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Article

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Cogent Economics & Finance

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Suggested Citation: Kharabsheh, Buthiena; Al-Shammari, Hussam A.; Al-Numerat, Nosiaba (2022) : Corporate social responsibility and CEO compensation: the moderating effect of corporate governance, Cogent Economics & Finance, ISSN 2332-2039, Taylor & Francis, Abingdon, Vol. 10, Iss. 1, pp. 1-29,
<https://doi.org/10.1080/23322039.2022.2125523>

This Version is available at:

<https://hdl.handle.net/10419/303803>

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To cite this article: Buthiena Kharabsheh, Hussam A. Al-Shammari & Nosiaba Al-Numerat (2022) Corporate social responsibility and CEO compensation: the moderating effect of corporate governance, Cogent Economics & Finance, 10:1, 2125523, DOI: [10.1080/23322039.2022.2125523](https://doi.org/10.1080/23322039.2022.2125523)

To link to this article: <https://doi.org/10.1080/23322039.2022.2125523>



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Received: 23 September 2021
Accepted: 13 September 2022

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Reviewing editor:
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GENERAL & APPLIED ECONOMICS | RESEARCH ARTICLE

Corporate social responsibility and CEO compensation: the moderating effect of corporate governance

Buthiena Kharabsheh^{1*}, Hussam A. Al-Shammari² and Nosiaba Al-Numerat¹

Abstract: This study attempts to provide empirical evidence on the real motivation of CEOs to engage in corporate social responsibility. Based on the Agency and Stakeholder theories, the power of each component in the CEO compensation structure is employed. Moreover, a corporate governance index was developed to test how engagement in CSR activities affected CEO compensation in different governance practices. This study employs panel data analysis, utilizing 44 Jordanian industrial companies over the period 2010–2018. The main estimation method used in the present study was the generalized least square random effect (GLS). The findings of this paper revealed that an increase in CSR activities was accompanied by an increase in the CEO cash component compensation. Furthermore, this positive relationship was found to be more pronounced in firms with weak corporate governance, and thus supported the overinvestment hypothesis suggested by agency theory. These findings are robust under the dynamic panel estimator generalized method of moments (GMM) and using different measures of CSR. Our results implied important insights, showing that increasing CSR in the absence of effective

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PUBLIC INTEREST STATEMENT

The current work adds to the public interest by exploring the real CEOs' motivation for increasing corporate social responsibility (CSR). Increasing CSR is not necessarily optimal for companies or even stakeholders, so understanding why CEOs tend to increase CSR provides further support for the topic and public interest. Our results are consistent with the overinvestment hypothesis that is suggested by agency theory. The study documents a strong positive relationship between CSR and CEO cash compensation. The increase in the level of CSR is accompanied by an increase in CEO cash compensation, which supports the managerial opportunistic behavior. These findings motivate us to investigate how CSR-CEO compensation relationship might be influenced by different corporate governance practices. The current study provides evidence that corporate governance negatively moderates the CSR-CEO relationship. The results provide strong evidence of corporate governance's role in protecting the corporate value and stakeholders' interests.

monitoring facilitated CEOs' self-seeking behavior that eventually may harm corporate value.

Subjects: Environmental Economics; Finance; Business, Management and Accounting

Keywords: Corporate social responsibility; CEO compensation; corporate governance; CEO pay; agency theory; stakeholder theory; overinvestment hypothesis

1. Introduction

In recent times, Corporate Social Responsibility (CSR) has become an increasingly important focus of attention in the fields of finance, accounting, and strategic management. Despite the numerous definitions advocated for CSR, no clear consensus has been reached for its meaning or definition (Okoye, 2009) although CSR is commonly described as a stakeholder-oriented approach (Ferrell et al., 2016). CSR, as a concept, first appeared in the work of Clark (1939) who argued that business had responsibilities to society. It is also described as voluntary actions to benefit the environment and society, indicating that corporate managers were responsible not only for profit maximization but also for social welfare (Freeman & Hasnaoui, 2011; McWilliams & Siegel, 2001). "Doing well by doing good" is commonly used to describe corporate investments in CSR, suggesting a positive link between CSR and corporate value (Byus et al., 2010).

Given that CSR is not the main goal of business, an important question raised in several prior studies was an enquiry into the motivation for CEOs to engage in CSR activities. Harjoto and Jo (2011) asserted that despite the increased attention in the academic field on CSR activities, the rationale for corporate engagement in CSR was unclear. The agency theory developed by Jensen and Meckling (1976) suggested that CEOs may overinvest in CSR activities in order to gain personal advantages such as improving their reputation and bargaining power. By increasing CSR activities, which might not be in the best interest of shareholders, CEOs will gain more support from other stakeholders who view these activities as value enhancing, resulting in more power for the CEO that might facilitate the exploitation of corporate resources. Accordingly, the agency paradigm views increasing CSR as being accompanied by an increase in CEO power, entrenchment and compensation (Bebchuk & Fried, 2003; Vo & Canil, 2016). In this regard, previous empirical research has documented an increase in CEO compensation when a CEO exploited CSR for his/her personal interests (Barnea & Rubin, 2010; Milbourn, 2003). Barnea and Rubin (2010) asserted that investments in CSR should positively improve corporate value otherwise they were a waste of resources. The study argued that CEOs overinvest in CSR to enhance their reputation which would be reflected in career opportunities and bargaining power. Milbourn (2003) provided evidence of a positive relationship between CEO reputation and CEO compensation, while several papers documented a negative effect between CSR and financial performance (Becchetti & Ciciretti, 2009; Surroca & Tribo, 2008).

A contrary argument, however, indicated that higher CSR led to higher firm value, increased employee productivity, higher cash flow stability, less probability of financial distress, and an enhanced image and reputation (Hillman & Keim, 2001; Luo & Bhattacharua, 2006; Orlitzky et al., 2003; Porter & Kramer, 2002; Turban & Greening, 1997). The positive effect illustrated in these studies was explained by the stakeholder value maximization theory. According to this perspective, CSR activities were viewed as a tool that mitigated conflict among stakeholders and gained their support to enhance firm value (Donaldson & Preston, 1995; Jensen, 2002). As a result, it was expected that an increased CSR might be followed by a decrease in the CEO compensation structure, since good relations between CEOs and others in the company might reduce the compensation gap (Cai et al., 2011).

In order to assess and compare these two arguments empirically, given that the usual criteria and numerical data concerning CSR performance i.e. increased levels in CEO reputation, power or corporate worth, are not discernable from the financial data (Karim et al., 2018), an alternative

indicator of CEO intent toward commitment in CSR activity can be found in CEO compensation. Moreover, CEO compensation is an important organizational aspect found to play a role in affecting managerial decisions toward social goals (Craighead et al., 2004; Fondas et al., 2017; Ikram et al., 2020; Javeed & Lefen, 2019; Malmendier & Tate, 2015). Accordingly, this paper investigates the relationship between CSR and CEO compensation in order to answer an important question regarding what is the real motivation of CEO to engage in CSR activities. Moreover, this relationship is tested in different governance setting i.e. testing the moderating effect of corporate governance on this relationship.

In Jordan, more than 80% of the listed firms are family-owned, characterized by high ownership concentration. Hence, boards are dominants with those family members who own large stakes and have a strong incentive to control (Al-Azzam et al., 2015). This concentrated ownership increases the power for those members who control and direct the firm in a way taking decisions for their benefits at the expense of minority shareholders. Thus, not only higher compensation might be received by those family owners but also they can affect the CEO pay structure (Cheng & Firth, 2006). The literature indicates that family owned-firms might overpay their CEOs to earn their loyalty and motivate them to increase family wealth (Croci et al., 2012). In general, corporate governance in Jordan is, unlike developed countries, characterized by a weak institutional framework, high ownership concentration that results in internally oriented firms.

Jordan, therefore, is an interesting environment in which to examine the interplay of CSR and CEO pay structure. The main objective of this study, therefore, is to provide empirical evidence on how CSR activities are related to CEO pay structure, considering the Jordanian firms' characteristics. Joubert (2019, p. 2) states that *"Insights into whether CSR practices reveal outside this context and whether cross-countries differences in CSR attributes and consequences exist between Anglo-American and European contexts and how really different CEO pay strategies influences differently firm's engagements on CSR among the two contexts has not generally been explored"*. While the available evidence mainly comes from developed countries, obviously studies from different settings are needed to fill this gap and contribute to our understanding of the relationship between these variables.

Unlike most prior studies, the strength of each component of the CEO compensation structure is included in our work to provide a more in-depth analysis. The literature has provided evidence illustrating how CEO preferences may vary according to the different components of compensation structure. CEOs tend to prefer short-term low-risk compensation as in salaries and bonuses, rather than long-term compensation such as equity (Kadiyala & Rau, 2004). Thus, a breakdown of the CEO compensation structure can offer evidence of the real intention of CEOs to engage in CSR activity. Karim et al. (2018, p. 28), asserted that the CEOs total compensation might not offer *"dichotomous conclusions on CEOs' intention to engage in CSR and its effect on firm value."* Motivated by this, two compensation components were utilized in the present study: short-term cash-based and long-term equity-based compensation.

The available evidence on CSR-CEO compensation has mainly considered the direct relationship, ignoring other factors that may affect this relationship (McGuire et al., 2003; Miles & Miles, 2013). Viewing CSR-CEO compensation as a two-way relationship, might in part, explain the mixed empirical results reported from previous research papers Cai et al., 2011; Rekker et al., 2014; Karim et al., 2018). Considering this gap in the literature, the present study examined whether the CSR-CEO pay relationship was moderated by corporate governance. Corporate governance is considered an important influential aspect of control in managerial behavior and decisions. Agency theory argues that directors' compensation structure and effective monitoring are substitutes, jointly mitigate the conflict of interest in the principle-agent relationship (Core & Guay, 1999; Holmstrom & Milgrom, 1991). It is well documented that CEOs gain power and higher compensation when corporate governance practices are weak. Core et al. (1999) in this regard argued that CEO power increased when the board of directors became less effective, had a lower ratio of

independent directors and fewer institutional shareholders while concentrated shareholder ownership was found to have a negative effect on CEO compensation (Benz et al. (2001), Cyert et al. (2002)).

Corporate governance and CSR are viewed as mutually complementary (Jensen, 2002). It was suggested that both corporate governance and CSR were adopted for ethical reasons to satisfy shareholders' and other stakeholders' sustainable needs (Dzingai & Fakoya, 2017). Previous studies indicated a positive association between soundness of corporate governance and CSR activities (Shabir & Rosmini, 2016). Strong corporate governance is expected to limit CEO power and compensation inequality and lead to higher CSR engagements (Dennis & Maiguel, 2002). Therefore, the present study developed a corporate governance index to test how CSR activities might affect CEO pay structure in the presence of sound corporate governance practices. The inclusion of corporate governance as a moderator variable in the analysis was expected to improve our understanding and provide a clearer picture of the relationship between CSR and CEO compensation structure.

The remaining sections of the study are organized as follows: section 2 attempts to review the related literature and develops the testable hypotheses; data and methodology are presented in section 3; in section 4, the empirical results are presented and discussed; the last section concludes the study.

2. Literature review and hypotheses development

Prior literature has focused on the main reasons that motivate executives to engage in CSR and how this engagement could affect firm value relative to other business decisions. Starting from this, several studies look for the main determinants of CSR investments. Although CSR has multiple dimensions, prior studies have agreed on three main determinants of CSR, namely corporate characteristics, industry characteristics, and governance characteristics (Gamerschlag et al., 2011; Reverte, 2009). Since these characteristics differ between firms, they can critically affect corporate engagement in CSR activities. For example, corporate size, profitability, market-to-book ratio, among others, significantly affect the CSR activities of the firm (Artiach et al., 2010; Reverte, 2009). Several empirical studies report strong evidence on the significant relationship between firm size and CSR. Larger firms invest more in CSR to keep their image and be perceived as active supportive firms (Dam & Scholtens, 2013).

In a similar vein, different industries have very different features that could motivate companies to take more or less CSR activities. A study by Holder-Webb et al. (2008) provides strong evidence, based on data from the US, on the effect of industry on the CSR level. Companies that operate in polluting industries, for instance, usually have a higher motive for CSR engagement than other companies in different industries (Reverte, 2009). Governance characteristics, in terms of board structure and corporate ownership, also do matter. Gamerschlag et al. (2011) found that firms with high stakes of shareholders tend to have higher CSR investments. Boards with higher diversity in terms of gender, experience and connections are found to be investing higher in CSR (Hafsi & Turgut, 2013).

Different theories have explained the internal driver of CSR activities. The entrenchment theory that was developed by Morck et al. (1988) argues that CEOs may engage in CSR to gain certain protection. This theory assumes that CEOs mainly increase CSR activities in order to protect their own positions and gain support from other stakeholders, thus protected when wrong decisions are taken. Martínez-Ferrero et al. (2015) provide consistent evidence with entrenchment theory, showing that CEOs increase CSR in order to hide wrong decisions that already have been taken. These arguments are also supported by agency theory (Jensen & Meckling, 1976). Agency theory arguments explain CSR engagement by the overinvestment hypothesis. It proposes that CEOs could exploit social performance for their own interest at the expense of shareholders (Jensen & Meckling, 1976). In other words, executives, motivated by opportunistic behavior, may overinvest in CSR to gain several personal benefits such as building

a good reputation, better career opportunities, higher compensation and higher bargaining power. Most stakeholders view CSR activities in a positive way that leads to better firm performance, thus the firm's reputation increased and the confidence in CEO's decisions is also increased. Early supportive evidence offered by Galaskiewicz (1985) showed that CEOs adopted philanthropic strategies to improve their relationship with the local business elite. Similarly, Atkinson and Galaskiewicz (1988) reported a negative relationship between CEO ownership and corporate philanthropic activities.

More importantly, it was found that such executive behavior was followed by an increase in CEO compensation (Masulis & Reza, 2015; Milbourn, 2003). Supportive empirical evidence was provided by Milbourn (2003) using data related to five top executives from US firms over the period 1993–1998. The study reported a positive association between stock-based pay-sensitivities and CEO reputation. Barnea and Rubin (2010) reported a negative relationship between insider ownership and CSR rating, which supported opportunistic managerial behavior.

However, looking at a breakdown of CEO compensation structure may offer a better insight as to why CEOs engage in CSR performance. Short-term compensation (cash & bonuses), besides long-term compensation (e.g., equity), are usually the main components of CEO compensation structure (Aggarwal & Samwick, 1999; Bushman et al., 1996; Kadiyala & Rau, 2004). It has been found that CEOs prefer cash-based compensation to an equity component. Cash payments are independent of corporate performance, less risky, and preferred by managers (Murphy, 1999); however, equity-based compensation is typically linked with long-term corporate performance and exposed to higher risk (Harris & Raviv, 1979). Therefore, analysis of CSR in relation to each component in the compensation structure may indicate the CEO motive for CSR engagement and how these social activities may affect corporate value (Karim et al., 2018). Cronqvist et al. (2009) argued that CSR engagement for entrenched executives usually leads to poor outcomes, since the main focus of such executives is on their personal benefits. Building on the agency theory arguments, if CEOs increased CSR activities for their personal interests, CSR is expected to be positively related to the cash-based component, but negatively to the equity-based component. Accordingly, the first hypothesis was proposed:

H₁: CSR is positively related to cash-based compensation and negatively related to equity-based compensation.

Another competing theory is stakeholder theory. The focus of stakeholder theory is on the external effect of CSR investment, assuming that CEOs should work to satisfy the interest of all stakeholders in order to gain their support and thus maximize firm value (Freeman, 1994). Stakeholders refer to all parties inside or outside the firm, can affect or be affected by the firm's activities. Stakeholders include shareholders, employees, customers, competitors, suppliers, the community, and also government as well. It is documented that companies with more social performance, treat their employees well and support their voice inside and outside the company. This is in turn, reflected positively on the employees' productivity and loyalty thus enhancing firm value (Edmans, 2011; Flammer & Kacperczyk, 2016). Moreover, CSR initiatives reflect an important signal regarding the quality of corporate products, image and reputation, and non-opportunistic behavior. Customers, therefore, are positively influenced by such actions, and to some extent, support companies with more social performance (Luo & Bhattacharya, 2006). In the same vein, companies with more social performance are expected to have good relationships with creditors by satisfying their financial obligations in a timely manner (Ge & Liu, 2015). Therefore, CSR policies are considered one of the most important reputational elements by all stakeholders.

CSR is viewed as a common interest for all those stakeholders since it deals with different social, environmental, and governance issues. Therefore, to meet these different interests, CEOs need to invest more in CSR. To the extent that stakeholders feel that the firm is listening to them, by

increasing CSR activities, they will be more supportive of the firm (Deng et al., 2013). The stakeholder theory contends that CSR is a tool that resolves conflicts among stakeholders and reduces firm risks (Harjoto & Jo, 2011; Jensen, 2002; Orlitzky et al., 2003). In this case, CEOs invest in CSR, ethically, to support social performance (Carroll, 1979). CSR performance, therefore, is used as a business strategy that positively enhances the corporate value and serves long-term corporate objectives (Rekker et al., 2014).

Potts (2006) argued that CEOs who were highly engaged in CSR activities became more confident in correct decision-taking and were thus internally rewarded for their effort to improve corporate social performance. Consistent evidence was provided by Mahoney and Thorne (2005) who tested the relationship between CSR and long-term compensation components using 90 Canadian firms over the period 1992–1996. The results documented a strong positive relationship between CSR and long-term compensation. Gan and Park (2016) showed that CEOs abilities and equity-based compensation were positively associated. Cai et al. (2011) indicated that a higher level of CSR activities improved the relationship between CEOs and other stakeholders, particularly employees. As a result, the compensation gap was expected to be decreased between CEOs and others, i.e., non-CEOs. Thus, the cash compensation was expected to decrease, while equity-based compensation to reward CEOs was expected to increase. Building on the stakeholder theory, the second hypothesis was proposed:

H₂: CSR is negatively related to cash-based compensation and positively related to equity-based compensation.

Agency-theory scholars have viewed directors' compensation as a key governance mechanism that alleviates conflict in principle–agent relationship (Murphy, 1985, Jensen and Murphy 1990). The incentive alignment arguments implied in the agency perspectives suggested that compensation contracts should be designed to motivate executives to take actions that maximize shareholders' wealth (Mehran, 1995). Prior work has shown that executive compensation was influenced by the soundness of governance mechanisms, particularly, the monitoring quality of the board of directors and ownership structure (Eisenhardt, 1989). Prior empirical evidence has documented a negative relationship between corporate governance and compensation structure. Effective monitoring and strong governance practices lead to lower director compensation (Beatty & Zajac, 1994; Boyd, 1994).

In the meantime, a growing body of the literature on conflict resolution hypothesis suggests that investment in CSR should be utilized as an extension of strong corporate governance (Jensen, 2002; Scherer et al., 2006). Effective governance mechanisms minimize conflicts and lead to higher shareholder value, similarly, CSR should mitigate conflicts between directors and other stakeholders, and reflect positively on shareholder value (Harjoto & Jo, 2011). Considering the relationship between CSR and executives' pay, if CSR activities serve CEO self-interest and do not add any value to the company, weak corporate governance is expected to facilitate the managerial self-interest behavior. Building on our above discussion and from an agency perspective, the positive relationship between the cash component and the negative relationship between the equity component is more likely to be stronger with weak corporate governance. The presence of strong governance mechanisms in terms of a high independence board, proper and effective monitoring from large shareholders is expected to limit such opportunistic behavior. However, if CEO invests in CSR to serve the corporate long-term objectives, from the stakeholders' theory point of view, the negative relationship between CSR and cash component and the positive relationship between CSR and equity component is expected to be stronger in companies with strong corporate governance. Sound corporate governance promotes decisions that serve the firm value and align the interests of all stakeholders. The present study, therefore, examines the moderating effect of corporate

governance on the CSR-CEO relationship. A corporate governance index was developed to achieve this objective. Accordingly, two testable hypotheses were proposed:

H_{3a}: The positive (negative) relationship between the CSR and cash(Equity) component is stronger for companies with weak corporate governance practices

H_{3b}: The negative (positive) relationship between the CSR and cash(Equity) component is stronger for companies with strong corporate governance practices

3. Methods

3.1. Sample

This study sample focused on the industrial sector in Jordan, since it contributes approximately 25% of GDP. Initially, we started with 48 industrial companies, only companies with available data, particularly for CEO Compensation and CSR, were included in the sample. The final sample included 44 companies listed on Amman Stock Exchange (ASE) over the period 2010–2018. Table (1) indicates the subsectors of the Jordanian industrial sector. All the financial data were collected from the ASE website (www.ase.com.jo). In addition, annual reports were used to construct the CSR index manually. The period of the study covered the years from 2010 to 2018. The reason behind starting our period from 2010 because the Jordanian corporate governance code was approved and formally came into effect for publicly listed companies in January 2009.

3.2. Study variables

3.2.1. Dependent variables

The key-dependent variable in this study is CEO compensation which is measured using two proxies: a short-term incentive measure i.e. cash and long-term incentive measure, i.e., equity. Consistent with prior studies, the following equations were used to calculate CEO compensation measures (Karim et al., 2018).

$$CCOMPit = \frac{\text{Total CEO Cash Based Compensation}}{\text{Total CEO Compensation}} \quad (1)$$

$$ECOMPit = \frac{\text{Total CEO Equity Based Compensation}}{\text{Total CEO Compensation}} \quad (2)$$

Where:

Table 1. Sub-sectors in the industrial sector

Industrial sector	Number of Firms
Pharmaceutical and medical industries	4
Chemical industries	6
Food and beverages	9
Tobacco and cigarettes	2
Mining and extraction industries	10
Engineering and construction	8
Electrical industries	3
Clothing industries	2
Total	44

CCOMP: is cash compensation component, calculated as the sum of salaries, bonuses and other cash compensation divided by the total CEO compensation. *ECOMP*: is equity compensation component, calculated as the total value of stocks given through the fiscal year divided by the total CEO compensation. *Total CEO Compensation*: all salaries, bonuses, other cash compensation and total value of stocks granted through the fiscal year.

3.2.2. Independent variables

In the present study, a CSR index was constructed comprising 36 items, these items are available in [Appendix A](#). The initial step in the process was a review of prior studies that employed similar methodology, such as McGuire et al. (2003); Cai et al. (2011); Rekker et al. (2014) and Karim et al. (2018). It is worth noting that the present study followed the CSR index classification used by Cai et al. (2011). Similar to previous Jordanian studies, we have used content analysis where each annual report, in each year, was read in full to highlight CSR disclosure, see, Al Fadli et al. (2019) for a similar method.¹

Social responsibility items were categorized into five groups: community information, environment information, diversity information, employee relations information and product information. It is important to note that these categories were modified according to the data disclosed by the Jordanian companies. In other words, some items were added or deleted according to the typical CSR information in the Jordanian annual reports.

Following Cai et al. (2011), the present study used binary indicators (0, 1) for each strength and concern in the five subgroups indicated above. For instance, to calculate the combined CSR strength and concern for the first group, i.e. community, the scores were calculated by taking the difference between all strength items of firm *i*, at year *t* and all the concern items plus total maximum possible number of community concern items at year *t*, divided by total maximum possible number of strength items plus the total maximum possible number of concern items during the year. The index constructed in this study is similar to those used in several prior studies, see for example, Cai et al. (2011); Hillman and Keim (2001) and Baron et al. (2010). This process was repeated for each sub-group and then the CSR Index was calculated as follows: $(CSR) = (Community + Environment + Diversity + Employee + Product)/5$. In [appendix \(A\)](#), similar to the above mentioned studies, we include the CSR items employed in this study. In [appendix \(B\)](#), we provide an example for a company (PETROCHEMICALS company) and how the CSR index was calculated for this company in 2017.

3.2.3. Control variables

Based on previous literature, this paper utilizes the following control variables. **Board size** is measured as the natural logarithm of total number of directors on the board. **Board independence** is measured as the proportion of independent directors on the board. **CEO ownership** is measured as shares owned by CEO divided by common shares outstanding. **Block holders** are measured as dummy variable equal to one in the presence of external block holders who are not employee in the firm and hold at least 5% of total common stocks outstanding, zero otherwise. **Insider ownership** is measured as total shares held by insider directors divided by common shares outstanding. **Firm Size** measured as the natural logarithm of total assets. **Tobin's Q** measured as the market value of assets over the book value of assets. **Leverage** is measured as the book value of debt over book value of assets. **CEODUL** is CEO duality measured by a dummy variable equal to one, if the CEO belongs to the board and zero otherwise. **CEOTEN** is CEO tenure, also included in the models and measured by the total number of years the CEO works in his position. Moreover, we include the current assets divided by current liabilities as a proxy for firm liquidity **LIQ**. **MB** is the market value of equity divided by the book value of equity. **Beta** is market beta calculated from the regression of a firms' excess returns on the ASE value-weighted index. **RET** is the aggregated return for 12 months. **LAGRET** is the Lagged value of the aggregated return. **Risk** is the standard deviation of aggregated returns over 5 years. These variables are in line with prior literature, see for example (Cai et al., 2011; Mehran, 1995; Core et al., 1999; Fondas et al., 2017; Karim et al., 2018; Rekker et al., 2014).

3.3. Regression models

To test the relationship between CSR and CEO pay structure, the following models were adopted (Karim et al., 2018). Both models (3) and (4) will be tested using the generalized least square random effect (GLS).

$$\text{CCOMP}_{it} = \alpha + \beta \text{CSR}_{it} + \theta Y_{it} + \mu_{it} \quad (3)$$

$$\text{ECOMP}_{it} = \alpha + \beta \text{CSR}_{it} + \theta Y_{it} + \mu_{it} \quad (4)$$

Where, **CCOMP** is CEO cash-based compensation, **ECOMP** is the CEO equity-based compensation. **CSR** is corporate social responsibility. **Y**: is a vector representing control variables i.e., board size, board independence, CEO ownership, Block holders, insider ownership, firm size, Tobin's Q, leverage, CEO duality, CEO tenure, Liquidity, MB, Beta, Return, lagged value of return and risk.

Following Core et al. (1999), the analysis was conducted using the lagged values of all the independent variables to address the possibility of endogeneity and reverse causality. The main estimation method used in the present study was the generalized least square random effect (GLS). According to Baltagi and Wu (1999), this method can control to several econometric problems in panel data. Pathan (2009, p. 1343), argued that GLS is robust to first-order autoregressive, cross-sectional correlation and/or heteroskedasticity across panels. Moreover, compared with fixed effect (FE) estimation, GLS can overcome several econometric points. For instance, for fixed effect estimation to yield reliable and effective results, the variable values within the panel must vary significantly. The Fixed effect estimates would be inaccurate when the significant variables on the right-hand side do not change substantially over time, like the board structure variables in this study. Further, for relative big "N" (44), fixed small "T" (9), which is the case with the panel data set used in this investigation (observations on 44 companies over 9 years), fixed effect estimation will be invalid (Baltagi, 2005, p. 13). Additionally, fixed effect estimation would result in a significant loss of degrees of freedom for large N (Baltagi, 2005, p. 14). Consequently, a GLS random effect alternative to the fixed effect is suggested here.

4. Empirical results

Table 2 shows descriptive statistics for study variables. The mean value of CCOMP (ECOMP) compensation component was around 67% (23%) of total CEO compensation. These figures revealed that the Jordanian industrial companies tended to pay more cash compensation than equity. The mean value of CSR index was 18% with a maximum value of 58%. On average, industrial companies had eight directors on their boards with an independence ratio of 41%. The average value of CEO (insider) ownership was 2% (17%) reaching 37% (1). Moreover, 73% of the Jordanian industrial companies had external block holders. The mean value of CEO duality reaches 45% while the average of CEO tenure ranges from 1 year to 54 years. The mean value of liquidity (market—to-book value) is 0.32 (0.96). The average value of Beta is 1.20 reaching to a maximum value of 2.01. The aggregated returns mean value is 0.11 with a standard deviation of 0.31. The standard deviation of aggregated returns mean value, is around 0.86 with 0.42 standard deviation. These figures are consistent with several Jordanian studies, see for example, Abed et al. (2014), Kanakriyah (2021), and Almarayeh (2021).

Table 3 presents the correlation matrix for the study-independent variables employed in the analysis. The figures presented indicate that the highest value = 42%, existing between board size and the block holders on the board. Thus, our data set is free from any multicollinearity problem (Gujarati, 2004). Besides, the variance inflation factor (VIF) was also calculated and mean value of VIF was 1.32, confirming the above results.

Table 2. Descriptive Statistics

Variable	Average	SD	Min	Max
CCOMP	0.67	0.39	0.000	1
ECOMP	0.23	0.33	0.000	1
CSR	0.18	0.12	−0.56	0.58
BZ	8.43	2.15	4	13
IND	0.41	0.26	0.000	1
CEOW	0.02	0.04	0.000	0.37
INS	0.17	0.22	0.000	0.98
BL	0.73	0.45	0.000	1
TQ	0.89	0.66	0.05	5.89
FZ	7.29	0.55	5.72	8.62
LEV	0.30	0.19	0.000	1
CEODUL	0.45	0.24	0.000	1
CEOTEN	9.7	9.25	1	54
LIQ	0.32	0.08	0.01	3.61
MB	0.96	1.02	−3.12	5.75
Beta	1.20	0.75	0.69	2.01
RET	0.11	0.31	−0.01	0.75
Risk	0.86	0.42	0.092	1.94

CCOMP: CEO cash-based compensation, **ECOMP:** CEO equity-based compensation, **CSR:** corporate social responsibility index, **BZ:** board size, **IND:** board independence, **CEOW:** CEO ownership, **INS:** insider ownership, **BL:** dummy variable = 1 if the firm has external block holders and zero otherwise, **TQ:** Tobin q, **FZ:** firm size, **LEV:** leverage. **CEODUL:** CEO duality which is measured by a dummy variable equal to one, if the CEO belongs to the board and zero otherwise. **CEOTEN:** CEO tenure is measured by the total number of years the CEO works in his position. **LIQ:** firm liquidity measured as the current assets divided by current liabilities. **MB:** market value of equity divided by book value of equity. **Beta:** is market beta calculated from the regression of a firms' excess returns on the Amman stock exchange value-weighted index. **RET:** Aggregated returns for 12 months. **Risk:** Standard deviation of aggregated returns over 5 years.

4.1. Univariate analysis

Table 4 presents the univariate analysis findings, where the sampled firms were classified as high and low CSR firms. This classification is based on the median values for CSR, if the firm's CSR value is above the median, so this firm is classified as high CSR firm and as low CSR firm if the value is below the median value (Cai et al., 2011).

The mean differences results in Table 4 show that firms with high CSR paid more cash than equity since the mean differences for the cash variable was statistically significant at 1%. Looking at the equity-based component, the mean differences were highly statistically significant indicating that high CSR firms pay less equity. These results were in line with the figures reported in Table 1, the cash component in the compensation structure in the Jordanian industrial sector was around 67% of the total compensation. The corporate governance variables also differed between high and low CSR firms. High CSR firms had larger boards with directors with longer tenure and more external block holders. However, no statistically significant difference was found with regard to board independence, CEO ownership, insider ownership, and CEO duality. Moreover, high CSR firms had a larger size, more liquidity, higher risk, and greater value measured by TQ and risk. These figures regarding firm-characteristic are in line with Cai et al. (2011).

Table 3. Correlation matrix

	CCOMP	ECOMP	CSR	IND	CEOW	BZ	BL	FZ	TQ	LEV	INS	CEODUL	CEOTEN	LIQ	BM	BETA	RET	RISK
CCOMP	1																	
ECOMP	-0.59	1																
CSR	0.35	-0.04	1															
IND	0.169	0.22	0.08	1														
CEOW	-0.63	0.093	0.05	0.27	1													
BZ	0.28	0.185	0.423	0.05	0.090	1												
BL	-0.03	-0.05	0.423	0.06	0.094	0.420	1											
FZ	0.026	0.053	0.069	-0.151	-0.11	0.017	-0.04	1										
TQ	-0.08	0.076	0.211	-0.03	-0.029	0.088	0.182	0.081	1									
LEV	0.06	0.017	0.048	-0.021	-0.025	0.043	0.133	0.144	-0.064	1								
INS	0.038	0.404	0.084	0.199	0.42	0.03	0.11	-0.161	-0.090	0.009	1							
CEODUL	0.021	0.0654	0.025	-0.124	-0.251	0.036	0.154	0.213	-0.054	0.007	0.024	1						
CEOTEN	0.057	0.078	0.054	0.010	0.221	0.012	0.184	0.311	0.025	0.0124	0.084	0.032	1					
LIQ	0.065	0.012	0.085	0.251	-0.014	0.081	0.001	0.381	0.098	0.065	0.002	0.001	0.058	1				
BM	0.24	0.104	0.23	0.057	0.017	0.23	-0.067	0.250	-0.017	0.029	0.008	0.004	0.015	0.081	1			
BETA	0.087	0.037	0.021	-0.036	0.098	0.156	-0.210	0.0267	0.31	0.035	0.018	-0.005	0.031	0.014	0.25	1		
RET	0.31	0.25	0.198	-0.001	0.026	0.270	0.065	0.095	0.053	0.086	0.002	-0.013	0.0857	0.074	0.152	0.195	1	
RISK	0.21	0.35	0.13	0.05	0.059	-0.06	0.005	0.36	0.27	0.19	0.16	0.08	0.17	-0.057	0.189	0.0147	0.154	1

Table 4. Univariate Analysis

	Mean values for High CSR Firms	Mean values for Low CSR Firms	t-statistics
CSR	0.53	0.22	(21.94)***
CCOMP	0.76	0.67	(7.444)***
ECOMP	0.21	0.26	(-1.683)***
IND	0.41	0.38	(1.134)
BZ	8.26	5.87	(9.11)***
BL	0.84	0.49	(8.420)***
CEOW	0.015	0.02	(-1.100)
INS	0.21	0.16	(1.618)
FZ	7.29	6.98	(3.116)***
LEV	0.31	0.29	(0.950)
TQ	0.94	0.68	(3.220)***
CEOTEN	7.65	4.50	(8.45)***
CEODUL	0.31	0.28	(-0.923)
LIQ	0.29	0.22	(1.352)*
MB	0.82	0.80	(0.93)
Beta	0.95	0.45	(2.856)***
RET	0.10	0.07	(1.023)
Risk	0.78	0.33	(4.521)**

***,**, * represents significance at the 1%, 5% and 10% level respectively.

4.2. Main regression

4.2.1. The Relationship between CSR and CEO Compensation

Table 5 presents the results of models 3 and 4 which examine the relationship between CSR and CEO pay structure. The components of CEO compensation are presented as a proportion of cash and equity in panels A and B, respectively. From Table 5, a highly positive and significant relationship was documented between CSR and cash-based compensation ($\beta=0.787$, $p < 0.01$). The equity-based compensation, however, is negative but insignificant. The positive relationship reported in Table 5 implies that an increase in CSR activities is accompanied by an increase in the CEO cash-based component, as shown in the first panel. In general, our results are in line with agency theory arguments, where the overinvestment hypothesis assumes that CEOs might exploit CSR for their own interests (Jensen & Meckling, 1976). Prior literature documents that this opportunistic behavior was usually followed by an increase in the CEO compensation (Barnea & Rubin, 2010; Borghesi et al., 2014; Milbourn, 2003).

The breakdown of CEO compensation structure provides clear evidence on the CEO intention from increasing investment in CSR. Consistent with agency theory perspectives, risk-averse managers are more likely to be interested in the increase of short-term compensation such as salaries and bonuses rather than long-term equity-based compensation (Murphy, 1999). Cash payments were independent of corporate performance, less risky and preferred by managers, such cash payments facilitated exploitation of corporate resources (Harris & Raviv, 1979; Stata & Maidique, 1980; Westphal, 1998). Taken together, the positive increase in the cash component following CEO engagement in CSR performance reflected the personal benefits gained at the expense of corporate value. These findings are in line with (Milbourn, 2003; Barnea & Rubin, 2010; Borghesi et al., 2014), accordingly, the first hypothesis was supported and accepted, while the second hypothesis was rejected.

The coefficient on board independence was positive and highly significant for the cash component and positive but insignificant for the equity component, suggesting that boards with higher independence compensated with higher cash than equity. Gutierrez and Sáez (2015) argued that independent directors might be unable to oblige, or might not have the ability to closely control board directors' decisions and as a result, higher compensation might serve as substitute motivation for directors to work in the best interest of shareholders. However, according to Westphal and Zajac (1995), CEO with high power prefers to select directors who easily approve their decisions and serve their interests. Moreover, independent directors might also prefer to join boards with high CEO compensation package in order to share similar benefits.

In Jordan, around 80% of the public-listed companies are family-owned, where most of the directors on the board are related to the same family and in most cases CEO duality is dominant, thus effective monitoring from board members is absent (Shanikat & Abbadi, 2011). Thus, it is expected that CEO who serves as chairman has enough power to control the board. Saidat et al. (2019) found that independent directors on Jordanian boards negatively affect corporate value. The authors explained that independent directors may not only lack the required skills and experience but may not, in fact, be fully independent which might lead to ineffective control and monitoring. Our results are in line with De Andrés et al. (2017), Croci et al. (2012), Cheng and Firth (2006), and Ezammel and Watson (2002).

The cash-based coefficient for insider ownership was positive but insignificant, while equity was positive and highly significant, which suggested that companies with higher director ownership payed higher equity. Director ownership was viewed as an important tool in aligning the interests of agents and shareholders and enhancing corporate performance (Shleifer & Vishny, 1986). Results found in the present study are in line with Basu et al. (2007) who reported a positive and significant relationship between executive compensation and director ownership.

CEO ownership coefficient was negative and highly significant for the cash component, whereas positive and highly significant for the equity component. These findings suggested that high stake CEOs earned relatively less cash-based compensation. This indicated that agency conflicts were higher in companies with low executive ownership, thus CEOs tried to maximize their interest through higher exploitation of corporate resources. The positive association between CEO ownership and the equity component revealed that compensation was more likely to be higher in companies with strong governance, as measured by equity ownership. CEOs with higher ownership are more aligned with shareholders' interest and usually rewarded for enhancing corporate value (Shleifer & Vishny, 1986). These findings are in line with Cai et al. (2011), Chen et al. (2012), Fondas et al. (2017), and Bhuyan et al. (2020).

The coefficient on board size was positive and significant for both compensation components, indicating that larger boards tended to pay higher compensation. Large boards were more likely to be controlled by executives and usually suffered from communication and coordination problems (Jensen, 1993; Lipton & Lorsch, 1992). Therefore, it was expected that more directors on the board might weaken the internal governance structure, leading to greater executive power and thus higher compensation packages. In Jordan, on average, eight directors up to maximum 13 directors are setting on the board, usually related to the same family. Thus, it is expected that they might favor granting higher compensation for CEO to share the same advantage (Al-Msiedeen & Al-Sawalqa, 2021). These findings are in line with Core et al. (1999), Ozkan (2011), and Bouteska and Mefteh-Wali (2021). Both coefficients on external block holders are negative but significant under cash component only, which supports the active monitoring role of block holders on the board of directors. The presence of block holders minimizes agency conflicts by constraining directors' opportunistic behavior and limiting their power in setting compensation packages (David et al., 1998). This finding was consistent with Sapp (2008), Conyon and He (2011), and Bouteska and Mefteh-Wali (2021). Consistent with prior studies, firm size showed a positive and significant relationship with CEO compensation structure, for similar findings see (Conyon & Murphy, 2000; Feng et al., 2007; Rekker et al., 2014). Both

coefficients on Tobin's q and leverage were insignificant, in line with prior studies (Core et al., 1999; Fondas et al., 2017; Karim et al., 2018; Mehran, 1995).

CEO duality appears positive and significant under both measures of compensation. This finding reveals that the CEO who is also the chair of the board receives higher compensation due to the higher responsibilities required (Core et al., 1999; Brain et al., 1995; Yu & Thuan, 2014). Under both CEO compensation measures, the coefficients of CEO tenure are positive and significant. This positive relation implies that CEO with longer tenure receives higher compensation, CEOs with longer tenure might have more power, influence and higher ability to design their compensation (Ozkan, 2011). Table 5 shows that higher liquidity also leads to higher CEO compensation, these findings are consistent with prior studies (Benkraiem et al., 2017). A strong positive and significant relationship appears between the market-to-book ratio (MB) and both measures of CEO compensation. Our finding is in line with Gaver and Gaver (1993) and Smith and Watts (1992) who argue that more complicated firms with higher growth opportunities, usually appoint managers with high quality and requirements, who usually ask for higher compensation. The sign on the corporate risk coefficients is positive and significant indicating that CEOs who operate in riskier environments require higher compensation. These findings are in line with risk-aversion managerial behavior assumed by agency theory (Essen et al., 2015). However, the coefficients on Beta, return, and lag of return are not statistically significant.

4.2.2. *The moderating effect of corporate governance*

The main result of the previous analysis indicated that CSR performance was followed by an increase in the CEO cash component, and supported the overinvestment hypothesis, also that CEOs exploited CSR activities for their own interests. Most of the existing studies have paid attention to the direct link between CSR activities and CEO pay structure, ignoring other variables that might influence this relationship. We extended our analysis to examine how corporate governance variables may influence the relationship between CSR and CEO compensation.

Following Gompers et al. (2003) and Gupta et al. (2013) a governance index was created for the present study by adding one point for each selected governance variable, thus each company had its own score. To develop this index, four governance variables were considered i.e. board size, proportion of independent directors, presence of external block holders and insider ownership.

Smaller boards were viewed as more effective and better able to monitor and control boards of directors (Jensen, 1993; Lipton & Lorsch, 1992). Based on the median values, if the company's board size was less than the median value, the company had the value 1, and zero otherwise. The presence of more independent directors on the board served as an important tool in maintaining effective monitoring function and minimized agency conflicts (Fama & Jensen, 1983; Weisbach, 1988). If the percentage of independent directors of the company was higher than the median value of board independence, the company had the value 1, and zero otherwise. The presence of external block holders was considered an important governance mechanism since they had incentives to actively monitor and control managerial decisions (David et al., 1998). If the company had external block holders, it had the value 1, and zero otherwise.

Finally, insider ownership was documented as an important mitigating factor in conflicts between directors and shareholders. (Shleifer & Vishny, 1986) The empirical findings showed that higher director ownership led to less demand for cash compensation, since directors' rewards basically came from dividends and capital gain (Firth et al., 1999; Ozkan, 2007) Accordingly, if the company director ownership was above the median, the company had the value 1 and zero otherwise. Taken together, the corporate governance score ranged from 0, the weakest to 4, the strongest.

Based on corporate governance index value, two groups were created; strong governance firms and weak governance firms. Companies with high scores i.e. equal to or above the median value

Table 5. The Relationship between CSR and CEO Compensation

	(A) CCOMP	(B) ECOMP
CSR	0.812*** (0.000)	−0.051 (0.640)
IND	0.314*** (0.000)	0.060 (0.213)
INS	0.087 (0.249)	0.196*** (0.004)
CEOW	−3.401*** (0.000)	3.415*** (0.000)
BZ	0.042*** (0.000)	0.018*** (0.000)
BL	−0.096** (0.010)	− 0.019 (0.614)
FZ	0.049** (0.030)	0.015* (0.060)
TQ	−0.019 (0.140)	0.013 (0.518)
LEV	0.059 (0.601)	0.097 (0.186)
CEODUL	0.29** (0.030)	0.211* (0.091)
CEOTEN	0.092** (0.032)	0.016** (0.040)
LIQ	0.089** (0.021)	0.099* (0.079)
MB	0.032*** (0.002)	0.095*** (0.005)
Risk	0.003* (0.073)	0.008* (0.080)
Beta	0.006 (0.106)	0.007 (0.113)
RET	−0.031 (0.185)	−0.012 (0.178)
LAGRET	−0.002 (0.156)	−0.004 (0.161)
Con.	0.229 (0.103)	0.041 (0.680)
R²	0.59	0.61
Prob > chi2	0.000	0.000
# of Obs.	396	396

***, **, * represent significance at the 1%, 5% and 10% level respectively.

were classified as having strong governance, while companies with low scores i.e. below the median value were classified as having weak governance. The main regression was repeated for both groups and the results presented in Table 6. For both groups, the coefficients on CSR were positive and significant under cash component only. The noticeable point was that the coefficient for firms with strong governance ($\beta=0.446$, $p < 0.10$) was less than the coefficient for firms with weak governance ($\beta=0.765$, $p < 0.01$). These findings suggested that the positive relationship was weaker in firms with strong corporate governance. These findings provided evidence that corporate governance mechanisms, to some extent, controlled the CEO exploitation of corporate resources. The results of this study are therefore in line with Core et al. (1999) and Benz et al. (2001).

To test the moderating effect of corporate governance on the CSR-CEO compensation relationship, the following models were developed. An interaction term between CSR and corporate governance index was included, see, Assenso-Okoko et al. (2021) for similar methodology.

$$CCOMP_{it} = \alpha + \beta_1 CSR_{it} + \beta_2 CGINX_{it} + \beta_3 CSR_{it} \times CGINX_{it} + \theta Y_{it} + \mu_{it} \quad (5)$$

$$ECOMP_{it} = \alpha + \beta_1 CSR_{it} + \beta_2 CGINX_{it} + \beta_3 CSR_{it} \times CGINX_{it} + \theta Y_{it} + \mu_{it} \quad (6)$$

Table 6. The Relationship between CSR and CEO Compensation for Strong and Weak governance

Strong Governance			Weak Governance	
	CCOMP	ECOMP	CCOMP	ECOMP
CSR	0.449* (0.071)	-0.261 (0.250)	0.792*** (0.000)	0.083 (0.501)
IND	-0.011 (0.921)	0.112 (0.630)	0.283*** (0.000)	0.019 (0.766)
INS	0.090 (0.135)	0.213** (0.040)	0.068 (0.173)	0.263*** (0.000)
CEOW	-2.436*** (0.000)	2.618*** (0.000)	-4.486*** (0.000)	5.396*** (0.000)
BZ	-0.009 (0.716)	0.025 (0.259)	0.019** (0.020)	0.021*** (0.000)
BL	-0.329* (0.072)	0.125 (0.193)	0.099** (0.018)	0.009*** (0.000)
FZ	0.108* (0.075)	0.089** (0.043)	0.016* (0.059)	0.018 (0.197)
TQ	0.037 (0.139)	0.017 (0.694)	-0.014 (0.685)	-0.008 (0.869)
LEV	-0.031 (0.790)	0.067 (0.739)	0.052 (0.619)	0.019 (0.898)
CEODUL	0.230 (0.124)	0.235 (0.127)	0.301** (0.031)	0.298* (0.070)
CEOTEN	0.042** (0.030)	0.051** (0.036)	0.041** (0.036)	0.052** (0.038)
LIQ	0.070** (0.025)	0.078** (0.039)	0.041** (0.020)	0.051** (0.032)
MB	0.028*** (0.002)	0.031*** (0.008)	0.032*** (0.000)	0.088*** (0.000)
Risk	0.006* (0.089)	0.005* (0.090)	0.002* (0.077)	0.005* (0.069)
Beta	0.001 (0.129)	0.008 (0.136)	0.005 (0.132)	0.009 (0.141)
RET	-0.029 (0.091)	-0.026 (0.094)	-0.030 (0.094)	-0.029 (0.098)
LAGRET	-0.005 (0.166)	-0.006 (0.168)	-0.008 (0.162)	-0.009 (0.167)
Con.	1.52** (0.032)	-0.543 (0.390)	0.043 (0.772)	-0.098 (0.425)
R ²	0.58	0.60	0.61	0.55
# of Obs.	225		171	
Prob > chi2	0.000	0.000	0.000	0.000

***, **, * represent significance at the 1%, 5% and 10% level respectively.

Where, CCOMP is the proportion of CEO cash compensation, ECOMP is the proportion of CEO equity compensation; CSR is the corporate social responsibility; CGINX is the corporate governance index; ΘY is a vector representing the control variables i.e., firm size, Tobin's Q, leverage, CEO ownership, CEO duality, CEO tenure, Liquidity, MB, Beta, Return, lagged value of return and risk.

Table 7 shows the results of models 5 and 6. The findings reported are consistent with our previous results. CSR is still positive and significant for the cash component only, the interaction term is negative and significant indicating that corporate

governance moderates the relationship between CSR and CEO pay structure. Thus, the third hypothesis was supported and accepted. This negative relationship revealed that the positive relationship between CSR and CEO pay would be less pronounced for companies with strong corporate governance, although the findings in Table 5 shows that both groups i.e. firms with strong governance and firms with weak governance, had a positive relationship between CSR and CEO compensation, it was clear that this positive relationship was weaker for companies with strong corporate governance. The findings, therefore, in Table 7 support and confirm our results in the previous section. These findings are consistent with Karim et al. (2018).

4.2.3. CSR, CEO compensation and firm value

The findings in the previous sections indicated that CSR activities in the Jordanian industrial companies were associated with a high proportion of cash-based compensation. These results so far, supported the CEOs' rent-seeking behavior, which was proposed by agency theory. In this section we test how CSR influence the relationship between CEO pay structure and corporate value. In order to do this, we regress CSR, the CEO compensation components (cash-based and equity-based) and their interaction term on Tobin's Q as a proxy for corporate value. The following models are employed (Karim et al., 2018):

$$\text{Tobin's } Q_{it} = \alpha + \beta_1 \text{CSR}_{it} + \beta_2 \text{CCOMP}_{it} + \beta_3 \text{CSR}_{it} \times \text{CCOMP}_{it} + \Theta Y + \mu_{it} \quad (7)$$

$$\text{TOBIN'S } Q_{it} = \alpha + \beta_1 \text{CSR}_{it} + \beta_2 \text{ECOMP}_{it} + \beta_3 \text{CSR}_{it} \times \text{ECOMP}_{it} + \Theta Y + \mu_{it}. \quad (8)$$

Where: Tobin's Q, is a proxy for corporate value, CCOMP is the proportion of CEO cash compensation, ECOMP is the proportion of CEO equity compensation. ΘY is a vector representing the control variables i.e., board size, board independence, CEO ownership, Block holders, insider ownership, firm size, leverage, CEO duality, CEO tenure, Liquidity, MB, Beta, Return, lagged value of return, and risk. Tobin's Q is removed from control variables since it becomes the dependent variable.

Panel (A) in Table 8 presents the relationship between CSR, CEO cash-based component, and Tobin's Q, while panel (B) presents these relationships with CEO equity-based component. The findings in (Table 8) support our previous analysis, the interaction term between the cash-based compensation and CSR is negative and significant. CSR negatively moderates the relationship between cash compensation and firm value. These results support our findings above regarding CEOs' rent-seeking behavior, where the real intention for CEOs' to engage in CSR is to serve their personal interest. This result is in line with Feng and Saini (2015).

The negative effect of CSR on firm value, in the Jordanian industrial sector, is documented in several recent Jordanian studies, see, for example, Omar and Zallom (2016), Hazaima et al. (2017), and Zraqat et al. (2021). These studies test the relationship between CSR and corporate value directly i.e. without including, for example, other variables like compensation structure for the CEO who is responsible for such decisions. Thus, those studies explain the negative effect of CSR from the liberal theory that assumes engagement in CSR has a direct cost and might negatively affect corporate competitive position (Omar & Zallom, 2016). However, Zraqat et al. (2021) explain the

Table 7. Moderating Effect of Corporate Governance

	CCOMP	ECOMP
CSR	3.086*** (0.000)	0.351 (0.185)
CGINX	0.229*** (0.000)	0.031 (0.149)
CSR * CGINX	−0.762*** (0.000)	−0.081 (0.399)
CEOW	−3.612*** (0.000)	3.751*** (0.000)
FZ	0.040*** (0.002)	0.021* (0.063)
TQ	−0.025 (0.578)	0.071 (0.519)
LEV	−0.428 (0.616)	0.058 (0.447)
CEODUL	0.30** (0.034)	0.219* (0.090)
CEOTEN	0.013** (0.030)	0.018** (0.034)
LIQ	0.091** (0.020)	0.090* (0.060)
MB	0.038*** (0.000)	0.098*** (0.000)
Risk	0.015 (0.069)	0.019 (0.086)
Beta	0.009 (0.114)	0.009 (0.115)
RET	−0.039 (0.075)	−0.017 (0.070)
LAGRET	−0.004 (0.159)	−0.008 (0.166)
Con.	0.210** (0.045)	0.015 (0.682)
R²	0.60	0.59
Prob > chi2	0.000	0.000
# of Obs.	396	396

***, **, * represent significance at the 1%, 5% and 10% level respectively.

negative relationship between CSR and Tobin's Q in the Jordanian industrial sector by the institutional theory, where their findings support the legitimacy seeking behavior.

5. Robustness check

5.1. Endogeneity

In section 4, we have presented our main results using the GLS estimation method after using several control variables based on the related literature. However, the problem of endogeneity and omitted variables could still be an important concern. In this section, the analysis for models 3 and 4 are repeated using the dynamic Arellano–Bond GMM estimator. This method controls for endogeneity by using the lagged levels of explanatory variables as instruments. GMM employs first-differencing in order to control for firm-fixed effects and autocorrelation (Arellano & Bond, 1991). Table 9 presents the dynamic Arellano–Bond GMM estimator results. The findings are robust and consistent with our main results in the previous sections. The relationship between CSR and Cash component is still positive and significant.

Table 8. The Effect of CSR on CEO-Compensation and Firm Value

Dependent Variable	Panel A (TQ)	Panel B (TQ)
CSR	−0.319** (0.021)	−0.108 (0.176)
CCOMP	0.169** (0.014)	
CCOMP *CSR	−0.110** (0.012)	
ECOMP		−0.721 (0.219)
ECOMP *CSR		0.326 (0.134)
LEV	−0.386** (0.025)	−0.421** (0.040)
CEOW	3.521** (0.021)	1.673** (0.022)
BZ	−0.138 (0.325)	0.232 (0.812)
FZ	0.069** (0.023)	0.029* (0.070)
IND	−0.597*** (0.000)	−0.020* (0.090)
BL	0.074 (0.127)	−0.002 (0.156)
INS	0.068 (0.325)	0.058 (0.189)
CEODUL	0.310** (0.030)	0.298* (0.061)
CEOTEN	0.061*** (0.000)	0.069*** (0.000)
LIQ	0.089** (0.041)	0.061** (0.045)
MB	0.049** (0.037)	0.031** (0.041)
Risk	0.006 (0.075)	0.008 (0.080)
Beta	0.002 (0.198)	0.001 (0.199)
RET	−0.029 (0.081)	−0.023 (0.087)
LAGRET	−0.001 (0.851)	−0.008 (0.858)
Con.	0.328* (0.081)	0.821** (0.030)
R ²	0.62	0.58
# of Obs.	396	396

***, **, * represent significance at the 1%, 5% and 10% level respectively.

5.2. Alternative measure for CSR

As a robustness check, the analysis is repeated using different CSR measure, calculated using the Jo and Harjoto (2012) equation. The scores for each sub-group were calculated by dividing the difference between all strength items of firm *i*, at year *t* and all the concern items, by the total maximum possible number of strength items plus the total maximum possible number of concern

Table 9. The Relationship between CSR and CEO Compensation using Dynamic GMM Estimator

	(A) CCOMP	(B) ECOMP
CSR	0.781** (0.021)	−0.389 (0.131)
IND	0.275*** (0.000)	0.019 (0.930)
INS	0.325** (0.010)	0.191* (0.060)
CEOW	−2.853** (0.010)	2.128** (0.030)
BZ	0.025* (0.071)	0.015* (0.080)
BL	−0.018* (0.080)	− 0.022 (0.779)
FZ	0.041** (0.030)	0.052* (0.076)
TQ	0.006 (0.880)	0.028 (0.246)
LEV	0.176 (0.378)	−0.210 (0.428)
CEODUL	0.31** (0.021)	0.218* (0.090)
CEOTEN	0.096** (0.031)	0.019** (0.039)
LIQ	0.091** (0.020)	0.097* (0.078)
MB	0.039*** (0.000)	0.098*** (0.000)
Risk	0.004* (0.099)	0.009* (0.076)
Beta	0.009 (0.111)	0.008 (0.119)
RET	−0.038 (0.089)	−0.017 (0.075)
LAGRET	−0.006 (0.158)	−0.007 (0.165)
Con.	0.148 (0.791)	0.284 (0.479)
Year fixed effect	Included	Included
AR (1) (p-value)	0.003	0.005
AR (2) (p-value)	0.598	0.201
Hansen (p-value)	0.591	0.535

***, **, * represent significance at the 1%, 5% and 10% level respectively. AR (1) and AR (2) refer to tests for first-order and second-order serial correlation in the first-differenced residuals where H_0 : no serial correlation. Hansen test of over-identification where H_0 : all instruments are valid.

items during that year. The findings are similar and consistent with the main findings presented in the above sections.

6. Conclusion

CEOs compensation have been a theme of great importance for academic researchers, shareholders, and policymakers. The present paper has presented an empirical investigation of how CSR is related to the components of CEO compensation and furthermore, assessed if corporate governance moderated this relationship. The study sample comprised 44 Jordanian industrial firms listed

on ASE, over the period 2010–2018. A unique CSR index was developed comprising 36 items in five basic categories: community information, environment information, diversity information, employee relations information and product information.

The panel data analysis revealed several important findings: First, this paper documents a strong positive, significant relationship between CSR and CEO compensation structure measured by cash based compensation, while a negative but insignificant relationship was found between CSR and the equity component; Second, the positive relationship between CSR and the cash component was weaker for firms with effective corporate governance, providing evidence that corporate governance moderates the CSR-CEO compensation relationship. Overall, our findings are in line with agency theory arguments, while including the components of CEO pay structure can reveal the true intentions instigating increased CSR performance. The increase in cash components supported the overinvestment hypothesis, that CEOs exploited CSR activities for personal gain. These findings are in line with prior research (Barnea & Rubin, 2010; Borghesi et al., 2014; Fondas et al., 2017).

The main findings of this study served as motivation to test how corporate governance may affect this relationship in the Jordanian industrial sector. In general, the analysis showed that the corporate governance mechanism was insufficiently strong in monitoring managerial actions. For example, the reported positive relationship between board independence, board size and CEO pay, indicated that independent directors were not performing their duties as expected. Large boards, that were more likely to be ineffective and easily controlled by corporate directors, tended also to pay higher compensation. The outcomes of this study are consistent with the findings reported by Core et al. (1999) and Ozkan (2007) who found that CEO compensation was higher when corporate governance practices were weak. Therefore, our findings imply important insights, showing that increasing CSR in the absence of effective monitoring facilitated CEOs' self-seeking behavior that eventually damaged corporate value.

The findings of this study, therefore, might send an important signal to policymakers regarding enhancing engagement in CSR activities, provided that more effective monitoring practices are introduced. More action should be taken to strengthen the role of governance mechanisms in order to control opportunistic managerial behavior. The results of this study also have several important implications for stakeholders and investors, since the analysis of and focus on CSR information may offer insights as to how firm value and shareholder wealth maybe affected by such activities. Future research might expand the current analysis by using different measures for CSR; for example, breaking down the total CSR index into basic groups and testing each separately might offer new insights; including more items in the corporate governance index may also enrich the analysis, in addition to replicating the present study analysis in other sectors.

Funding

The authors have no funding to report.

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Disclosure statement

No potential conflict of interest was reported by the author(s).

Citation information

Cite this article as: Corporate social responsibility and CEO compensation: the moderating effect of corporate governance, Buthiena Kharabsheh, Hussam A. Al-Shammari & Nosiaba Al-Numerat, *Cogent Economics & Finance* (2022), 10: 2125523.

Note

1. In the field of CSR, content analysis is an acceptable tool in analyzing corporate annual reports (Guthrie & Parker, 1990).

References

Abed, S., Suwaidan, M., & Slimani, S. (2014). The determinants of chief executive officer compensation in Jordanian industrial corporations. *International Journal of Economics and Finance*, 6(12), 110. <https://doi.org/10.5539/ijef.v6n12p110>

- Aggarwal, R., & Samwick, A. (1999). Executive compensation, strategic competition and relative performance evaluation: Theory and evidence. *Journal of Finance*, 54(6), 1999–2032. <https://doi.org/10.1111/0022-1082.00180>.
- Al-Azzam, Z., Al-Mohameed, H., & Al-Qura'an, A. (2015). How the corporate governance affects organizational strategy: Lessons from Jordan environment. *Journal of Business and Management*, 17(4), 52–66. <http://dx.doi.org/10.2139/ssrn.2710595>
- Al Fadli, A., Sands, J., Jones, G., Beattie, C., & Pensiero, D., (2019). Board gender diversity and CSR reporting: Evidence from Jordan. *Australasian Accounting, Business and Finance Journal*, 13(3), pp.29–52. <http://dx.doi.org/10.14453/aabfj.v13i3.3>.
- Almarayeh, T. (2021). Board gender diversity, board compensation and firm performance. Evidence from Jordan. *Journal of Financial Reporting and Accounting*. <https://doi.org/10.1108/JFRA-05-2021-0138>
- Al-Msiedeen, J., & Al-Sawalqa, F. (2021). Ownership structure and CEO Compensation: evidence from Jordan. *Asian Economic and Financial Review*, 11(5), 365–383. <https://doi.org/10.18488/journal.aefr.2021.115.365.383>
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*, 58(2), 277–297. <https://doi.org/10.2307/2297968>
- Artiach, T., Lee, D., Nelson, D., & Walker, J. (2010). The determinants of corporate sustainability performance. *Accounting & Finance*, 50(1), 31–51. <https://doi.org/10.1111/j.1467-629X.2009.00315.x>
- Assenso-Okofu, O., Jahangir Ali, M., & Ahmad, K. (2021). The impact of corporate governance on the relationship between earnings management and CEO Compensation. *Journal of Applied Accounting Research*. <https://doi.org/10.1108/JAAR-11-2019-0158>
- Atkinson, L., & Galaskiewicz, J. (1988). Stock Ownership and Company Contributions to Charity. *Administrative Science Quarterly Journal*, 33(1), 82–100. <https://doi.org/10.2307/2392856>
- Baltagi, B. H. (2005). *Econometric Analysis of Panel Data*. John Wiley and Sons.
- Baltagi, B., & Wu, P. (1999). Unequally spaced Panel Data Regressions with AR (1) Disturbances. *Econometric Theory*, 15(6), 814–823. Retrieved April 6, 2021 from <http://www.jstor.org/stable/3533276>
- Barnea, A., & Rubin, A. (2010). Corporate social responsibility as a conflict between shareholders. *Journal of Business Ethics*, 97(1), 71–86. <https://doi.org/10.1007/s10551-010-0496-z>
- Baron, D., Harjoto, M., & Jo, H. (2010). The economics and politics of corporate social performance. *Business and Political Journal*, 13(2), 1–46. <https://doi.org/10.2202/1469-3569.1374>
- Basu, S., Hwang, L. S., Mitsudome, T., & Weintrop, J. (2007). Corporate governance, top executive compensation and firm performance in Japan. *Pacific-basin Finance Journal*, 1(15), 56–79. <https://doi.org/10.1016/j.pacfin.2006.05.002>
- Beatty, R. P., & Zajac, E. J. (1994). Managerial incentives, monitoring, and risk bearing: A study of executive compensation ownership, and board structure in initial public offerings. *Administrative Science Quarterly Journal*, 39(2), 313–335. <https://doi.org/10.2307/2393238>
- Bebchuk, L. A., & Fried, J. M. (2003). Executive Compensation as an Agency Problem. *Journal of Economic Perspectives*, 17(3), 71–92. <https://doi.org/10.1257/089533003769204362>
- Becchetti, L., & Ciciretti, R. (2009). Corporate social responsibility and stock market performance. *Journal of Applied Finance Economic*, 19(6), 1283–1293. <https://doi.org/10.1080/09603100802584854>
- Benkraiem, R., Hamrouni, A., Lakhal, F., & Toumi, N. (2017). Board Independence, gender diversity and CEO compensation. *Corporate Governance: The International Journal of Business in Society*, 17(1), 845–860. <https://doi.org/10.1108/CG-02-2017-0027>
- Benz, M., Kucher, M., & Stutzer, A. (2001). Are stock options the managers blessing? Stock option compensation and institutional controls. Zurich IIEE working paper NO 61. <http://dx.doi.org/10.2139/ssrn.251009>
- Bhuyan, R., Butchey, D., Haar, J., & Talukdar, B. (2020). CEO compensation and firm performance in the insurance industry. *Journal of Managerial Finance*. <https://doi.org/10.1108/MF-04-2019-0154>
- Borghesi, R., Houston, J. F., & Naranjo, A. (2014). Corporate social responsibility investments: CEO altruism, reputation, and shareholder interests. *Journal of Corporate Finance*, 26, 164–181. <https://doi.org/10.1016/j.jcorpfin.2014.03.008>
- Bouteska, A., & Mefteh-Wali, S. (2021). The Determinations of CEO Compensation: New insight from United States. *Journal of Applied Accounting Research*, 22(4), 663–686. <https://doi.org/10.1108/JAAR-08-2020-0176>
- Boyd, B. K. (1994). Board control and CEO compensation. *Strategic Management Journal*, 15(5), 335–344. <https://doi.org/10.1002/smj.4250150502>
- Brain G. M. Main, Charles, A. O'REILLY, & Wade, J. 1995. The CEO, the Board of Directors and Executive Compensation: *Economic and Psychological Perspectives, Industrial and Corporate Change*, 4(2), 293–332. <https://doi.org/10.1093/icc/4.2.293>
- Bushman, R., Indjejikian, R., & Smith, A. (1996). CEO compensation: The role of individual performance evaluation. *Journal of Accounting and Economics*, 21(2), 161–193. [https://doi.org/10.1016/0165-4101\(95\)00416-5](https://doi.org/10.1016/0165-4101(95)00416-5)
- Byus, K., Deis, D., & Ouyang, B. (2010). Doing well by doing good: Corporate social responsibility and profitability. *SAM Advanced Management Journal*, 75(1), 44–55. <http://www.freepatentsonline.com/article/SAM-Advanced-Management-Journal/230150767.html>
- Cai, Y., Jo, H., & Pan, C. (2011). Vice or Virtue? The impact of corporate social responsibility on executive compensation. *Journal of Business Ethics*, 104, 159–173. <https://doi.org/10.1007/s10551-011-0909-7>
- Carroll, A. B. (1979). A Three-Dimensional Conceptual Model of corporate performance. *The Academy of Management Review*, 4(4), 497–505. <https://doi.org/10.5465/amr.1979.4498296>
- Cheng, S., & Firth, M. (2006). Family ownership, corporate governance, and top executive compensation. *Journal of Managerial and Decision Economics*, 27(7), 549–561. <https://doi.org/10.1002/mde.1273>
- Chen, D., Shen, Y., Xin, F., & Zhang, T. (2012). Overemployment, executive pay-for-performance sensitivity and economic consequences: Evidence from China. *China Journal Accounting Research*, 5(1), 1–26. <https://doi.org/10.1016/j.cjar.2012.03.001>
- Clark, J. M. (1939). *Social control of business*. McGraw-Hill.
- Conyon, M. J., & He, L. (2011). Executive compensation and corporate governance in China. *Journal of Corporate Finance*, 17(4), 1158–1175. <https://doi.org/10.1016/j.jcorpfin.2011.04.006>
- Conyon, M. J., & Murphy, K. J. (2000). The prince and Pauper? CEO pay in the United States and United

- Kingdom. *The Economic Journal*, 110(467), 640–671. <https://doi.org/10.1111/1468-0297.00577>
- Core, J., & Guay, W. (1999). The use of equity grants to manage optimal equity incentive level. *Journal of Accounting and Economic*, 28(2), 151–184. [https://doi.org/10.1016/S0165-4101\(99\)00019-1](https://doi.org/10.1016/S0165-4101(99)00019-1)
- Core, J., Holthansen, R., & Larcker, D. (1999). Corporate governance chief executive compensation and firm performance. *Journal of Financial Economics*, 51(3), 371–466. [https://doi.org/10.1016/S0304-405X\(98\)00058-0](https://doi.org/10.1016/S0304-405X(98)00058-0)
- Craighead, J. A., Magnan, M. L., & Thorne, L. (2004). The impact of mandated disclosure on performance – based CEO compensation. *Contemporary Accounting Research*, 21(2), 369–398. <https://doi.org/10.1506/BPCX-D3FC-Y8VY-M541>
- Croci, E., Gonenc, H., & Ozkan, N. (2012). CEO compensation, family control, and institutional investors in Continental Europe. *Journal of Banking and Finance*, 36(12), 3318–3335. <https://doi.org/10.1016/j.jbankfin.2012.07.017>
- Cronqvist, H., Heyman, F., Nilsson, M., Svaleryd, H., & Vlachos, J. (2009). Do entrenched managers pay their works more? *The Journal of Finance*, 64(1), 309–339. <https://doi.org/10.1111/j.1540-6261.2008.01435.x>
- Cyert, R. M., Kang, S. H., & Kumar, P. (2002). Corporate governance, takeovers, and Top-management compensation: Theory and evidence. *Management Science Journal*, 48(4), 453–590. <https://doi.org/10.1287/mnsc.48.4.453.205>
- Dam, L., & Scholtens, B. (2013). Ownership concentration and CSR policy of European multinational enterprises. *Journal of Business Ethics*, 118(1), 117–126. <https://doi.org/10.1007/s10551-012-1574-1>
- David, P., Kochhar, R., & Levitas, E. (1998). The effect of institutional investors on the level and Mix of CEO compensation. *Academy of Management Journal*, 41(2), 200–208. <https://doi.org/10.5465/257102>
- de Andrés, P., Aranzz-Aperte, L., & Rodriguez-Sanz, J. A. (2017). Independent Versus non Independent outside directors in European companies: Who has a Say on CEO Compensation? *BRQ Business Research Quarterly Journal*, 20(2), 79–95. <https://doi.org/10.1016/j.brq.2017.02.001>
- Deng, X., Kang, J. K., & Low, B. S. (2013). Corporate social responsibility and stakeholder value maximization: Evidence from mergers. *Journal of Financial Economics*, 110(1), 87–109. <https://doi.org/10.1016/j.jfineco.2013.04.014>
- Dennis, L., & Maiguel, C. M. (2002). Corporate Governance in Spain (with an application of the power indices approach. *Journal of Law and Economics*, 13(2), 157–173. <https://doi.org/10.1023/A:1013680820398>
- Donaldson, T., & Preston, L. E. (1995). The Stakeholder Theory of the corporation: Concepts, Evidence, and Implications. *Academy of Management Review Journal*, 20(1), 65–91. <https://doi.org/10.5465/amr.1995.9503271992>
- Dzingai, I., & Fakoya, M. B. (2017). Effect of corporate governance structure on the financial performance of Johannesburg Stock Exchange(JSE)-listed mining firms. *Sustainability Journal*, 9(6), 867. <https://doi.org/10.3390/su9060867>
- Edmans, A. (2011). Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics*, 101(3), 621–640. <https://doi.org/10.1016/j.jfineco.2011.03.021>
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57–74. <https://doi.org/10.5465/amr.1989.4279003>
- Essen, M., Otten, J., & Carberry, E. J. (2015). Assessing managerial power theory: A meta-analytic approach to understanding the determinants of CEO compensation. *Journal of Management*, 41(1), 164–202. <https://doi.org/10.1177/0149206311429378>
- Ezammel, M., & Watson, R. (2002). Pay Comparability across and within UK boards: An empirical analysis of the pay cash awards to CEO and other board members. *Journal of Management Studies*, 39(2), 207–232. <https://doi.org/10.1111/1467-6486.00289>
- Fama, E., & Jensen, M. (1983). Separation of Ownership and Control. *The Journal of Law and Economic*, 26(2), 301–325. <https://doi.org/10.1086/467037>
- Feng, Z., Ghosh, C., & Sirmans, C. F. (2007). Director compensation and CEO bargaining power in REITs. *The Journal of Real Estate in Finance and Economics*, 35(3), 225–251. <https://doi.org/10.1007/s11146-007-9043-9>
- Feng, M., & Saini, J. S. (2015). Monetary compensation, workforce-oriented corporate social responsibility, and firm performance. *American Journal of Business*, 30(3), 196–215. <https://doi.org/10.1108/AJB-10-2014-0057>
- Ferrell, A., Liang, H., & Renneboog, L. (2016). Socially responsible firms. *Journal of Financial Economics*, 122(3), 585–606. <https://doi.org/10.1016/j.jfineco.2015.12.003>
- Firth, M., Tam, M., & Tang, M. (1999). The determinations of top management pay. *Journal of Omega*, 27(6), 617–635. [https://doi.org/10.1016/S0305-0483\(99\)00021-3](https://doi.org/10.1016/S0305-0483(99)00021-3)
- Flammer, C., & Kacperczyk, A. (2016). The impact of stakeholder orientation on innovation: Evidence from a natural experiment. *Management Science*, 62(7), 1982–2001. <https://doi.org/10.1287/mnsc.2015.2229>
- Fondas, K., Mahadwartha, U., & Herlambang, F. (2017). The impact of corporate social responsibility on CEO compensation. *Journal of Management and Business*, 16(1). <https://doi.org/10.24123/jmb.v16i1.292>
- Freeman, R. E. (1994). The politics of stakeholder theory: Some future directions. *Business Ethics Quarterly*, 409–421. <https://doi.org/10.2307/3857340>
- Freeman, I., & Hasnaoui, A. (2011). The meaning of corporate social responsibility: The vision of four nations. *Journal of Business Ethics*, 100(3), 419–443. <https://doi.org/10.1007/s10551-010-0688-6>
- Galaskiewicz, J. (1985). Professional networks and the institutionalization of a single mind set. *American Sociological Review*, 50(5), 639–658. <https://doi.org/10.2307/2095379>
- Gamerschlag, R., Möller, K., & Verbeeten, F. (2011). Determinants of voluntary CSR disclosure: Empirical evidence from Germany. *Review of Managerial Science*, 5(2–3), 233–262. <https://doi.org/10.1007/s11846-010-0052-3>
- Gan, H., & Park, M. S. (2016). Are more able CEOs getting more compensated? Evidence from the pay-for-performance sensitivity of equity – Based incentives. *Journal of Advances in Accounting*, 34, 64–76. <https://doi.org/10.1016/j.adiac.2016.07.008>
- Gaver, J., & Gaver, K. (1993). Additional evidence on the association between the investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Accounting and Economics*, 16(1–3), 125–160. [https://doi.org/10.1016/0165-4101\(93\)90007-3](https://doi.org/10.1016/0165-4101(93)90007-3)
- Ge, W., & Liu, M. (2015). Corporate social responsibility and the cost of corporate bonds. *Journal of*

- Accounting and Public Policy*, 34(6), 597–624. <https://doi.org/10.1016/j.jaccpubpol.2015.05.008>.
- Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *The Quarterly Journal of Economics*, 118(1), 107–156. <https://doi.org/10.1162/00335530360535162>
- Gujarati, D. (2004). *Économétrie. Basic Econometrics*: McGraw-Hill.
- Gupta, K., Krishnamurti, C., & Tourani-Rad, A. (2013). Is corporate governance relevant during the financial crisis? *Journal of International Financial Markets, Institutions and Money*, 23, 85–110. <https://doi.org/10.1016/j.intfin.2012.10.002>
- Guthrie, J., & Parker, L. D. (1990). Corporate social disclosure practice: A comparative international analysis. *Advances in Public Interest Accounting*, 3, 159–175.
- Gutierrez, M., & Sáez, M. (2015). Deconstructing Independent Directors. *Journal of Corporate Law Studies*, 13(1), 63–94. <https://doi.org/10.5235/14735970.13.1.63>
- Hafsi, T., & Turgut, G. (2013). Boardroom diversity and its effect on social performance: Conceptualization and empirical evidence. *Journal of Business Ethics*, 112(3), 463–479. <https://doi.org/10.1007/s10551-012-1272-z>
- Harjoto, M. A., & Jo, H. (2011). Corporate Governance and CSR Nexus. *Journal of Business Ethics*, 100(1), 45–67. <https://doi.org/10.1007/s10551-011-0772-6>
- Harris, M., & Raviv, A. (1979). Optimal Incentive Contracts with Imperfect Information. *Journal of Economic Theory*, 20(2), 231–259. [https://doi.org/10.1016/0022-0531\(79\)90073-5](https://doi.org/10.1016/0022-0531(79)90073-5)
- Hazaima, H., Low, M., & Allen, J. (2017). Impact of corporate social responsibility disclosures on financial performance – A Jordanian case study. *Int. J. Critical Accounting*, 9(5/6), 433–459. <https://doi.org/10.1504/IJCA.2017.090585>
- Hillman, A., & Keim, G. (2001). Shareholder value, stakeholder management and social issues: What's the bottom line? *Strategic Management Journal*, 22(2), 125–139. [https://doi.org/10.1002/1097-0266\(200101\)22:2<125::AID-SMJ150>3.0.CO;2-H](https://doi.org/10.1002/1097-0266(200101)22:2<125::AID-SMJ150>3.0.CO;2-H)
- Holder-Webb, L., Cohen, J. R., Nath, L., & Wood, D. (2008). The supply of corporate social responsibility disclosures among U.S. firms. *Journal of Business Ethics*, 84(4), 497–527. <https://doi.org/10.1007/s10551-008-9721-4>
- Holmstrom, B., & Milgrom, P. (1991). Multitask principle-agent analysis: Incentive contracts, asset ownership, and job design. *Journal of Law Economic & Organization*, 27(7), 8756.
- Ikram, M., Qayyum, A., Mehmood, O., & Haider, J. (2020). Assessment of the effectiveness and the adaption of the CSR management system in food industry: The case of the South Asian Versus the Western Food Companies. *SAGE Open Journal*, 10(1), 1–19. <https://doi.org/10.1177/2158244019901250>
- Javeed, S. A., & Lefen, L. (2019). An analysis of corporate social responsibility and firm performance with moderating effect of CEO power and CEO ownership structure: A case study of the manufacturing sector of Pakistan. *Sustainability Journal*, 11(1), 248. <https://doi.org/10.3390/su11010248>
- Jensen, M. (1993). The Modern Industrial Revolution, Exit, and Failure of Internal Control Systems. *The Journal of Finance*, 48(3), 831–880. <https://doi.org/10.1111/j.1540-6261.1993.tb04022.x>
- Jensen, M. (2002). Value maximization, stakeholder theory, and the corporate objective function. *Business Ethics Quarterly Journal*, 12(2), 235–256. <https://doi.org/10.2307/3857812>
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–350. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Jensen, M., & Murphy, K. J. (1990). Performance Pay and Top- Management Incentives. *The Journal of Political Economy*, 98(2), 225–264. <https://doi.org/10.1086/261677>
- Jo, H., & Harjoto, M. A. (2012). The causal effect of corporate governance on corporate social responsibility. *Journal of Business Ethics*, 106(1), 53–72. <https://doi.org/10.1007/s10551-011-1052-1>
- Joubert, H. (2019). Hoe does CEO pay slice influence corporate social responsibility? U.S.-Canadian versus Spanish-French listed firms. *Corporate Social Responsibility and Environment Management Journal*, 26(2), 502–517. <https://doi.org/10.1002/csr.1728>
- Kadiyala, P., & Rau, P. R. (2004). Investor Reaction to corporate event announcements: Under reaction or overreaction? *The Journal of Business*, 77(2), 357–386. <https://doi.org/10.1086/381273>
- Kanakriyah, R. (2021). The impact of board of directors' characteristics on firm performance: A case study in Jordan. *Journal of Asian Finance, Economics and Business*, 8(3), 341–350. <https://doi.org/10.13106/jafeb.2021.vol8.no3.034>
- Karim, K., Lee, E., & Suh, S. (2018). Corporate social responsibility and CEO compensation structure. *Advances in Accounting*, 40, 27. <https://doi.org/10.1016/j.adiac.2017.11.002>
- Lipton, M., & Lorsch, J. W. (1992). A modest proposal for improved corporate governance. *Journal of Business Lawyer*, 48(1), 59–77. <https://www.jstor.org/stable/40687360>
- Luo, X., & Bhattacharya, C. B. (2006). Corporate social responsibility, customer satisfaction, and market value. *Journal of Marketing*, 70(4), 1–18. <https://doi.org/10.1509/jmkg.70.4.001>
- Mahoney, L., & Thorne, L. (2005). Corporate social responsibility and Long- term Compensation: Evidence from Canada. *Journal of Business Ethics*, 57(3), 241–253. <https://doi.org/10.1007/s10551-004-5367-z>
- Malmendier, U., & Tate, G. (2015). Behavioral CEOs: The role of managerial overconfidence. *Journal of Economic Perspectives*, 29(4), 37–60. <https://doi.org/10.1257/jep.29.4.37>
- Martínez-Ferrero, J., García-Sánchez, I. M., & Cuadrado-Ballesteros, B. (2015). Effect of financial reporting quality on sustainability information disclosure. *Corporate Social Responsibility and Environmental Management*, 22(1), 45–64. <https://doi.org/10.1002/csr.1330>
- Masulis, R., & Reza, S. (2015). Agency problems of corporate philanthropy. *Review of Financial Studies*, 28(2), 592–636. <https://doi.org/10.1093/rfs/hhu082>
- McGuire, J., Dow, S., & Arghyey, K. (2003). CEO incentives and corporate social performance. *Journal of Business Ethics*, 45(4), 341–359. <https://doi.org/10.1023/A:1024119604363>
- McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *The Academy of Management Review*, 26(1), 117–127. <https://doi.org/10.5465/amr.2001.4011987>
- Mehran, H. (1995). Executive Compensation structure, ownership, and firm performance. *Journal of Financial Economics*, 38(2), 163–184. [https://doi.org/10.1016/0304-405X\(94\)00809-F](https://doi.org/10.1016/0304-405X(94)00809-F)

- Milbourn, T. (2003). CEO reputation and stock-based compensation. *Journal of Financial Economics*, 68(1), 233–262. [https://doi.org/10.1016/S0304-405X\(03\)00066-7](https://doi.org/10.1016/S0304-405X(03)00066-7)
- Miles, P. C., & Miles, G. (2013). Corporate Social Responsibility and executive compensation: Exploring the link. *Social Responsibility Journal*, 9(1), 76–90. <https://doi.org/10.1108/17471111311307822>
- Morck, R., Shleifer, A., & Vishny, R. (1988). Alternative mechanisms for corporate control. *American Economic Review*, 79, 842–852. <https://doi.org/10.3386/w2532>
- Murphy, K. J. (1985). Corporate performance and managerial remuneration: An Empirical Analysis. *Journal of Accounting and Economic*, 7(1–3), 11–42. [https://doi.org/10.1016/0165-4101\(85\)90026-6](https://doi.org/10.1016/0165-4101(85)90026-6)
- Murphy, K. J. (1999). Executive Compensation. *Handbook of Labor Economics*, 3(part B), 2485–2563. [https://doi.org/10.1016/S1573-4463\(99\)30024-9](https://doi.org/10.1016/S1573-4463(99)30024-9)
- Okoye, A. (2009). Theorising corporate social responsibility as an essentially contested concept: Is a definition necessary? *Journal of Business Ethics*, 89(4), 613–627. <https://doi.org/10.1007/s10551-008-0021-9>
- Omar, B. F., & Zallom, N. O. (2016). Corporate social responsibility and market value: Evidence from Jordan. *Journal of Financial Reporting and Accounting*, 14(1), 2–29. <https://doi.org/10.1108/JFRA-11-2014-0084>
- Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies Journal*, 24(3), 403–441. <https://doi.org/10.1177/0170840603024003910>
- Ozkan, N. (2007). Do corporate governance mechanisms influence CEO compensation? An empirical investigation of UK companies. *Journal of Multinational Financial Management*, 17(5), 349–364. <https://doi.org/10.1016/j.mulfin.2006.08.002>
- Ozkan, N. (2011). CEO Compensation and Firm Performance: An Empirical Investigation of UK Panel Data. *Journal of European Financial Management*, 17(2), 260–285. <https://doi.org/10.1111/j.1468-036X.2009.00511.x>
- Pathan, S. (2009). Strong boards, CEO power and bank risk-taking. *Journal of Banking and Finance*, 33(7), 1340–1350. <https://doi.org/10.1016/j.jbankfin.2009.02.001>
- Porter, M. E., & Kramer, M. R. (2002). The competitive advantage of corporate philanthropy. *Harvard Business Review*, 80(12), 56–69.
- Potts, M. (2006). CEO Compensation and virtue ethics. In R.W. Kolb(ED). *The ethics of executive compensation* (pp. 101–115). Wiley Blackwell publishing Ltd.
- Rekker, S., Benson, K., & Faff, R. (2014). Corporate social responsibility & CEO compensation: Do disaggregation, market stress, gender matter? *Journal of Economic & Business*, 72, 84–103. <https://doi.org/10.1016/j.jeconbus.2013.11.001>
- Reverte, C. (2009). Determinants of corporate social responsibility disclosure ratings by Spanish listed firms. *Journal of Business Ethics*, 88(2), 351–366. <https://doi.org/10.1007/s10551-008-9968-9>
- Saidat, Z., Silva, M., & Seaman, C. (2019). The relationship between corporate governance and financial performance: Evidence from Jordanian family and non-family firms. *Journal of Family Business Management*, 9(1), 54–78. <https://doi.org/10.1108/JFBM-11-2017-0036>
- Sapp, S. G. (2008). The Impact of Corporate Governance on Executive Compensation. *Journal of European Financial Management*, 14(4), 710–746. <https://doi.org/10.1111/j.1468-036X.2008.00443.x>
- Scherer, A. G., Palazzo, G., & Baumann, D. (2006). Global rules and private actors: Toward a new role of the transnational corporation in global governance. *Business Ethics Quarterly*, 16(4), 505–532. <https://doi.org/10.5840/beq200616446>
- Shabir, A., & Rosmini, O. (2016). Basic Corporate Governance Models: A Systematic review. *International Journal of Law and Management*, 58(1), 73–107. <https://doi.org/10.1108/IJLMA-10-2014-0057>
- Shanikat, M., & Abbadi, S. S. (2011). Assessment of corporate governance in Jordan: An empirical study. *Australasian Accounting, Business and Finance Journal*, 5(3), 93–106. <https://doi.org/10.1504/ijcg.2019.10024794>
- Shleifer, A., & Vishny, R. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94(3), 461–488. <https://doi.org/10.1086/261385>
- Smith, C. W., & Watts, R. L. (1992). The investment opportunity set and corporate financing, dividend, and financing policies. *Journal of Financial Economics*, 32(3), 262–292. [https://doi.org/10.1016/0304-405X\(92\)90029-W](https://doi.org/10.1016/0304-405X(92)90029-W)
- Stata, R., & Maidique, M. (1980). Bonus System for a Balanced Strategy. *Harvard Business Review*, 58(6), 158–183.
- Surroca, J., & Tribo, J. A. (2008). Managerial entrenchment and corporate social performance. *Journal of Business Finance and Accounting*, 35(5–6), 748–789. <https://doi.org/10.1111/j.1468-5957.2008.02090.x>
- Turban, D. B., & Greening, D. W. (1997). Corporate social performance and organizational attractiveness to prospective employees. *Academy of Management Journal*, 40(3), 658–672. <https://doi.org/10.5465/257057>
- Vo, T. T. N., & Canil, J. M. (2016). CEO pay disparity: Efficient contracting or managerial power? *Journal of Corporate Finance*, 54(1), 168–190. <https://doi.org/10.1016/j.jcorpfin.2016.10.002>
- Weisbach, M. S. (1988). Outside directors and CEO turnover. *Journal of Financial Economics*, 20, 431–460. [https://doi.org/10.1016/0304-405X\(88\)90053-0](https://doi.org/10.1016/0304-405X(88)90053-0)
- Westphal, J. D. (1998). Boards games: How CEOs adapt to increase in structural board independence from management. *Administrative Science Quarterly*, 43(3), 511–537. <https://doi.org/10.2307/2393674>
- Westphal, J. D., & Zajac, J. E. (1995). Who shall govern? CEO/board power, demographic similarity, and new director selection. *Administrative Science Quarterly*, 40(1), 60–83. <https://doi.org/10.2307/2393700>
- Yu, H. C., & Thuan, L. T. (2014). CEO compensation, CEO attributes and corporate risk taking evidence from US listed corporations. *Banks & Bank Systems*, 9(4), 48–72.
- Zraqat, O., Zureigat, Q., Al-Rawashdeh, H. A., Okour, S. M., Hussien, L. F., & AL-Bawab, A. A. (2021). The effect of corporate social responsibility disclosure on market performance: Evidence from Jordan. *The Journal of Asian Finance, Economics and Business*, 8(8), 453–463. <https://doi.org/10.13106/jafeb.2021.vol8.no8.0453>

Appendix A. CSR Items Employed in the Study

Strengths	Concerns
Community Information strength	Community Information Concern
Charitable Giving.	Tax Disputes.
Support for Housing.	Negative Economic Impact.
Support for Arts and Sports.	
Support for Education.	
Volunteer Programs.	
Create Jobs opportunity.	
Non-Jordanian Charitable Giving.	
Environment Information Strength	Environment Information Concern
Recycling	Hazardous Waste
Pollution Prevention.	Regulatory Problems.
Clean Energy.	
Planting Trees.	
Communications.	
Diversity Information Strength	Diversity Information Concern
CEO.	Non-Representation.
Board of Directors.	
Employment of the Disabled.	
Employee relations information Strength	Employee Relations Information Concerns
No-Layoff Policy.	Workforce Reductions.
Cash Profit Sharing.	Poor Labor Unions Relation.
Employee Involvement.	Health and Safety Concerns.
Health and Safety Strength.	
Retirement Benefits.	
Training employee programs.	
Number of employees who involved in training programs	
Strong labor unions relation.	
Employee loans.	
Product Information Strength	Product Information Concern
Quality.	Product Safety
R&D/Innovation.	Penalties
These items are similar to those employed by Cai et al., 2011 (and Karim et al., 2018 (

Appendix B. PETROCHEMICALS Firm and their CSR Strength and Concern Index in 2017

Community Information Strengths	
1	Support for Education. The firm donations to education programs or the firm supported job-training programs for youth.
2	Create jobs opportunity.
3	Volunteer Programs. The firm has an exceptionally strong volunteer program.
Community Information Concern	
4	Tax Disputes
Environment Information Strength	
5	Recycling. The firm either is a substantial user of recycled materials as raw materials in its manufacturing processes, or a major factor in the recycling industry.
6	Pollution Prevention. Prevention programs (e.g., emissions reductions)
7	Communications
Diversity Information Concern	
8	Non-Representation
Employee Relations Information Strength	
9	No-Layoff Policy. The firm has maintained a consistent no-layoff Policy.
10	Health and Safety Strength. The firm has strong health and safety programs.
11	Retirement Benefits. The firm has retirement benefits program.
12	Training employee programs.
Product Information Strength	
13	Quality. The firm has program to improve quality and safety (e.g., comply with ISO standard)
14	R&D/Innovation. The firm is a leader in its industry for research and development (R&D), particularly by bringing notably innovative products to market.

To construct an aggregate CSR Composite Index, Following Hillman and Keim (2001) and Baron et al. (2010), letting C_{ijt} denote an indicator variable of CSR for firm i with strength j for year t from Appendix 1 and C_t the maximum number of strengths in year t for any firm, the index C_{it} of CSR composite for firm-year observation i is:

$$C_{it} = \frac{\sum_j C_{ijt}}{C_t} \dots \gamma$$

The similar process is repeated for CSR concerns.

The above equation (x_y) can be rewritten as follows:

$$C_{it} = \frac{\sum_j C_{ijt} - \sum_k C_{ikt} + C_{kt}}{C_{jt} + C_{kt}} \dots (\gamma.a)$$

Where: C_{ijt} an indicator variable of CSR for firm i with strength j for year t , C_{ikt} an indicator variable of CSR for firm i with concern k for year t , and C_{jt} and C_{kt} the maximum number of strengths and concerns, respectively, in year t for any firm.

$$\text{Community} = (3-1 + 2) / (7 + 2) = 0.44$$

$$\text{Environment} = (3-0 + 2) / (5 + 2) = 0.71$$

$$\text{Diversity} = (0-1 + 1) / (3 + 1) = 0$$

$$\text{Employee Relations} = (4-0 + 3) / (9 + 3) = 0.58$$

$$\text{Product} = (2-0 + 2) / (2 + 2) = 1$$

$$\text{CSR index} = (0.44 + 0.71 + 0.5 + 0.58 + 1) / 5 = 0.546$$



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