of CEO ability on internal governance mechanisms and the complementary effect between both for increasing the socially responsible commitment of a firm.

Table 4

The role of internal CSR-oriented governance mechanisms, CSR performance and less able CEOs.

	CSR "Model 2"		CSR "Model 2"	
	Coef.	z	Coef.	Z
<i>CEOAbility</i>	-0.758^{***}	-16.190		
<i>CEOAbility</i> ²	0.581^{***}	3.710		
<i>CRGvMech</i>			0.830^{***}	16.220
<i>LessAbleCEO</i>			-0.444^{***}	-9.650
<i>LessAbleCEO * CRGvMech</i>			-0.340^{***}	-7.190
Size	1.076^{***}	19.000	0.152^{**}	2.190
ROA	-0.590^{***}	-6.490	0.277	1.550
Leverage	0.076	0.900	2.017^{***}	10.210
R&D	-0.003^{***}	-3.640	0.014^{**}	2.010
StdCFO	0.000^{***}	-18.050	-4.139^{***}	-10.000
CapEx	1.428^{***}	7.930	-0.697	-1.410
Div	0.175^{***}	16.820	0.059^{***}	11.600
KZ_Index	0.000^{***}	20.780	-2.306^{***}	-10.430
CEODuality	-0.008	-0.310	-0.071	-0.990
CEOFemale	4.338^{***}	32.030	11.116^{***}	18.870
Z	$154,555.49$ (17)		5882.37 (13)	
m ₁	-3.49		-7.08	
m ₂	-2.46		-4.27	
Hansen	298.95 (271)		384.23 (310)	

N = 12,166 firm-year observations.

Significance levels: *p < .10, **p < .05, ***p < .01.

² Results of complementary analyses (Tables 4–7) are also robust.

³ A dummy that takes a value of 1 if *CEOAbility* is lower than 0.652 and 0 otherwise.

Table 5

Basic Models 1 and 2: CEO ability, CSR governance mechanisms and CSR performance in firms with growth opportunities.

	CSRGovMech "Model 1"		CSR "Model 2"	
	Coef.	z	Coef.	z
CSRGovMech			0.452***	35.590
CEOAbility	−0.053***	−2.870	0.575***	17.860
CEOAbility* CSRGovMech			0.285***	9.910
GrowthOpp	0.000***	5.230	0.001***	6.510
GrowthOpp*CEOAbility	0.000***	3.690	−0.001***	−2.600
GrowthOpp*CSRGovMech			−0.001***	−6.670
GrowthOpp*CEOAbility*CSRGovMech			0.004***	8.580
Size	0.176***	8.880	0.433***	9.440
ROA	−0.620***	−11.980	−0.516***	−5.910
Leverage	0.092**	1.930	0.146**	2.080
R&D	0.012***	6.140	0.043***	10.740
StdCFO	−0.209**	−2.570	−6.789***	−25.320
CapEx	−0.324***	−4.050	2.059***	6.400
Div	0.009***	15.140	−0.021***	−7.150
KZ_Index	−0.297***	−5.220	−1.930***	−13.080
CEODuality	0.011	0.710	−0.122***	−3.900
CEOFemale	0.083	0.990	11.177***	38.320
Z	22,189.21(14)		93,333.12 (18)	
m ₁	−7.03		−6.74	
m ₂	−3.50		−3.73	
Hansen	303.72 (275)		386.11 (339)	

N = 12,166 firm-year observations.

Significance levels: *p < .10. **p < .05. ***p < .01.

5.5. CSR strength vs. concerns and CSR gap

Existing CSR literature shows that CSR strengths and concerns are distinctively rated, which can result in spurious or confounding outcomes (Mattingly and Berman, 2006; Bear et al., 2010). In order to overcome this limitation and further validate the results of this research, these two CSR dimensions are used separately. The strengths of CSR are the positive results firms obtain from their CSR initiatives, and concerns include the elements that need the firm's further attention and show the firm's incapability to improve its CSR performance (Walls et al., 2012). In addition to this, the issue of greenwashing is addressed by using the CSR gap (the difference between the internal actions developed by the firm and those communicated to public; see Hawn and Ioannou, 2016) as one of the dependent variables.

Tables 6 and 7 show the results of the auxiliary analysis and reveal interesting facts. As expected, the existence of CSR-governance mechanisms is positively associated with CSR strengths and negatively with CSR concerns, showing that these mechanisms support CSR investments.

Additionally, higher CEO ability shows a similar relationship with CSR governance dimensions. With respect to the effect between both, the results show that it is complimentary for increasing CSR strengths and decreasing CSR concerns. Likewise, similar results are found for CEO ability, CSR governance, and CSR. In other words, abler CEOs in firms with CSR-governance mechanisms are less engaged in greenwashing and the instrumental use of CSR. This means abler CEOs and CSR-oriented governance mechanisms promote ethical behaviour within the firm.

Regarding Table 7, the previous models were re-estimated by

Table 6

The role of internal CSR-oriented governance mechanisms and CEO ability on CSR strength vs. concerns and CSR gap.

	CSR_gap		CSRStrengths		CSRConcerns	
	Coef.	Z	Coef.	z	Coef.	z
CSRGovMech	0.007***	3.830	0.596***	9.820	−0.166*	−1.890
CEOAbility	0.010**	2.320	0.306***	2.960	−1.221***	−7.330
CEOAbility* CSRGovMech	−0.018***	−5.560	0.500***	4.540	−0.283**	−1.980
Size	−0.010**	−2.090	0.754***	7.530	0.260**	2.570
ROA	0.025**	2.390	−0.946***	−4.260	0.067	0.210
Leverage	−0.054**	−2.470	−0.004	−0.020	−1.877***	−6.040
R&D	−0.050	−1.060	0.057***	5.800	0.045***	3.050
StdCFO	−0.008	−0.600	−4.376***	−6.610	0.565	0.780
CapEx	0.000***	57.910	0.000***	16.170	0.000***	−7.370
Div	−0.003***	−15.610	−0.054***	−8.050	−0.052***	−5.420
KZ-Index	0.064***	6.120	3.278***	8.310	6.321***	24.070
CEODuality	0.019***	4.370	0.288***	3.050	0.482***	4.490
CEOFemale	−0.165***	−10.780	6.925***	6.130	0.004	0.010
Z	1000.60(13)		1089.66 (13)		2236.31 (13)	
m ₁	−4.35		−6.83		−9.37	
m ₂	−1.02		−4.50		0.68	
Hansen	188.93 (189)		249.86 (208)		358.42 (157)	

N = 12,166 firm-year observations.

Significance levels: *p < .10. **p < .05. ***p < .01.

Table 7

The role of internal CSR-oriented governance mechanisms and less able CEOs on CSR strength vs. concerns and CSR gap.

	CSR_gap		CSRStrengths		CSRConcerns	
	Coef.	z	Coef.	z	Coef.	Z
CSRGovMech	−0.003	−1.330	0.666***	6.160	−0.033	−0.410
LessAbleCEO	0.012***	2.930	0.128	1.030	0.423***	6.020
LessAbleCEO * CSRGovMech	0.000	0.060	−0.164	−1.310	0.237***	3.040
Size	−0.033***	−6.640	0.647***	5.260	0.414***	4.490
ROA	0.029**	2.230	−1.146***	−3.570	−0.303	−1.060
Leverage	−0.066***	−3.340	−0.407	−1.370	−2.040***	−7.920
R&D	−0.180***	−3.240	0.053***	3.680	0.061***	4.960
StdCFO	−0.019	−1.160	−4.762***	−5.840	3.309***	5.040
CapEx	0.000***	58.710	0.000***	14.400	0.000***	−7.630
Div	−0.003***	−15.970	−0.054***	−7.070	−0.064***	−7.510
KZ-Index	0.036***	3.290	2.912***	6.800	5.973***	22.020
CEODuality	0.025***	6.950	0.226**	2.090	0.660***	9.170
CEOFemale	−0.158***	−9.290	7.022***	5.580	0.232	0.320
Z	777.70 (13)		823.86 (13)		3595.31 (13)	
m ₁	−4.49		−6.75		−9.41	
m ₂	−0.85		−4.44		0.66	
Hansen	190.66 (189)		227.50 (174)		363.08 (174)	

N = 12,166 firm-year observations.

Significance levels: *p < .10. **p < .05. ***p < .01.

replacing *CEOAbility* with *LessAbleCEO*. Table 7 shows the results, which are in line with those obtained previously. The primary result obtained is that the negative impact of less CEO ability on CSR performance is lower when firms have CSR-oriented governance mechanisms. More specifically, the lower ability of a CEO is positively associated with greenwashing (CSR gap) and CSR concerns. The results regarding CG mechanisms are consistent with a positive association with CSR strengths. The presence of CSR-promoting governance in a firm prevents a less able CEO from engaging in greenwashing. Similarly, this presence of CSR-oriented CG helps a firm reduce CSR concerns.

5.6. Discussion of results

The findings support the notion of a resource-based view and show that CEO ability promotes ethical business conduct. This is consistent with the idea of considering management ability as a unique resource (Holcomb et al., 2009) and CSR as a means to achieve competitive advantage (McWilliams and Siegel, 2011).

Researchers in the field of management have widely used resource-based theory to explain differences in organizational outcomes (Barney, 1991). In this respect, the identification of resources has received particular scholarly attention (Peteraf and Barney, 2003). Penrose (1959) long ago acknowledged the adhesiveness of managerial ability – its capacity to join resources in an efficient way to achieve competitive advantage. She considered managerial ability one of the rare resources to achieve competitive advantage. Most of the scholarship has focused on the economic outcomes of these rare and unique resources (Hansen et al., 2004). Recently, the non-economic outcomes (e.g., CSR, environmental performance) have received some attention (McWilliams and Siegel, 2011). However, no study so far has explored the link between managerial ability and CSR practices. This study fills this void and shows that managerial ability not only enhances a firm's CSR engagement but also eliminates the risk of being labeled unethical.

Additionally, this research also finds that specific governance mechanisms can further a firm's engagement in such beneficial activities. More specifically, this research documents that internal CSR-oriented governance mechanisms are able to substitute for a less able CEO to achieve a similar level of desired strategy implementation. Moreover, with respect to CSR performance, the strength of the internal CSR-oriented governance mechanisms

reinforces the positive effect of managerial ability on CSR investment and contributes to increasing a firm's socially responsible performance. This result is in line with the view that governance structure can also act as a rare resource and help a firm achieve better performance (Galbreath, 2016).

Both agency theory and the resource-based view jointly advocate the presence of efficient top management and an ideal mix of CG mechanisms that help a firm enhance the effectiveness of its resource deployment (Fama and Jensen, 1983). Furthermore, these theories provide a rationale to assume that, in the absence of an efficient manager, strong CG board mechanisms can protect the interests of owners (Jensen and Meckling, 1976) and prevent conflicts with stakeholders (Galbreath, 2016). Sundaramurthy (1996) argues in this respect that poor management can lead to the inappropriate deployment of resources, which in turn can lead to poor firm performance. In a similar vein, Kor and Mahoney (2005) note that effective CG can overcome this problem of inefficient use of resources and improve the strategy-setting process. The results of this research further strengthen this view and point out stronger complementarities between CEO ability and CSR-oriented mechanisms.

6. Conclusions

The main objectives of this study are to shed light on two important facts that have been mainly ignored in the existing literature: first, how managerial ability can determine the level of CSR in a company, and second, how specific elements of a CG board can complement or substitute for the effect of managerial ability on a firm's level of CSR engagement. In order to achieve these research objectives, longitudinal data from US-listed firms covering a period 10 years were used. This yielded 12,166 firm-year observation. The state-of-the-art methodology was applied to overcome the endogeneity issue associated with this kind of analysis and unearth essential facts. This research finds strong complementarities between CEO ability and internal CSR oriented governance mechanisms (i.e., board independence, the presence of a sustainability committee, and social performance-related incentives for managers) in enhancing CSR performance within a firm. Conventionally, it is considered that CEOs are less likely to engage in CSR activities, while findings of this paper shed light on the brighter side of CEO ability.

This paper contributes to the previous literature in several ways. It aims to contribute to the discussion and understanding of the role that CEO ability plays in strategic decisions and in the development of internal governance mechanisms oriented towards CSR. First, to the best of the present authors' knowledge, this is the first study examining the complementarities and substitutions between selected governance elements and the CEO's ability in the promotion of CSR investments. Recently, researchers have observed that CEO ability affects CSR decisions; however, it remained unclear how CEO ability is complemented and/or substituted by CG mechanisms. This study fills this void. Moreover, it focuses not only on governance mechanisms oriented to CSR but also on the impact of CEO ability on CSR performance – even more, it considers the CSR gap to distinguish between symbolic and substantive CSR actions. These relationships remain unexplored in the existing literature. Furthermore, the results of this research are robust and consistent, which facilitates the provision of useful facts for guiding future research.

Moreover, this study provides a theoretical explanation of how stronger CG can monitor and control the decision-making process of less able CEOs. The CG–CSR nexus has been widely researched in the last couple of decades, yet the results are equivocal and competing. This research sheds new light on the fact that CG mechanisms do interact with managerial ability to affect strategic decisions within a firm. Finally, in terms of methodology, it is necessary to highlight the following: While most prior studies examine board composition (independence, for instance) as exogenous attributes associated with corporate governance tools, this study examines CSR-governance mechanisms as an endogenous outcome through a composite score that considers several board aspects: the presence of independent directors, the existence of a CSR committee, and CSR incentives.

This paper presents some practical implications regarding the relevance of CSR strategy for society and policymakers. From these insights, it is necessary to understand that managers and CEOs are concerned about their career prospects, and their strategic decisions are significantly affected by their personal preferences. When policymakers motivate CEOs to promote a CSR strategy, it is necessary to take into consideration the CEOs' personal attributes and particularly their career concerns. For instance, policymakers could associate CEOs' salaries with CSR indicators or establish long-term stock options linked to superior firm performance – the CEOs will show, then, a greater commitment to promoting CSR practices for increasing this performance. In to advance the sustainable development agenda in corporations, policymakers may consider making changes in CG codes to enhance corporations' CSR engagement. For managers, it is essential to understand the benefits associated with CSR, despite the fact that these benefits are long-term rather short term. Furthermore, the attainment of able managers is never an easy job for a firm, but restructuring governance is rather simple for policymakers. A clear understanding of the benefits of CSR will allow managers to increase their legitimacy and, hence, improve their future employability.

The results of this study should be interpreted cautiously since

this research is subject to certain limitations. First, related to the CSR measures, this study examines only the global construct of CSR. Thus, it can come to no conclusions about the individual dimensions of CSR (e.g., human rights, diversity, employees, or the environment). Second, this research complements prior literature with evidence drawn from a US sample. Future research may address similar research questions with an international sample that will make it possible to discover interesting facts about culture, legislative and legal frameworks, and differences in corporate governance systems. Moreover, to generalize the findings beyond the listed firms, it is recommended that researchers explore the evidence presented in this paper with non-listed and small and medium-sized companies and examine the underlying relationships in the context of greater stakeholder or shareholder protections, different legal systems, and cultural values, and so forth. Finally, our research model has some limitations related to control variables that could have been included. In our regression equation, we controlled for several firms and CEO related variables, included industry and year effects. However, other control variables (e.g., the stage in the CEO's career or the length of the contractual relationship between the firm and the CEO) should be included in regression estimations in order to avoid mis-specifying the model. Accordingly, future research may follow a similar research question by analysing other CEO's personality and career-related aspects and their complementarities and substitutions with ability dimension.

Acknowledges

The authors wish to acknowledge the financial support from the Ministry of Science and Innovation for the research project ECO2013–43838P and from the University of Salamanca for the research project DISAQ. Any errors included in this paper are sole responsibility of the authors.

Annex 1. Factorial analysis of internal CSR governance mechanisms

Table A1.1 shows the descriptive statistics of the internal CSR-oriented governance mechanisms. As can be observed, on average 24.13% of the companies have a CSR committee, while, the mean presence of independent directors is around 75%. On average, the incentives present and CSR-orientation for around 9 points of 30 potential points.

These variables were grouped by a factorial analysis; the results are shown in Table A1.1. The Kaiser–Meyer–Olkin (KMO) measure of sample suitability is 0.593, which is higher than 0.5, the minimum variable of suitability, and the Bartlett test of sphericity is significant at the 99% confidence level. This means that the results of the factorial analysis provide an adequate basis for the empirical examination. The results show one factor, **CSRGovMech**, which defines the CSR orientation of the internal governance mechanisms' characteristics across firms. All of the variables have a positive charge on the factor.

Table A1.1
Factorial analysis of CSR governance mechanisms.

	Board	Mean	Std Dvt
Independent directors on board	0.636	75.026%	20.024%
CSR committee	0.833	24.130%	
CSR-oriented incentives	0.781	8.592	2.681
Variance accounted for = 56.925%			
Kaiser–Meyer–Olkin (KMO) measure of sample suitability	0.593		
Bartlett test of sphericity (chi-square)	4778.134		
p-value	0.000		

References

- Adams, C.A., McNicholas, P., 2007. Making a difference: sustainability reporting, accountability, and organisational change. *Account. Audit. Account. J.* 20 (No. 3), 382–402.
- Agrawal, A., Knoeber, C.R., 1996. Firm performance and mechanisms to control agency problems between managers and shareholders. *J. Financ. Quant. Anal.* 31 (No. 3), 377–397.
- Aguilera, R.V., Williams, C.A., Conley, J.M., Rupp, D.E., 2006. Corporate governance and social responsibility: a comparative analysis of the UK and the US. *Corp. Govern. Int. Rev.* 14 (No. 3), 147–158.
- Aguinis, H., Glavas, A., 2012. What we know and don't know about corporate social responsibility: a review and research agenda. *J. Manag.* 38 (No. 4), 932–968.
- Ali, A., Li, N., Zhang, W., 2015. Managers' career concerns and asymmetric disclosure of bad versus good news. In: Working Paper. Univ. Texas at Dallas.
- Arellano, M., Bond, S., 1991. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Rev. Econ. Stud.* 58, 277–297.
- Baik, B., Chae, J., Choi, S., Farber, D.B., 2013. Changes in operational efficiency and firm performance: a frontier analysis approach. *Contemp. Account. Res.* 30 (No. 3), 996–1026.
- Baker, M., Stein, J.C., Wurgler, J., 2003. When does the market matter? Stock prices and the investment of equity-dependent firms. *Q. J. Econ.* 118 (No. 3), 969–1005.
- Barney, J., 1991. Firm resources and sustained competitive advantage. *J. Manag.* 17 (No. 1), 99–120.
- Barth, M.E., Beaver, W.H., Hand, J.R.M., Landsman, W.R., 1999. Accruals, cash flows, and equity values. *Rev. Account. Stud.* 4 (No. 3–4), 205–229.
- Baum, C.F., Schaffer, M.E., Stillman, S., 2003. Instrumental variables and GMM: Estimation and testing. *STATA J.* 3 (1), 1–31.
- Bear, S., Rahman, N., Post, C., 2010. The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *J. Bus. Ethics* 97 (No. 2), 207–221.
- Bebchuk, L.A., Stole, L.A., 1993. Do short-term objectives lead to under- or over-investment in long-term projects? *J. Finance* 48 (No. 2), 719–729.
- Berrone, P., Gomez-Mejia, L.R., 2009. Environmental performance and executive compensation: an integrated agency-institutional perspective. *Acad. Manag. J.* 52 (No. 1), 103–126.
- Bertrand, M., Schoar, A., 2003. Managing with style: the effect of managers on firm policies. *Q. J. Econ.* 118 (No. 4), 1169–1208.
- Cespa, G., Cestone, G., 2007. Corporate social responsibility and managerial entrenchment. *J. Econ. Manag. Strat.* 16 (No. 3), 741–771.
- Chang, Y.Y., Dasgupta, S., Hilary, G., 2010. CEO ability, pay, and firm performance. *Manag. Sci.* 56 (No. 10), 1633–1652.
- Chatjuthamard, P., Jiraporn, P., Tong, S., Singh, M., 2016. Managerial talent and corporate social responsibility (CSR): how do talented managers view corporate social responsibility? *Int. Rev. Finance* 16 (No. 2), 265–276.
- Chin, M.K., Hambrick, D.C., Treviño, L.K., 2013. Political ideologies of CEOs: the influence of executives' values on corporate social responsibility. *Adm. Sci. Quart.* 58 (No. 2), 197–232.
- Coles, J.L., Daniel, N.D., Naveen, L., 2014. Board groupthink. In: Univ. Utah. Working Paper.
- Cuadrado-Ballesteros, B., Rodríguez-Ariza, L., García-Sánchez, I.M., 2015. The role of independent directors at family firms in relation to corporate social responsibility disclosures. *Int. Bus. Rev.* 24 (No. 5), 890–901.
- Demerjian, P., Lev, B., McVay, S., 2012a. Quantifying managerial ability: a new measure and validity tests. *Manag. Sci.* 58 (No. 7), 1229–1248.
- Demerjian, P.R., Lev, B., Lewis, M.F., McVay, S.E., 2012b. Managerial ability and earnings quality. *Account. Rev.* 88 (2), 463–498.
- Di Giuli, A., Kostovetsky, L., 2014. Are red or blue companies more likely to go green? Politics and corporate social responsibility. *J. Financ. Econ.* 111 (No. 1), 158–180.
- Eberhardt-Toth, E., 2017. Who should be on a board corporate social responsibility committee? *J. Clean. Prod.* 140, 1926–1935.
- El Ghouli, S., Guedhami, O., Kwok, C.C., Mishra, D.R., 2011. Does corporate social responsibility affect the cost of capital? *J. Bank. Finance* 35 (9), 2388–2406.
- Fabrizi, M., Mallin, C., Michelson, G., 2014. The role of CEO's personal incentives in driving corporate social responsibility. *J. Bus. Ethics* 124 (No. 2), 311–326.
- Fama, E., 1980. Agency problems and the theory of the firm. *J. Polit. Econ.* 88 (No. 2), 288–303.
- Fama, E.F., Jensen, M.C., 1983. Separation of ownership and control. *J. Law Econ.* 26 (No. 2), 301–325.
- Fombrun, C.J., 2005. A world of reputation research, analysis and thinking—building corporate reputation through CSR initiatives: evolving standards. *Corp. Reput. Rev.* 8 (No.1), 7–12.
- Galbreath, J., 2016. When do board and management resources complement each other? A study of effects on corporate social responsibility. *J. Bus. Ethics* 136 (No. 2), 281–292.
- García-Sánchez, I.M., Martínez-Ferrero, J., 2017. Independent Directors and CSR Disclosures: the moderating effects of proprietary costs. *Corp. Soc. Responsib. Environ. Manag.* 24 (No. 1), 28–43.
- Gibbons, R., Murphy, K.J., 1992. Optimal incentive contracts in the presence of career concerns: theory and evidence. *J. Polit. Econ.* 100 (No. 3), 468–505.
- Gillan, S.L., 2006. Recent developments in corporate governance: an overview. *J. Corp. Finance* 12 (No. 3), 381–402.
- Godos-Díez, J.L., Cabeza-García, L., Alonso-Martínez, D., Fernández-Gago, R., 2018. Factors influencing board of directors' decision-making process as determinants of CSR engagement. *Rev. Manag. Sci.* 12 (No.1), 229–253.
- Gompers, P., Ishii, J., Metrick, A., 2003. Corporate governance and equity prices. *Q. J. Econ.* 118 (No. 1), 107–156.
- Graham, J.R., Harvey, C.R., Rajgopal, S., 2005. The economic implications of corporate financial reporting. *J. Econ. Account.* 40 (1–3), 3–73.
- Graham, J.R., Kim, H., Leary, M.T., 2017. CEO power and board dynamics. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2938120.
- Hambrick, D.C., 2007. Upper echelons Theory: an update. *Acad. Manag. Rev.* 32 (No. 2), 334–343.
- Hansen, L., 1982. Large sample properties of generalized method of moments estimators. *Econometrica* 50 (No. 3), 1029–1054.
- Hansen, M.H., Perry, L.T., Reese, C.S., 2004. A Bayesian operationalization of the resource-based view. *Strat. Manag. J.* 25 (13), 1279–1295.
- Hawn, O., Ioannou, I., 2016. Mind the gap: the interplay between external and internal actions in the case of corporate social responsibility. *Strat. Manag. J.* 37 (No.13), 2569–2588.
- Hermalin, B.E., Weisbach, M.S., 1998. Endogenously chosen boards of directors and their monitoring of the CEO. *Am. Econ. Rev.* 96–118.
- Holcomb, T.R., Holmes Jr., R.M., Connelly, B.L., 2009. Making the most of what you have: managerial ability as a source of resource value creation. *Strat. Manag. J.* 30 (No. 5), 457–485.
- Holmström, B., 1999. Managerial incentive problems: a dynamic perspective. *Rev. Econ. Stud.* 66 (1), 169–182.
- Hong, H., Kostovetsky, L., 2012. Red and blue investing: values and finance. *J. Financ. Econ.* 103 (No. 1), 1–19.
- Hubbard, T.D., Christensen, D.M., Graffin, S.D., 2017. Higher highs and lower lows: the role of corporate social responsibility in CEO dismissal. *Strat. Manag. J.* 38 (No. 1), 2255–2265.
- Hussain, N., Rigoni, U., Orij, R.P., 2018a. Corporate governance and sustainability performance: analysis of triple bottom line performance. *J. Bus. Ethics* 149 (No. 2), 411–432.
- Hussain, N., Rigoni, U., Cavezzali, E., 2018b. Does it pay to be sustainable? Looking inside the black box of the relationship between sustainability performance and financial performance. *Corp. Soc. Responsib. Environ. Manag.* 25 (No. 6), 1198–1211.
- Jensen, M.C., Meckling, W.H., 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. *J. Financ. Econ.* 3 (4), 305–360.
- Jiraporn, P., Leelalai, V., Tong, S., 2016. The effect of managerial ability on dividend policy: how do talented managers view dividend payouts? *Appl. Econ. Lett.* 23 (No. 12), 857–862.
- Jo, H., Harjoto, M.A., 2012. The causal effect of corporate governance on corporate social responsibility. *J. Bus. Ethics* 106 (1), 53–72.
- Jo, H., Na, H., 2012. Does CSR reduce firm risk? Evidence from controversial industry sectors. *J. Bus. Ethics* 110 (No. 4), 441–456.
- Kang, H., Cheng, M., Gray, S.J., 2007. Corporate governance and board composition: diversity and independence of Australian boards. *Corp. Govern. Int. Rev.* 15 (No. 2), 194–207.
- Khan, A., Muttakin, M.B., Siddiqui, J., 2013. Corporate governance and corporate social responsibility disclosures: evidence from an emerging economy. *J. Bus. Ethics* 114 (No. 2), 207–223.
- Khan, S.N., 20 September 2018. Making sense of the black box: an empirical analysis investigating strategic cognition of CSR strategists in a transitional market. *J. Clean. Prod.* 196, 916–926. <https://doi.org/10.1016/j.jclepro.2018.06.075>.
- Kim, B., Burns, M.L., Prescott, J.E., 2009a. The strategic role of the board: the impact of board structure on top management team strategic action capability. *Corp. Govern. Int. Rev.* 17 (No. 6), 728–743.
- Kim, K.H., Al-Shammari, H.A., Kim, B., Lee, S.H., 2009b. CEO duality leadership and corporate diversification behavior. *J. Bus. Res.* 62 (No. 11), 1173–1180.
- Kim, Y., Park, M.S., Wier, B., 2012. Is earnings quality associated with corporate social responsibility? *Account. Rev.* 87 (No. 3), 761–796.
- Kor, Y.Y., Mahoney, J.T., 2005. How dynamics, management, and governance of resource deployments influence firm-level performance. *Strat. Manag. J.* 26 (No. 5), 489–496.
- Krause, R., Semadeni, M., Cannella Jr., A.A., 2014. CEO duality: a review and research agenda. *J. Manag.* 40 (No. 1), 256–286.
- Law, P., 2011. Audit regulatory reform with a refined stakeholder model to enhance corporate governance: Hong Kong evidence. *Corp. Govern.: Int. J. Bus. Soc.* 11 (No. 2), 123–135.
- Lev, B., Petrovits, C., Radhakrishnan, S., 2009. Is doing good good for you? How corporate charitable contributions enhance revenue growth. *Strat. Manag. J.* 31 (No. 2), 182–200.
- Lys, T., Naughton, J.P., Wang, C., 2015. Signaling through corporate accountability reporting. *J. Account. Econ.* 60 (No.1), 56–72.
- Mahoney, L.S., Thorne, L., 2005. Corporate social responsibility and long-term compensation: evidence from Canada. *J. Bus. Ethics* 57 (No. 3), 241–253.
- Manner, M.H., 2010. The impact of CEO characteristics on corporate social performance. *J. Bus. Ethics* 93 (No. 1), 53–72.
- Martínez-Ferrero, J., García-Sánchez, I.M., 2015. Is corporate social responsibility an entrenchment strategy? Evidence in stakeholder protection environments. *Rev. Mana. Sci.* 9 (No. 1), 89–114.
- Mason, C., Simmons, J., 2014. Embedding corporate social responsibility in corporate governance: a stakeholder systems approach. *J. Bus. Ethics* 119 (1), 77–86.

- Mattingly, J.E., Berman, S.L., 2006. Measurement of corporate social action: discovering taxonomy in the Kinder Lydenburg Domini ratings data. *Bus. Soc.* 45 (No. 1), 20–46.
- McGuire, J., Dow, S., Argheyd, K., 2003. CEO incentives and corporate social performance. *J. Bus. Ethics* 45 (No. 4), 341–359.
- McWilliams, A., Siegel, D.S., 2011. Creating and capturing value: strategic corporate social responsibility, resource-based theory, and sustainable competitive advantage. *J. Manag.* 37 (No. 5), 1480–1495.
- Michelon, G., Parbonetti, A., 2012. The effect of corporate governance on sustainability disclosure. *J. Manag. Govern.* 16 (3), 477–509.
- Murphy, K.J., Zbojnik, J., 2004. CEO pay and appointments: a market-based explanation for recent trends. *Am. Econ. Rev.* 94 (No. 2), 192–196.
- Nader, R., 1984. Reforming corporate governance. *Calif. Manag. Rev.* (pre-1986) 26 (000004), 126.
- Narayanan, M., 1985. Managerial incentives for short-term results. *J. Finance* 40 (5), 1469–1484.
- Oh, W.Y., Chang, Y.K., Cheng, Z., 2016a. When CEO career horizon problems matter for corporate social responsibility: the moderating roles of industry-level discretion and blockholder ownership. *J. Bus. Ethics* 133 (No. 2), 279–291.
- Oh, W.Y., Chang, Y.K., Kim, T.Y., 2016b. Complementary or substitutive effects? Corporate governance mechanisms and corporate social responsibility. *J. Manag.*, 0149206316653804.
- Orlitzky, M., Schmidt, F.L., Rynes, S.L., 2003. Corporate social and financial performance: a meta-analysis. *Organ. Stud.* 24 (No. 3), 403–441.
- Parisi, F., Mathur, I., Nail, L., 2009. Minority stockholders' protection in a new corporate control law: market implications in an emerging economy. *Emerg. Mark. Finance Trade* 45 (No. 6), 4–19.
- Pearce, J.A., Zahra, S.A., 1991. The relative power of CEOs and boards of directors: associations with corporate performance. *Strat. Manag. J.* 12 (No. 2), 135–153.
- Penrose, E.T., 1959. *The Theory of the Growth of the Firm*. John Wiley, New York.
- Peteraf, M.A., Barney, J.B., 2003. Unraveling the resource-based tangle. *Manag. Decis. Econ.* 24 (No. 4), 309–323.
- Peters, G.F., Romi, A.M., 2014. The association between sustainability governance characteristics and the assurance of corporate sustainability reports. *Audit J. Pract. Theor.* 34 (No. 1), 163–198.
- Petersen, H.L., Vredenburg, H., 2009. Morals or economics? Institutional investor preferences for corporate social responsibility. *J. Bus. Ethics* 90 (1), 1.
- Petrenko, O.V., Aime, F., Ridge, J., Hill, A., 2016. Corporate social responsibility or CEO narcissism? CSR motivations and organizational performance. *Strat. Manag. J.* 37 (No. 2), 262–279.
- Rajgopal, S., Shevlin, T., Zamora, V., 2006. CEOs' outside employment opportunities and the lack of relative performance evaluation in compensation contracts. *J. Finance* 61 (No. 4), 1813–1844.
- Rivera-Torres, P., Garcés-Ayerbe, C., Scarpellini, S., Valero-Gil, J., 2015. Pro-environmental change and short-to mid-term economic performance: the mediating effect of organisational design change. *Organ. Environ.* 28 (No. 3), 307–327.
- Roe, E., 1994. *Narrative Policy Analysis: Theory and practice*. Duke University Press.
- Roodman, D., 2009. How to do xtabond2: An introduction to difference and system GMM in Stata. *STATA J.* 9 (1), 86–136.
- Schiehl, E., Bellavance, F., 2009. Boards of directors, CEO ownership, and the use of non-financial performance measures in the CEO bonus plan. *Corp. Govern. Int. Rev.* 17 (No. 1), 90–106.
- Shivdasani, A., Yermack, D., 1999. CEO involvement in the selection of new board members: an empirical analysis. *J. Finance* 54 (No. 5), 1829–1853.
- Shleifer, A., Vishny, R.W., 1997. A survey of corporate governance. *J. Finance* 52 (2), 737–783.
- Siegel, D.S., Vitalino, D.F., 2007. An empirical analysis of the strategic use of corporate social responsibility. *J. Econ. Manag. Strat.* 16 (3), 773–792.
- Social Investment Forum, 2014. *Report on US Sustainable, Responsible and Impact Investing Trends 2014*. Social Investment Forum, Washington, DC.
- Sundaramurthy, C., 1996. Corporate governance within the context of antitakeover provisions. *Strat. Manag. J.* 17 (No. 5), 377–394.
- Tang, Y., Qian, C., Chen, G., Shen, R., 2015. How CEO hubris affects corporate social (ir) responsibility. *Strat. Manag. J.* 36 (No. 9), 1338–1357.
- Udayasankar, K., 2008. Corporate social responsibility and firm size. *J. Bus. Ethics* 83 (No. 2), 167–175.
- Walls, J.L., Berrone, P., Phan, P.H., 2012. Corporate governance and environmental performance: is there really a link? *Strat. Manag. J.* 33 (No. 8), 885–913.
- Wang, Z., Sarkis, J., 2017. Corporate social responsibility governance, outcomes, and financial performance. *J. Clean. Prod.* 162, 1607–1616.
- Wooldridge, J.M., 2010. *Econometric Analysis of Cross Section and Panel Data*. MIT press.
- Zhao, M., 2012. CSR-based political legitimacy strategy: managing the state by doing good in China and Russia. *J. Bus. Ethics* 111 (No. 4), 439–460.