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Corporate social responsibility and financial performance: Does board diversity matter?

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Abstract

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Corporate Social Responsibility and Financial Performance: Does Board Diversity Matter?

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Abstract

In this study, the moderating effect of board diversity on the complex relationship between corporate social responsibility (CSR) performance and financial performance is examined. The resource-based view of the firm and stakeholder theory are used as the theoretical foundation of the study. The hypotheses of the study are tested via fixed-effects regression using data for a sample of 1,234 firms and 5,102 firm-year observations for the period 2009–2013. The study finds evidence that CSR performance and financial performance are positively related, and the magnitude of this relationship is contingent on the level of board diversity. As corporate boardrooms become more diverse across several diversity attributes, the positive effect of CSR performance on financial performance becomes more profound. The study also reveals that race and age diversity constructs have a stand-alone moderating effect on this purported relationship. The study offers significant insights for practitioners regarding the potential role of a diverse board structure in effectively monitoring management actions on CSR concerns.

Keywords: board of directors, organizational performance, resource-based view

Introduction

In the past few decades, consumers have become progressively concerned about environmentally responsible and ethical corporate behaviors and have demanded goods and services that are sustainable and eco-friendly (Beurden & Gössling, 2008). A recent study by Cone Communications reveals that 87% of consumers will purchase a product because a company advocates for an issue about which they are concerned (McCarthy, 2017). The same study also shows that 92% of the consumers stated they envision a more positive image of a company if the company is in favor and in pursuit of a social or an environmental issue. In response to this surging awareness of and demand by consumers, companies have developed and implemented various CSR practices (Dahlsrud, 2008). Given that CSR has become a strategic practice for companies and CSR programs have significantly grown over time, one prevalent

question that has triggered a strong discussion both in corporate boardrooms and in public is as follows: *Does it pay to be socially and environmentally responsible?* This question is a perplexing one that merits delicate scrutiny because opponents, including economist and Nobel Prize laureate Milton Friedman, indicate that the only social responsibility of companies is to use their resources and engage in activities designed to increase their profits under fair market competition without deception and fraud (Friedman, 1970).

An increasing motivation for firms to engage in CSR programs is to gain a competitive advantage over their rivals through an improved corporate image and to boost their financial performance (Kim et al., 2018). A growing number of studies in the management and strategy literature have examined this question of whether CSR is indeed related to financial performance. The answer to this question has been often uncertain, and studies have revealed mixed results (Mughal et al., 2020; Fernandez-Gago et al., 2016). On one side of the argument, researchers and practitioners believe that engaging in CSR enhances financial performance because consumers value CSR initiatives, thereby creating a competitive advantage. Increased CSR involvement is supplemented by the improved stakeholder relationship, which reduces the transaction costs of firms (Jones, 1995) and boosts their market share and pricing premiums (Fombrun et al., 2000). By contrast, Friedman's (1970) classical argument is that CSR is negatively related to financial performance because as firms allocate more resources to CSR programs, they incur more costs and eventually reduce their net financial performance. Therefore, according to Friedman (1970), such social programs are outside the fundamental scope of business, which is to increase profits.

To further stretch the existing findings, this study introduces a contingency situation to the investigation of the purported relationship between CSR and financial performance. More precisely, the issue of whether diverse boards make a difference in the relationship between CSR and financial performance is investigated in this study. Relying on stakeholder theory (Freeman, 1984), the current study argues that firms with greater board diversity should benefit more from their CSR initiatives and yield higher financial performance than those firms with less diverse boards. By the premises of stakeholder theory, firms must observe and satisfy the needs of all stakeholder groups to increase firm value (Freeman 1984; Cornell & Shapiro, 1987). Within this domain, Cornell and Shapiro (1987) further argue that firms carry contracts with their stakeholders, and that the value of firms depends on their capacity to match their contractual obligations. If these contracts are not fulfilled and managers and stakeholders' interests are widely dispersed, then firms might have to bear substantial monetary and reputational costs (Harjoto et al., 2015). In this regard, the present study contends that the structure of the corporate board, particularly its diversity, plays a critical role in guiding and motivating managers to act in line with the interests of stakeholders. In the context of CSR activities, the study expects that diverse boards will assist company managers in selecting CSR projects that are likely to increase firm performance and benefit all stakeholders, and thereby reduce misalignment between managers and the various stakeholders of the firm. The suggestion in prior studies in this line of research is that the link between CSR and financial performance should be examined within contingency frameworks to explore the circumstances under which firms indeed benefit from their CSR engagement (Kim et al., 2018; Wang & Qian, 2011). By analyzing board diversity as a new contingency in the relationship between CSR and firm performance, the current study makes a contribution to the stream of research that focuses on this perplexing relationship between CSR and firm performance and reveals comprehensive findings beyond a direct causal effect.

Using a panel data set for a sample of publicly traded U.S. companies for the period 2009–2013 and fixed-effects regression as the method of estimation, the study provides evidence that CSR is positively

related to Tobin's Q, and board diversity positively moderates this relationship. In other words, as the board of directors becomes more heterogeneous, the positive effect of CSR on Tobin's Q becomes more profound. The study also finds that racial diversity and age diversity are two individual board diversity attributes that independently elevate the impact of CSR performance on financial performance.

Literature Review and Hypotheses Development

CSR and Financial Performance

Is socially responsible corporate behavior value adding or does it drain the profits? This question and similar others have become the motivation of numerous empirical analyses, which predominantly sought to reveal whether CSR and financial performance are somewhat related. Nevertheless, an exact answer to such questions is still nonexistent. Friedman's (1970) classical theory argues that the relationship between CSR and financial performance is negative because as firms engage in voluntary CSR initiatives, they incur more costs and consequently gain lower net profits. By contrast, Freeman's (1984) stakeholder theory claims that spending on socially responsible projects enhances stakeholder relationships, which reduces the transaction costs of firms (Jones, 1995) and improves market opportunities and pricing premiums (Fombrun et al., 2000). In turn, net financial performance increases.

CSR is of critical importance to practitioners and researchers because it is regarded as a key factor in accomplishing economic goals and generating wealth (Garriga & Mele, 2004). To test the capacity of CSR to realize these goals, researchers have tackled the CSR and financial performance nexus in many settings using various theoretical foundations (Beurden & Gössling, 2008; Galbreath & Shum, 2012; Kim et al., 2018; Lin et al., 2009; Saeidi et al., 2015; Shen & Chang, 2008). The dominant theories that underlie the connection between CSR and financial performance are the resource-based view of the firm (Russo & Fouts, 1997), stakeholder theory, the origins of which are credited to Freeman (1984), and instrumental stakeholder theory (Jones, 1995). According to the resource-based view of the firm, the diverse stakeholders of a firm, including employees, customers, and the media, value the involvement of the firm in CSR activities (Agle et al., 1999), and this positive perception entails a better reputation, improved human capital, and greater innovative capabilities for the firms (Ghosh, 2017). CSR involvement consequently boosts financial performance and firm value (Albuquerque et al., 2019; Chowdhury et al., 2018; Tang et al., 2012). Stakeholder theory and instrumental stakeholder theory similarly underline that companies with high CSR engagement perform well financially because they can attract socially responsible customers (Bagnoli & Watts, 2003), alleviate the threat of regulation (Lev et al., 2010), improve their reputation with consumers (Orlitzky et al., 2003), fortify the product's differentiation position in the market (Klassen & Whybark, 1999), enhance the cost efficiency aspect of business processes (Christmann, 2000), attract the best human capital (Johnson & Greening, 1999), and mitigate concerns from activists and non-government organizations (Baron, 2001). Hence, according to the premises of these theories, the better a firm manages its relationship with a diverse group of stakeholders, the more successful it will become over time. Thus, relying on the premises of the resource-based view, stakeholder theory, and institutional stakeholder theory, this study tests the following hypothesis to examine the effect of CSR on financial performance:

- **Hypothesis 1**: A positive association exists between CSR performance and financial performance of firms.

Moderating Effect of Board Diversity

The board of directors typically has two key functions in the organizational structure of firms. The first function of the boards, which is justified on the grounds of resource dependence theory, is to provide critical resources to the firm (e.g., legitimacy, advice, and counsel) and links to other organizations (Hillman & Dalziel, 2003). Boyd (1990) indicates that these resources support companies in comprehending their environment and responding strategically. This support role requires that board members actively engage in formulizing business strategies using their skills and expertise (Hillman & Dalziel, 2003). The second function of the boards, based on agency theory (Fama & Jensen, 1983; Jensen & Meckling, 1976), is to control and monitor the management and its actions in an effort to observe the best interests of shareholders (Fama & Jensen, 1983), and reduce the discrepancy between the interests of shareholders and managers. To fulfill an effective oversight over the company, board members should have diverse professional and demographic backgrounds to enable them to thoroughly assess and control management and their business strategies (Hillman & Dalziel, 2003).

Proponents of improving diversity in corporate boardrooms argue that boards comprising members with diverse backgrounds in various dimensions enhance the strategic decision-making process of firms through the utilization of a broader range of perspectives and ideas. Diverse boards could also help companies to access, acquire, and allocate critical company resources through their wider social networks (Campbell & Minguez-Vera, 2008; Kanojia & Priya, 2016; Sarhan et al., 2018). Research on board diversity distinguishes between the demographic (i.e., age, gender, or race) and cognitive dimensions of diversity based on board members' attributes (i.e., experience, expertise, or membership type) (Hillman et al., 2007; Maznevski, 1994). One of the most scrutinized dimensions of board diversity is gender (Brahma et al., 2020; Singh et al., 2008; Terjesen et al., 2009). Female board members bring in various skill sets and values compared to their male colleagues (Hafsi & Turgut, 2013). Research also shows that female board members exemplify higher moral values and attend to ethical matters more responsively than men (Luthar et al., 1997), and they tend to be more concerned with CSR (Bear et al., 2010; Provasi & Harasheh, 2021). Additionally, boards with a higher female presentation tend to achieve better CSR. Woman board members are also found to reduce potential conflicts between directors, improve ties between the directors and the board, and thus reduce the coordination cost (Loukil & Yousfi, 2016). Racial diversity is another key attribute of the board of directors. Previous research on diversity provides evidence that racial diversity is associated with higher quality ideas and insights (McLeod & Lobel, 1992). Moreover, racial minority directors bring in a wide array of expertise, advanced education, and strong connections with other organizations (Hillman et al., 2002). Two other dimensions of board diversity are professional background and experience in serving on other boards. Directors' professional background and experience in serving on multiple corporate boards make them more sensitive and responsive to social and business issues (Hitt & Tyler, 1991). Therefore, directors' contribution to firms' strategies and decisions enhanced via their experience within or outside the industry is of critical value. Hillman and Dalziel (2003) suggest that board members with expertise outside a firm's functional business are likely to introduce new practices that are not yet used by a firm or within an industry. Guthrie and Datta (1997) further state that diversity in professional and experiential background in corporate boardrooms helps companies to reach out to new stakeholders and acquire feedback for effective decision making. Another dimension of board diversity is the type of membership, that is, insiders versus outsiders. Insiders undoubtedly possess a superior set of information regarding company operations and strategies; therefore, they are more apt to provide immediate solutions to corporate problems and insights for strategies (Lorsch & MacIver, 1989). On the contrary, outsiders are more knowledgeable about other firms' strategies, and they bring their independent opinions to the table (Fama & Jensen, 1983). Thus, boards with a large

percentage of outsiders perform their monitoring function more effectively (Jensen & Meckling, 1976). The independence of outsiders is particularly important for the CSR initiatives because for issues such as charitable giving, employee wellbeing, and ethical practices, outside board members may freely voice their opinions and confront the management.

The governance literature has provided considerable evidence that firms benefit from the diversity of their board members in many aspects. First, board diversity has been found to improve firm performance and value (Arun et al., 2015; Carter et al., 2003; Terjesen et al., 2016). For instance, using 3,876 listed firms in 47 countries, Terjesen et al. (2016) found that firms with a higher percentage of female board members have higher market-based firm performance (Tobin's Q) and accounting-based firm performance (return on assets). Board diversity has also been reported to be related to the stock volatility of firms. For instance, Adams and Ferreira (2004) indicated that firms with boards in which the female representation is low tend to experience more volatility in their stocks. The same study also revealed that board diversity leads to larger performance-based remuneration. More closely related to the current study, Harjoto et al. (2015) documented a positive link between board diversity and CSR performance. More precisely, they highlighted that board diversity increases CSR strengths and reduces CSR concerns. Similarly, Zhuang et al. (2018) studied the role of various board diversity constructs on CSR performance using a sample of publicly traded Chinese companies and reported that board members' political experience, academic experience, and overseas background have a positive impact on CSR performance.

Following this stream of research, this study postulates that board diversity should improve firms' decision-making process for CSR initiatives for enhanced and innovative business activities. Companies engage in CSR to boost their corporate image in public and enhance the bottom-line financial performance (i.e., market value of the firms). Thus, a critical step for management is to select CSR projects and programs that are well suited to achieve financial goals. To the extent that companies are successful in designing and implementing value-promising CSR projects, they should derive higher financial outcomes from these projects. The monitoring duty of boards is fundamental in guiding management to select the right CSR projects that will boost financial performance and increase firm value. In this nexus, this study anticipates that boards with diverse member profiles fulfill this monitoring duty to a better extent than relatively homogenous boards. The reason is that diverse boards benefit from a wide range of expertise, ideas, and insights to assess management actions, and they value the expectations of all stakeholders such as employees, local communities, and special interest groups. Hence, the study postulates that greater board diversity should boost the monitoring on companies' CSR decisions and help management to select value-promising CSR projects that will enhance financial performance. With this expectation, the study offers the following hypothesis:

- **Hypothesis 2**: Board diversity positively moderates the relationship between CSR performance and financial performance. In other words, the impact of CSR performance on financial performance becomes more profound as boards get more diverse.

Methods

Sample and Data

The distribution of the sample firms across Fama-French's 48 industry groups is shown in Table 1. Several data sources are used for compiling the data of the study. To construct CSR performance, Kinder, Lydenberg, and Domini's (KLD STATS) CSR strength and concern ratings are utilized (MSCI, 2020). These database reports CSR ratings on certain responsibility attributes, including corporate

governance, diversity, community, employee relations, environment, human rights, and product. KLD STATS is a common database used in prior CSR research (Harjoto et al., 2015; Kim et al., 2012).

Table 1. Sample Distribution Across Fama-French 48 Industry Groups

Industry	# of Firms	Percent	Cumulative
Agriculture	2	.16	.16
Food products	22	1.78	1.94
Candy and soda	6	.49	2.43
Beer and liquor	3	.24	2.67
Tobacco products	5	.41	3.08
Recreation	7	.57	3.65
Entertainment	13	1.05	4.70
Printing and publishing	7	.57	5.27
Consumer goods	22	1.78	7.05
Apparel	21	1.70	8.75
Healthcare	22	1.78	10.53
Medical equipment	38	3.08	13.61
Pharmaceutical products	37	3.00	16.61
Chemicals	35	2.84	19.45
Rubber and plastic products	2	.16	19.61
Textiles	4	.32	19.94
Construction materials	25	2.03	21.96
Construction	19	1.54	23.50
Steel works, among others	22	1.78	25.28
Fabricated products	2	.16	25.45
Machinery	55	4.46	29.90
Electrical equipment	14	1.13	31.04
Automobiles and trucks	16	1.30	32.33
Aircraft	10	.81	33.14
Shipbuilding, railroad equipment	3	.24	33.39
Defense	4	.32	33.71
Precious metals	2	.16	33.87
Non-metallic and industrial metal mining	1	.08	33.95
Coal	3	.24	34.20
Petroleum and natural gas	45	3.65	37.84
Utilities	62	5.02	42.87
Communication	12	.97	43.84
Personal services	18	1.46	45.30
Business services	139	11.26	56.56
Computers	36	2.92	59.48
Electronic equipment	79	6.40	65.88
Measuring and control equipment	25	2.03	67.91
Business supplies	19	1.54	69.45
Shipping containers	4	.32	69.77
Transportation	31	2.51	72.29
Wholesale	51	4.13	76.42
Retail	78	6.32	82.74
Restaurants, hotels, and motels	28	2.27	85.01
Banking	60	4.86	89.87
Insurance	43	3.48	93.35
Real Estate	1	.08	93.44
Trading	66	5.35	98.78
Other	15	1.22	100.00
Total	**1,234**	**100.00**	

The current study was able to access KLD STATS data for the period 1991–2013 for 6,397 companies and 40,518 firm-year observations. KLD STATS data is merged with the Institutional Shareholder Services (ISS) directors' database (ISS, 2020), a major data source for board diversity studies, to obtain board characteristics (e.g., age, gender, racial background, employment title, committee memberships, primary employers, and outside board memberships) (Chatterji et al., 2009; Harjoto et al., 2015). The number of firms is reduced to 1,872 through this merge procedure due to a large number of firms not being followed by ISS and data availability being limited to 2008–2015 for the ISS database. The combined data set is subsequently merged with the Center for Research in Securities Prices (2020) database to compile annual stock information based on the standard industrial classification codes of firms, which reduces the number of firms that remain in the sample to 1,618 firms (7,757 firm-year

observations). Finally, the data set is merged with the COMPUSTAT (2020) database for company financials to construct Tobin's Q and various control variables, which results in a further reduction in the number of firms and firm-year observations (1,537 firms and 7,423 firm-year observations). After merging these four databases and cleaning the merged data set for missing observations for empirical analysis, the final sample includes 1,234 firms and 5,102 firm-year observations for the years 2009–2013.

Independent Variable: CSR Performance

KLD STATS assesses the CSR performance of firms on several distinct criteria. Consistent with prior research, this study employs corporate governance, diversity, community, employee relations, environment, human rights, and product criteria to construct the CSR performance variable. Each of these seven criteria is rated in binary ratings of +1 (strong), 0 (neutral), or -1 (weak). For example, if a firm is rated strong in employee relations in a particular year, the firm is rated +1 in the employee relations dimension of the CSR ratings, and this aspect is considered a CSR strength. Conversely, a firm exhibiting concerns in diversity issues in a certain year is given a score of -1, representing a CSR concern. A score of 0 represents neutrality, signifying that the firm has neither an apparent strength nor a weakness in a given social performance criterion. CSR strength and CSR concern scores are then aggregated across seven stakeholder attributes, and constructs are named *Pos-CSR* and *Neg-CSR*, respectively. Finally, the net CSR performance score (CSR_Net) for each firm-year observation is constructed by subtracting the aggregated CSR concern score (Neg-CSR) from the aggregated CSR strength score (Pos-CSR) (Barnett & Salomon, 2012; Chatterji et al., 2009; Harjoto et al., 2015; Kim et al., 2012).

Moderator Variable: Board Diversity

The study uses the operationalization of Harjoto et al. (2015) to construct the moderator variable, board diversity (BD_Index). Seven individual diversity constructs are created using Blau's (1977) heterogeneity index, calculated as $1 - \sum P_i^2$, where *P* represents the fraction of individual board members in each diversity construct and *i* is the number of categories, which are gender, race, age, experience, tenure, expertise, and membership type. Gender diversity is the index of heterogeneity for gender with two categories: male and female. Race diversity is the index of heterogeneity for race, and it comprises six categories: Caucasian, African American, Hispanic/Latin American, Asian, Indian, and other. Age diversity is an index of heterogeneity for the age groups of directors, and it is composed of five categories, namely < 40 years old, 40 to 49, 50 to 59, 60 to 69, and > = 70. Experience diversity is an index of heterogeneity for director experience in serving in the boards of other companies, and it includes six categories: 0, 1, 2, 3, 4, or more than 4. Tenure diversity is an index of heterogeneity for board members' tenure in the company board, which is operationalized as the number of years served on the current company's board. Average time in a corporate boardroom is 3 years, and these are known as terms. We use six categories for tenure diversity: 1 term (< = 3 years), 2, 3, 4, 5, and > 5 terms (> 15 years). Expertise diversity represents the heterogeneity in the boardroom due to the diverse professional employment backgrounds of board members. The professional experience is split into six groups: academics, financial services, legal, consultancy, management (executive, professional director), and other. Finally, membership diversity is an index of heterogeneity for inside and external membership representation, and it consists of two categories: inside board members and outside (independent) board members.

Each diversity construct takes on values between 0 (perfect homogeneity) and 1 (perfect heterogeneity). If a diversity construct includes members of only one category, for example race

diversity in a company with only Asian board members, then the race diversity index takes on a value of 0, rendering it a completely homogenous index. As an index value gets closer to 1, the diversity in that dimension increases. Individual diversity indices are standardized to have the same value ranging between 0 and 1 by dividing the calculated index score by the maximum index score within each industry group for each year. Fama-French 48-industry classification is used for obtaining the diversity index scores across industry groups. Finally, the seven standardized individual diversity index scores are summed to construct the composite BD_Index, which ranges from 0 (perfectly homogenous) to 7 (perfectly heterogeneous).

Dependent Variable: Tobin's Q

The dependent variable of the study is the Tobin's Q, which is measured by the ratio of the sum of the market value of equity and the book value of long-term debt to the book value of total assets (Kim et al., 2018; Chung & Pruitt, 1995). Tobin's Q is a preferable performance measure over accounting-based performance measures such as return on assets and return on equity because it signals the capacity of a firm to create value for shareholders in the long run (Servaes & Tamayo, 2013). Tobin's Q has been extensively used in previous finance and management research as an indicator of performance to test the relationship between CSR and financial performance (See Kim et al., 2018; Luo & Bhattacharya, 2006; Servaes & Tamayo, 2013). In the empirical tests, Tobin's Q is log-transformed because log-transformation enhances the statistical distribution properties of Tobin's Q (Hirsch & Seaks, 1993).

Control Variables

In this study, firm size, leverage, sales growth, dividend payout ratio, capital investments, lagged performance, advertising intensity, and research and development (R&D) intensity are included as control variables in the empirical models. Firm size is operationalized as the book value of total assets. Leverage is the ratio of long-term debt to total assets. Sales growth is calculated as the percentage change in the firm's sales between years *t* and *t-1* ($(Sales_t – Sales_{t-1}) / Sales_{t-1}$). Dividend payout ratio represents the percentage of the annual net income paid to shareholders, and it is calculated as dividends paid over net income. Capital investments capture the effect of capital investments in the firms' operations, and they are calculated as capital expenditures divided by total assets. Advertising intensity is operationalized as the ratio of advertising expense to sales, and R&D intensity is constructed as R&D expenses divided by sales. A significant number of firms do not report advertising expenditures and R&D expenses in their financials either because they do not need to, or the amount is immaterial to be reported in the income statement as a separate line item. Eliminating firms with missing advertising and/or R&D expense data substantially reduces the sample size; this study therefore follows the procedure employed in prior research and replaces missing advertising expense and R&D expense data with zero and includes two dummy variables *Missing_Adv* and *Missing_R&D* in the models to control for the fact that advertising and/or R&D data were missing for such observations. One-year lagged Tobin's Q is also included in the empirical models as a predictor of contemporaneous Tobin's Q.

Empirical Model

The following empirical model is used for testing the main effect of CSR_Net on Tobin's Q (Hypothesis 1) and the moderating effect of board diversity on the relationship between CSR and Tobin's Q (Hypothesis 2). To test Hypothesis 1, the study includes only the main effects of CSR_Net and BD_Index and excludes the interaction term CSR_Net*BD_Index from the model. The model is estimated through fixed-effects regression with robust standard errors and firm-level clustering, which

controls for time-invariant unobservable firm characteristics that may drive corporate social performance and financial performance. If uncontrolled, these firm-specific attributes can impact or bias the predictor or outcome variables (Torres-Reyna, 2007). The model is also estimated through feasible generalized least squares regression to fix the potential serial autocorrelation in the panel data. The results are mostly consistent through both estimations.

$$
\begin{aligned}
Tobin's\ Q = {}& \alpha + \beta_1 CSR\_Net + \beta_2 BD\_Index + \beta_3 CSR\_Net * BD\_Index + \beta_4 Leverage \\
& + \beta_5 Size + \beta_6 Sales\ growth + \beta_7 Dividend\ payout\ ratio \\
& + \beta_8 Advertising\ intensity + \beta_9 R\&D\ intensity + \beta_{10} Capital\ investments \\
& + \beta_{11} L1. Tobin's\ Q + \beta_{12} Missing\_Advertising + \beta_{13} Missing\_R\&D \\
& + \delta_I FF48\ industry\ dummies + \varepsilon
\end{aligned}
$$

Results

Descriptive Statistics

The descriptive statistics of the variables used in the analyses are summarized in Table 2. The mean Tobin's Q in the sample is 1.69, topping 10.32, suggesting that the average firm's market value exceeds the book value by about 1.7 times. The mean values of CSR_Net, Pos-CSR, and Neg-CSR are .69, 2.28, and 1.59, respectively. The range of CSR_Net extends from -9 to 18. The composite board diversity index, BD_Index, has a mean of 4.59, and ranges from 1.30 to 7.

Table 2. Descriptive Statistics

Variable	N	M	SD
Tobin's Q	5,102	1.69	1.09
CSR_Net	5,102	.69	3.08
Pos-CSR	5,102	2.28	3.23
Neg-CSR	5,102	1.59	1.74
BD_Index	5,102	4.59	.67
Gender diversity	5,102	.20	.14
Race diversity	5,102	.21	.18
Age diversity	5,102	.57	.11
Experience diversity	5,102	.54	.18
Tenure diversity	5,102	.68	.13
Expertise diversity	5,102	.64	.10
Membership type diversity	5,102	.31	.11
Leverage	5,102	.18	.16
Size	5,102	7.99	1.62
Sales growth	5,102	.04	.19
Dividend payout ratio	5,102	.37	11.87
Advertising intensity	5,102	.01	.03
R&D intensity	5,102	.05	.29
Capital investments	5,102	.04	.05

Note: N = Number of observations*; M*= Mean*; SD* = Standard deviation

Among the individual diversity indices, tenure diversity represents the most heterogeneous dimension of board diversity with a mean value of 0.68. The mean leverage for the sample firms is 18%, and the average firm size is 7.99 (in log scale). The sales growth for the average firm in the year prior to going public is 4%, and the average dividend payout ratio is 37%. The mean advertising intensity and R&D intensity for the sample firms are 1% and 5%, respectively, and the average capital investment is 4%.

Empirical Findings

The correlations among study variables are presented in Table 3. As expected, CSR performance measures, CSR_Net and Pos-CSR, are positively correlated with performance measure Tobin's Q, and

Neg-CSR is negatively related to Tobin's Q. These correlations offer primary evidence for the positive effect of responsible corporate behavior on firm performance and the negative effect of irresponsible corporate behavior on firm performance. BD_Index is positively correlated with Tobin's and CSR_Net, suggesting that the more diverse the board of directors is, the better is the corporate social performance of a company. Advertising intensity, R&D intensity, and capital investments are also positively correlated with Tobin's Q, whereas high leverage and larger firm size indicate lower firm performance. Sales growth and prior year financial performance (L1. Tobin's Q) are also positively correlated with current year financial performance.

Table 3. Correlation Matrix

#	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Tobin's Q	1												
2	CSR_Net	0.0472*	1											
3	Pos-CSR	0.0300*	0.8492*	1										
4	Neg-CSR	-0.0279*	-0.1919*	0.3554*	1									
5	BD_Index	0.0437*	0.3059*	0.3379*	0.0866*	1								
6	Leverage	-0.0435*	0.0519*	0.1086*	0.1099*	0.1566*	1							
7	Size	-0.3598*	0.4272*	0.6197*	0.3955*	0.3104*	0.2733*	1						
8	Sales growth	0.1761*	-0.012	-0.0381*	-0.0496*	-0.0586*	-0.0247	-0.0194	1					
9	Dividend payout ratio	0.0093	0.0041	0.0045	0.0012	0.0037	-0.0071	-0.0037	-0.006	1				
10	Advertising intensity	0.0911*	0.1318*	0.1213*	-0.0079	0.1001*	-0.0238	-0.0297*	0.0074	0.0028	1			
11	R&D intensity	0.1227*	0.0094	-0.0032	-0.0227	-0.0175	-0.0684*	-0.0902*	-0.0042	-0.0021	-0.0233	1		
12	Capital investments	0.1426*	-0.0269	0.0214	0.0874*	-0.0696*	0.0561*	0.0118	0.0384*	-0.0027	-0.0271	-0.0534*	1	
13	L1.Tobin's Q	0.9410*	0.0500*	0.0364*	-0.0208	0.0288*	-0.0402*	-0.3452*	0.2276*	0.0046	0.0901*	0.1109*	0.1599*	1

*Note: * $p < .05$

The results of the regression estimations are shown in Table 4. Model 1 reports the results of the base model, which uses CSR_Net, BD_Index, and control variables. Consistent with prior research, CSR_Net is positively related to Tobin's Q ($\beta = 0.00489$, $p < .001$). Thus, the study finds support for Hypothesis 1 that suggests that CSR performance is positively related to financial performance. Sales growth, dividend payout ratio, R&D intensity, and lagged Tobin's Q are also positively related to Tobin's Q, whereas size is negatively related to Tobin's Q. Model 2 introduces the interaction effect between CSR performance and board diversity (CSR_Net*BD_Index) to test the moderating effect of board diversity on the relationship between CSR and Tobin's Q (Hypothesis 2). Model 2 presents that the coefficient for the interaction effect, CSR_Net*BD_Index, is positive and significant ($\beta = 0.00459$, $p < .05$), which indicates that the positive relationship between CSR_Net and Tobin's Q becomes stronger at higher levels of BD_Index. As boardroom diversity increases in various dimensions, the positive effect of corporate social performance on firm financial performance increases, a finding that is consistent with Hypothesis 2.

Based on the finding from the regression estimation, the study subsequently runs the predicted margins to visualize the moderating effect of different levels of BD_Index on the relationship between CSR_Net and Tobin's Q. The mean-centered values are used in the margins plot. As shown in Figure 1, the association between CSR_Net and Tobin's Q is positive for the firm that has a mean BD_Index score (line BD_Index = 0), and the magnitude of this positive association increases as the BD_Index score increases from the mean to higher scores (see lines BD_Index 1, 2, and 3). When the BD_Index score is lower than the mean, the relationship between CSR_Net and Tobin's Q changes direction and becomes negative (line BD_Index = -1 through line BD_Index = -3). The positive effect of board diversity on the relationship between CSR and financial performance is confirmed in Figure 1.

Table 4. Fixed-Effects and Feasible Generalized Least Squares Estimations of the Moderation Effect of Board Diversity on the Relationship Between CSR and Tobin's Q

Variable	Fixed-effects Models		Feasible Generalized Least Squares	
	Model 1	Model 2	Model 3	Model 4
CSR_Net	.0050***	.0038*	.0063***	.0058***
	(3.38)	(2.45)	(8.39)	(6.47)
BD_Index	.0056	.0076	.0266***	.0272***
	(.61)	(.83)	(5.46)	(5.37)
CSR_Net x BD_Index		.0046*		.0024*
		(2.26)		(2.10)
Leverage	-.0838	-.0858	-.0791*	-.0685*
	(-1.02)	(-1.05)	(-2.57)	(-2.21)
Size	-.1212***	-.1201***	-.0855***	-.0831***
	(-4.79)	(-4.75)	(-20.14)	(-19.69)
Sales growth	.0707***	.0670***	.1490***	.1530***
	(3.83)	(3.79)	(16.61)	(15.49)
Dividend payout ratio	.0002***	.0002***	.0002*	.0002
	(2.67)	(2.55)	(2.03)	(1.81)
Advertising intensity	-.2139	-.2078	.5610*	.5390
	(-.28)	(-.28)	(2.08)	(1.90)
R&D intensity	.0950***	.0944***	.1600**	.1580***
	(7.09)	(7.18)	(3.25)	(3.30)
Capital investments	.1206	.1158	.2520**	.3030**
	(.57)	(.55)	(2.84)	(3.25)
L1.Tobin's Q	.2938***	.2934***		
	(13.67)	(13.61)		
Intercept	1.2275***	1.2415***	-22.1300***	-22.0900***
	(0.33)	(6.15)	(-5.67)	(-5.89)
N	5,102	5,102	5,099	5,099
Prob > F	.000	.000		
R²	.130	.132		

Note: t statistics are presented in parentheses; * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 1. Effect of Different Levels of BD_Index on the Relationship Between CSR_Net and Tobin's Q
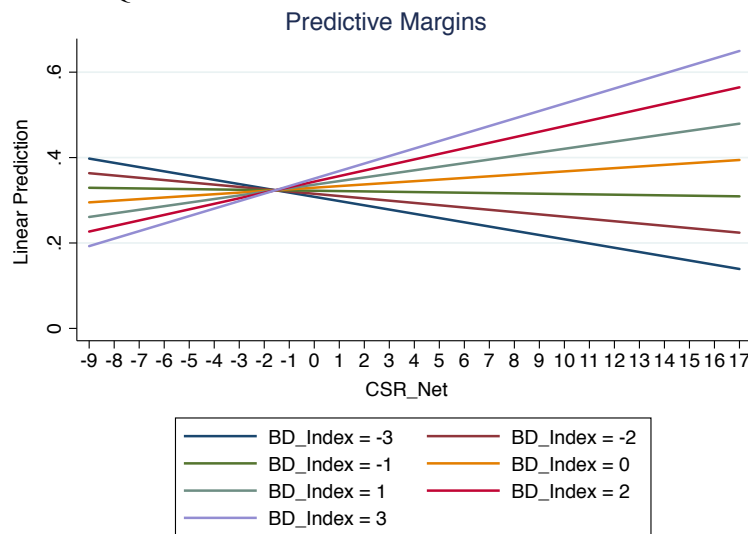
Additional Tests

Separation of CSR_Net Into Positive CSR (Pos-CSR) and Negative CSR (Neg-CSR)

CSR_Net is used as the primary construct of the analyses, and it is simply the difference between CSR strengths (i.e., sum of positive CSR attributes, Pos-CSR) and CSR concerns (i.e., sum of negative CSR attributes, Neg-CSR). Previous research has indicated that Pos-CSR and Neg-CSR are conceptually

different and that they are not the opposite of each other (Kim et al., 2018). As Pos-CSR and Neg-CSR are conceptually different and they are not assessed equally due to dissimilar responses to these events (Lange &Washburn, 2012), their performance implication for a firm may also be different (Muller & Kraussl, 2011). Consequently, the study repeats the estimations by substituting CSR_Net with Pos-CSR and Neg-CSR constructs.

Models 1 through 4 in Table 5 present the results of these additional analyses, which are conducted via fixed-effects regression with robust standard errors and firm-level clustering. The coefficient on Pos-CSR is positive but not significant ($\beta = .000542$, $p > .05$) in Model 1, leading us to conclude that no direct effect of Pos-CSR is observed on Tobin's Q. Model 2 similarly exhibits that the interaction effect, Pos-CSR*BD_Index, is also not significant ($\beta = 0.00133$, $p > .05$), which suggests no support for the moderating effect board diversity on the relationship between Pos-CSR and Tobin's Q.

Table 5. Fixed-Effects Regression Estimations of the Moderation Effect of Board Diversity on the Relationship Between Pos-CSR (Neg-CSR) and Tobin's Q

Variable	Pos-CSR		Neg-CSR	
	Model 1	Model 2	Model 3	Model 4
Pos-CSR	.0006	.0001		
	(.32)	(.07)		
Neg-CSR			-.0132***	-.0111***
			(-5.55)	(-4.43)
BD_Index	.0069	.0073	.0038	.0053
	(.74)	(.80)	(.41)	(.58)
Pos-CSR x BD_Index		.0017		
		(.77)		
Neg-CSR x BD_Index				-.0010**
				(-2.87)
Leverage	-.0862	-.0874	-.0862	-.0839
	(-1.05)	(-1.06)	(-1.07)	(-1.04)
Size	-.1113***	-.1110***	-.1261***	-.1257***
	(-4.45)	(-4.44)	(-5.00)	(-4.99)
Sales growth	.0696***	.0694***	.0725***	.0724***
	(3.74)	(-3.72)	(3.92)	(3.91)
Dividend payout ratio	.0002**	.0002***	.0002***	.0002***
	(2.82)	(2.74)	(2.59)	(2.81)
Advertising intensity	-.2176	-.2149	-.2240	-.2265
	(-.29)	(-.29)	(-.30)	(-.30)
R&D intensity	.0952***	.0951***	.0941***	.0937***
	(6.81)	(6.84)	(6.87)	(6.85)
Capital investments	.1452	.1396	.0830	.1041
	(.69)	(.66)	(.39)	(.49)
L1.Tobin's Q	.2939***	.2940***	.2933***	.2916***
	(13.62)	(13.62)	(13.70)	(13.58)
Intercept	1.1440***	1.1726	1.3024***	1.2922
	(5.60)	(5.89)	(6.27)	(6.43)
N	5,102	5,102	5,102	5,102
Prob > F	.000	.000	.000	.000
R²	.128	.128	.133	.135

Note: t statistics are presented in parentheses; * $p < .05$, ** $p < .01$, *** $p < .001$

The Neg-CSR score is used in Models 3 and 4 as the primary independent variable. The coefficient on the Neg-CSR variable in Model 3 is negative and significant ($\beta = -.0131$, $p < .001$), which suggests that Neg-CSR is negatively related to financial performance (Tobin's Q). Model 4 presents that the interaction effect, Neg-CSR*BD_Index, has a negative and significant coefficient ($\beta = -.0107$, $p < .05$), which implies that the effect of Neg-CSR on Tobin's Q grows more negative at higher levels of board diversity.

Individual Effects of Board Diversity Index Components on the Relationship Between CSR and Tobin's Q

The results of the individual effects of board diversity components on the relationship between CSR and Tobin's Q are presented in Table 6. All the models, 1 through 14, are estimated via fixed-effects regression with robust standard errors and firm-level clustering. The purpose of these additional analyses is to explore whether a particular aspect of board heterogeneity impacts and alters the relationship between the firms' CSR performance and Tobin's Q. Of the seven board diversity components, only race diversity and age diversity constructs seem to have a stand-alone positive contribution to the relationship between CSR_Net and Tobin's Q. The interaction terms CSR_Net*Race diversity and CSR_Net*Age diversity return positive and significant coefficients ($\beta = .0131$, $p < .05$ and $\beta = .0270$, $p < .01$), respectively. Control variables size, sales growth, dividend payout ratio, R&D intensity, and lagged Tobin's Q are consistently significant across the estimated individual models.

Discussion and Conclusion

A considerable body of research has examined the CSR–financial performance relationship and offered contingency situations for this relationship (Kim et al., 2018; Wang & Qian, 2011). However, empirical studies have found contradictory evidence because of the complex nature of the relationship between CSR and financial performance. Hence, the identification and explanation of specific mechanisms and bundles through which CSR activities affect the financial performance of firms are of paramount importance (Kim et al., 2018). In this regard, the present study adds to the CSR literature by specifically introducing the board diversity phenomenon as a new contingency to explain the relationship between CSR and financial performance.

The findings of the study suggest that CSR is positively related to financial performance, Tobin's Q, as predicted, and the impact of CSR on Tobin's Q intensifies as board diversity increases. The positive association between CSR and financial performance reported in this research is consistent with those of some prior studies, which also reported a positive association between different board attributes and firm performance (Carter et al., 2003; Terjesen et al., 2016). One of the striking results of the current study is that the moderating effect of board diversity helps to explain situations in which firms benefit more from their CSR engagement. In this regard, this research contributes to the findings of the studies that have assessed the perplexing CSR–firm performance relationship in a contingency framework (Kim et al., 2018; Wang & Qian, 2011). The findings indicate no effect of Pos-CSR and adverse effect of Neg-CSR on financial performance. Evidence also suggests that two distinct board diversity attributes, race and age, individually moderate the relationship between CSR and financial performance. When boards have significant race and age-group heterogeneity, the positive impact of CSR on financial performance is more profound.

The results of this study offer some essential practical values and critical implications for researchers as well as practitioners and policy makers. The study does not find a significant moderating effect of board diversity on the relationship between Pos-CSR and financial performance. Although markets do not react to the positive initiatives of firms, they do react to negative initiatives. The findings on the moderating effects of board diversity denote that shareholders do not change their attitude towards the positive CSR initiatives of firms.

Table 6. Individual Effects of Board Diversity Components on the Relationship Between CSR and Tobin's Q

Variable	Gender Diversity		Race Diversity		Age Diversity		Experience Diversity		Tenure Diversity		Expertise Diversity		Membership Type Diversity	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
CSR_Net	.00442** (3.01)	.00378* (2.33)	.00505*** (3.42)	.00448** (2.95)	.00494*** (3.35)	.00516*** (3.46)	.00491*** (3.33)	.00506** (3.16)	0.00500*** (3.39)	0.00496** (3.27)	0.00496*** (3.36)	0.00492*** (3.33)		
Gender diversity (GD)	.165** (2.63)	.168** (2.69)												
CSR_Net x GD		.0125 (1.21)												
Race diversity (RD)			.0221 (.95)	.0309 (1.32)										
CSR_Net x RD				.0131* (2.25)										
Age diversity (AD)					.00205 (.05)	-.000576 (-.01)								
CSR_Net x AD						.0270** (3.00)								
Experience diversity (ED)							-.0570 (-1.21)	-.0584 (-1.23)						
CSR_Net x ED								-.00302 (-.32)						
Tenure diversity (TD)									-0.0275 (-0.49)	-0.0255 (-0.46)				
CSR_Net x TD										0.00214 (0.18)				
Expertise diversity (ExpD)											-0.0233 (-0.40)	-0.0224 (-0.39)		
CSR_Net x ExpD												0.0128 (1.16)		
Membership type diversity (MD)													-0.109 (-1.58)	-0.108 (-1.57)
CSR_Net x MD														0.0101 (0.79)
Leverage	-.0823 (-1.00)	-.0836 (-1.01)	-.0852 (-1.02)	-.0847 (-1.02)	-.0845 (-1.02)	-.0866 (-1.04)	-.0849 (-1.02)	-.0847 (-1.01)	-0.0842 (-1.01)	-0.0839 (-1.01)	-0.0846 (-1.02)	-0.0833 (-1.00)	-0.0834 (-1.01)	-0.0839 (-1.01)
Size	-.126*** (-4.97)	-.125*** (-4.93)	-.116*** (-4.49)	-.116*** (-4.47)	-.120*** (-4.74)	-.120*** (-4.74)	-.121*** (-4.76)	-.121*** (-4.77)	-0.119*** (-4.70)	-0.119*** (-4.70)	-0.120*** (-4.73)	-0.120*** (-4.72)	-0.122*** (-4.84)	-0.122*** (-4.84)
Sales growth	.0718*** (3.87)	.0715*** (3.85)	.0706*** (3.82)	.0701*** (3.80)	.0710*** (3.83)	.0706*** (3.80)	.0705*** (3.82)	.0706*** (3.83)	0.0706*** (3.81)	0.0706*** (3.81)	0.0707*** (3.82)	0.0706*** (3.81)	0.0710*** (3.83)	0.0711*** (3.84)
Dividend payout ratio	.000390*** (3.57)	.000393*** (3.56)	.000381*** (3.37)	.000383*** (3.33)	.000381*** (3.38)	.000372*** (3.35)	.000381*** (3.39)	.000382*** (3.40)	0.000387*** (3.39)	0.000388*** (3.39)	0.000379*** (3.36)	0.000377*** (3.34)	0.000375** (3.23)	0.000373** (3.21)
Advertising intensity	-.171 (-.22)	-.169 (-.22)	-.212 (-.29)	-.213 (-.29)	-.201 (-.27)	-.191 (-.25)	-.206 (-.28)	-.206 (-.28)	-0.200 (-0.27)	-0.202 (-0.27)	-0.199 (-0.27)	-0.192 (-0.26)	-0.217 (-0.29)	-0.217 (-0.29)
R&D intensity	.0976*** (7.51)	.0972*** (7.53)	.0944*** (7.07)	.0942*** (7.10)	.0939*** (7.04)	.0937*** (7.07)	.0943*** (7.10)	.0943*** (7.11)	0.0940*** (7.11)	0.0940*** (7.11)	0.0939*** (7.07)	0.0938*** (7.07)	0.0927*** (6.87)	0.0925*** (6.95)
Capital investment	.0967 (.44)	.0945 (.43)	.104 (.49)	.103 (.49)	.0934 (.44)	.0900 (.42)	.0991 (.46)	.0992 (.47)	0.0929 (0.44)	0.0923 (0.43)	0.0928 (0.44)	0.0943 (0.44)	0.0866 (0.41)	0.0876 (0.42)
L1.Tobin's Q	.286*** (13.33)	.286*** (13.28)	.287*** (13.30)	.287*** (13.24)	.286*** (13.28)	.287*** (13.31)	.287*** (13.33)	.287*** (13.34)	0.287*** (13.23)	0.287*** (13.23)	0.286*** (13.31)	0.286*** (13.32)	0.285*** (13.16)	0.285*** (13.16)
Intercept	.498 (.39)	.510 (.40)	.422 -.32	.474 -.35	.486 (.37)	.513 (.38)	.513 (.40)	.466 (.36)	0.498 (0.38)	0.463 (0.35)	0.516 (0.39)	0.499 (0.38)	0.537 (0.40)	0.464 (0.35)
N	5,102	5,102	5,102	5,102	5,102	5,102	5,102	5,102	5,102	5,102	5102	5102	5102	5102
Prob > F	.000	.000	.000	.000	.000	.000	.000	.000	0.000	0.000	0.000	0.000	0.000	0.000
R²	.140	.140	.138	.139	.138	.139	.138	.138	0.138	0.138	0.138	0.138	0.139	0.139

Note. t statistics were presented in parentheses; $* p < .05$, $** p < .01$, $*** p < .001$

Nevertheless, the shareholders' reaction to negative initiatives does increase with the presence of a more diverse board. The likely reason for this outcome is that shareholders expect a diverse board to eliminate the negative initiatives and improve the CSR performance of companies. This finding is intriguing because one may assume that the responsible corporate behavior (Pos-CSR) indeed derives the imposed positive effect of CSR on performance. In this regard, a board of directors with diverse cognitive and social resources would provide the management with true guidance to select the right CSR projects that are both socially responsible and economically sound as suggested by Carroll (1979) and Carroll and Shabana (2010). However, the findings of the present study do not support this proposition. One explanation for the lack of a significant relationship between Pos-CSR and Tobin's Q, as well as for the interaction term Pos-CSR*BD_Index, could be the operationalization of the Pos-CSR construct. The study uses the sum of the CSR strength factors from KLD STATS as the construct of Pos-CSR. This variable may be a crude one, and it may not capture the true effect of responsible corporate behavior on financial performance.

Irresponsible CSR actions are assumed to be negatively related to financial performance because they weaken the firm's reputation and harm relationships with various stakeholders (Amujo et al., 2012; Kim et al., 2018; Kotchen & Moon, 2012). More specifically, such irresponsible CSR actions create customer disfavor, protests by activist groups, and negative media coverage, which may all contribute to damaging financial performance (Barnett & Salomon, 2006). A diverse board with significant resources would exert all efforts to minimize the occurrences of irresponsible corporate behaviors (e.g., environmental pollution, employee abuse, and managerial scandals) and their consequences on company public image and financial performance. Consequently, companies would engage in comparatively lower number of irresponsible CSR actions that harm the public image and the overall performance when the support of a diverse board is present. The analysis provides no support for this presumption. Separating board diversity into individual components further shows that shareholders seem to only monitor the age and race diversity of the board. Shareholders place more value on the CSR initiatives of firms only when the board consists of members from a wide range of age and racial backgrounds. These findings collectively suggest that a diverse board is essential for a company's financial performance. However, the main focus of the company should be on the age and racial diversity of board members. Shareholders will place more value on CSR initiatives in companies with a board that comprises members of different age and ethnicity profiles.

Racial diversity is found to have an individual positive moderating effect on the relationship between CSR and Tobin's Q. This finding is in line with the view that diverse human capital on boards affects the strategic decisions of firms by providing a cognitive conflict that may induce innovative ideas (Hillman et al., 2002; Rindova, 1999). This finding also confirms that benefiting from the different viewpoints of their members, diverse boards would assure that the most value-promising CSR projects are selected and implemented; such projects are suitable not only for satisfying the environmental, social, and ethical concerns of stakeholders but also for increasing the financial performance of the firm. Another board diversity dimension that individually moderates the relationship between CSR and Tobin's Q is age diversity. Age is a clear reflection of the business experience of board directors (Hafsi & Turgut, 2013); additionally, as directors mature, they become more sensitive to society and are willing to contribute more to its welfare. On the contrary, younger generations of directors are often deemed more sensitive to social and ethical issues because of logic and principle (Hafsi & Turgut, 2013), and they demonstrate a large responsiveness to socially responsible and environmentally friendly behaviors (Bekiroglu et al., 2011). The positive moderating effect of age diversity on the relationship between CSR and Tobin's Q signifies that a heterogeneous board in the age dimension benefits from the generational insights of board members and their attitude towards environmental,

social, and ethical matters to which companies are frequently exposed; members of a heterogeneous board also help their companies to achieve superior financial performance. Taken together, age range and racial diversity should be the primary focus of companies when selecting board members. This practice is likely to improve financial performance when engaging in CSR initiatives. There is an essential technicality for the board of directors and the managerial team to weigh in these circumstances. This lies in effective managerial strategies for embracing the relevant board diversity context that will enhance the overall financial performance of firms and thus position their financial structure at the optimal level. In these cases, the board of directors needs to be flexible and sensitive in its strategies when selecting board members and governing them for more diligent commitment and maximization of the best interests of shareholders.

Similar to other studies, this research is not free of limitations. Some possible improvements could further the future research with the utilization of different constructs related to CSR and board diversity in the analyses. For instance, this study uses CSR strength and concern scores from the KLD STATS, which relies on many CSR dimensions coded on binary terms. A more conceptualized and fine-grained measure for CSR may improve the findings of the study. The research likewise uses board diversity index (BD-Index), a composite score, for the measure of board diversity. Similar indices have been used in prior research; however, the test of alternative measures of board diversity and financial proxies (i.e., risk-adjusted measures such as Sharpe ratio and Jensen's Alpha) on the context of this study may contribute to the understanding within the same domain. Another empirical modification to the study would pertain to the sample. This study uses firms from various industries, which may increase concerns for internal validity. Further research using firms in a single industry with an adequate sample could alleviate concerns for internal validity. Another point worth mentioning about the sampling is the domain of the sample firms. This study pools the sample firms from the U.S. markets (publicly traded firms); therefore, the results can be assessed in the exclusivity of the U.S. companies. Further research sampling firms in other countries could substantially contribute to the generalization of the results of this study.

References

Adams, R., & Ferreira, D. (2004). *Gender diversity in the boardroom* (Report No. 57/2004). European Corporate Government Institute. https://www.cfr-cologne.de/download/researchseminar/SS2006/genderECGI.pdf

Agle, B. R., Mitchell, R. K., & Sonnenfeld, J. A. (1999). Who matters to CEOs? An investigation of stakeholder attributes and salience, corporate performance, and CEO values. *Academy of Management Journal, 42*(5)*,* 507–525.

Albuquerque, R., Koskinen, Y., & Zhang, C. (2019). Corporate social responsibility and firm risk: Theory and empirical evidence. *Management Science, 65*(10), 4451-4469.

Amujo, O. C., Laninhun, B. A., Otubanjo, O., & Ajala, V. O. (2012). Impact of corporate social irresponsibility on the corporate image and reputation of multinational oil corporations in Nigeria. *Critical Studies on Corporate Responsibility, Governance and Sustainability, 4,* 263-293.

Arun, T. G., Almahrog, Y. E., & Aribi, Z. A. (2015). Female directors and earnings management: Evidence from UK companies. *International Review of Financial Analysis, 39,* 137–146.

Bagnoli, M., & Watts, S. G. (2003). Selling to socially responsible consumers: Competition and the private provision of public goods. *Journal of Economics & Management Strategy, 12*(3)*,* 419-445.

Barnett, M. L., & Salomon, R. M. (2006). Beyond dichotomy: The curvilinear relationship between social responsibility and financial performance. *Strategic Management Journal, 27*(11), 1101-1122.

Barnett, M. L., & Salomon, R. M. (2012). Does it pay to be really good? Addressing the shape of the relationship between social and financial performance. *Strategic Management Journal, 33*(11)*,* 1304-1320.

Baron, D. (2001). Private politics, corporate social responsibility and integrated strategy. *Journal of Economics and Management Strategy, 10*(1)*,* 7-45.

Bear, S., Rahman, N., & Post, C. (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics, 97*(2)*,* 207-221.

Bekiroglu, C., Erdil, O., & Alpkan, L. (2011). Variables perceived by managers as antecedents to environmental management: An empirical study in the Turkish construction sector. *Journal of Global Strategic Management, 9*(1)*,* 157–175.

Beurden, P., & Gössling, T. (2008). The worth of values - A literature review on the relation between corporate social and financial performance. *Journal of Business Ethics, 82*(2), 407–424.

Blau, P. M. (1977). *Inequality and heterogeneity: A primitive theory of social structure.* The Free.

Boyd, B. (1990). Corporate linkages and organizational environment: A test of the resource dependence model. *Strategic Management Journal, 11*(6)*,* 419–430.

Brahma, S., Nwafor, C., & Boateng, A. (2020). Board gender diversity and firm performance: The UK evidence. *International Journal Finance &Economics.* Advance online publication. https://doi.org/10.1002/ijfe.2089

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate social performance. *Academy of Management Review, 4*(4), 497-505.

Carroll, A. B., & Shabana, K. M. (2010). The business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews, 12*(1), 85-105.

Campbell, K., & Minguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics, 83*(3), 435-451.

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance, board diversity, and firm value. *The Financial Review, 38*(1)*,* 33-53.

Chatterji, A. K., Levine, D. I., & Toffel, M. W. (2009). How well do social ratings actually measure corporate social responsibility? *Journal of Economics and Management Strategy, 18*(1), 125–169.

Chowdhury, R. H., Choi, S., Ennis, S., & Chung, D. (2016). Which dimension of corporate social responsibility is a value driver in the oil and gas industry? *Canadian Journal of Administrative Sciences, 36*(2), 260-272.

Chung, K., & Pruitt, S. W. (1995). A simple approximation of Tobin's Q. *Financial Management, 23*(3), 70-74.

Christmann, P. (2000). Effects of "best practices" of environmental management on cost advantage: The role of complementary assets. *Academy of Management Journal, 43(4),* 663–680.

Compustat. (2020). *S&P global market intelligence.* S&P Global. Retrieved January 9, 2020, from https://www.spglobal.com/marketintelligence/en/?product=compustat-research-insight

Cornell, B., & Shapiro, A. C. (1987). Corporate stakeholders and corporate finance. *Financial Management, 16*(1), 5–14.

Center for Research in Securities Prices. (2020). *Center for Research in Securities Prices Database* [Data set]. http://www.crsp.org/

Dahlsrud, A. (2008). How corporate social responsibility is defined: An analysis of 37 definitions. *Corporate Social Responsibility and Environmental Management, 15*(1)*,* 1–13.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics, 26*(2)*,* 327–349.

Fernandez-Gago, R., Cabeza-Garcia, L., & Nieto, M. (2016). Corporate social responsibility, board of directors, and firm performance: An analysis of their relationships. *Review of Managerial Sciences, 10(1),* 85-104.

Fombrun, C. J., Gardberg, N. A., & Barnett, M. L. (2000). Opportunity platforms and safety nets: Corporate citizenship and reputational risk. *Business and Society Review,* 105*(1),* 85-106.

Freeman R. (1984). *Strategic management: A stakeholder perspective.* Pitman.

Friedman, M. (1970, September 13). The social responsibility of business is to increase its profits. *The New York Times Magazine.* http://umich.edu/~thecore/doc/Friedman.pdf

Galbreath, J., & Shum, P. (2012). Do customer satisfaction and reputation mediate the CSR–FP Link? Evidence from Australia. *Australian Journal of Management, 37*(2), 211–229.

Garriga, E., & Mele, D. (2004). Corporate social responsibility theories: Mapping the territory. *Journal of Business Ethics, 53(1),* 51-71.

Ghosh, K. (2017). Corporate reputation, social performance, and organizational variability in an emerging country perspective. *Journal of Management & Organization, 23*(4), 545-565.

Guthrie, J. P., & Datta, D. K. (1997). Contextual influences on executive selection: Firm characteristics and CEO experience. *Journal of Management Studies*, *34*(4), 537–560.

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.

Harjoto, M., Laksmana, I., & Lee, R. (2015). Board diversity and corporate responsibility. *Journal of Business Ethics,* 132*(4),* 641-660.

Hillman, A., Canella, A. A., & Harris, I. (2002). Women and racial minorities in the boardroom: How do they differ. *Journal of Management, 28*(6), 747–63.

Hillman, A. J., & Dalziel, T. (2003). Board of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review, 28*(3)*,* 383–396.

Hillman, A. J., Shropshire, C., & Canella, A. A. (2007). Organizational predictors of women on corporate boards. *Academy of Management Journal, 50*(4), 941–952.

Hirsch, B. T., & Seaks, T. G. (1993). Functional form in regression models of Tobin's Q. *The Review of Economics and Statistics, 75*(2), 381-385.

Hitt, M. A., & Tyler, B. B. (1991). Strategic decision models: Integrating different perspectives. *Strategic Management Journal, 12*(5)*,* 327–351.

Institutional Shareholder Services. (2020). *ISS Director Data* [Data set]. https://www.issgovernance.com/solutions/issanalytics/director-data/

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Finance, 3*(4)*,* 305–350.

Johnson, R. A., & Greening, D. W. (1999). The effects of corporate governance and institutional ownership types on corporate social performance. *Academy of Management Journal, 42*(5), 564–576.

Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review, 20*(2), 404-437.

Kanojia, S., & Priya, S. (2016). Corporate governance in Indian banks post subprime crisis. *International Interdisciplinary Business-Economics Advancement Journal, 1*(2), 50-62.

Kim, K., Kim, M., & Qian, C. (2018). Effects of corporate social responsibility on corporate financial performance: A competitive-action perspective. *Journal of Management, 44*(3), 1097-1118.

Kim, Y., Park, M., & Wier, B. (2012). Is earnings quality associated with corporate social responsibility? *The Accounting Review, 87*(3), 761–796.

Klassen, R. D., & Whybark, D. C. (1999). The impact of environmental technologies on manufacturing performance. *Academy of Management Journal, 42*(6)*,* 599–615.

Kotchen, M. J., & Moon, J. J. (2012). Corporate social responsibility for irresponsibility. *The B.E. Journal of Economic Analysis & Policy, 12*(1), 1-21

Lange, D., & Washburn, N. T. (2012). Understanding attributions of corporate social irresponsibility. *Academy of Management Review, 37*(2)*,* 300-326.

Lev, B. I., Petrovits, C., & Radhakrishnan, S. (2010). Is doing good good for you? How corporate charitable contributions enhance revenue growth. *Strategic Management Journal, 31*(2)*,* 182-200.

Lin, C. H., Yang, H. L., & Liou, D. Y. (2009). The impact of corporate social responsibility on financial performance: Evidence from business in Taiwan. *Technology in Society, 31*(1), 56–63.

Lorsch, J. W., & MacIver, E. (1989). *Pawns or potentates: The reality of America's corporate boards*. Harvard Business

Loukil, N., & Yousfi, O. (2016). Does gender diversity on corporate boards' increase-risk taking? *Canadian Journal of Administrative Sciences, 33*(1), 66-81.

Luo, X., & Bhattacharya, C. B. (2006). Corporate social responsibility, customer satisfaction, and market value. *Journal of Marketing, 70*(4)*,* 1-18.

Luthar, H. K., DiBattista, R. A., & Gautschi, T. (1997). Perception of what the ethical climate is and what it should be: The role of gender, academic status, and ethical education. *Journal of Business Ethics, 16*(2), 205–217.

Maznevski, M. (1994). Understanding our differences: Performance in decision-making groups with diverse members. *Human relations, 47*(5)*,* 531-552.

McCarthy, L. (2017, May 18). *New report reveals 86% of US consumers expect companies to act on social, environmental issues*. https://sustainablebrands.com/read/marketing-and-comms/new-report-reveals-86-of-us-consumers-expect-companies-to-act-on-social-environmental-issues

McLeod, P. L. & Lobel, S. A. (1992). The effects of ethnic diversity on idea generation in small groups. *Academy of Management Proceedings, 1992*(1), 227-231.

MSCI. (2020). *ESG Research*. Retrieved January 9, 2020, from https://www.msci.com/research/esg-research

Mughal, Y. H., Jehangir, M., Khan, M., & Saeed, M. (2020). Nexus between corporate social responsibility and firm's performance: A panel data approach. *International Journal of Finance & Economics*, *26*(2), 1-16.

Muller, A., & Kraussl, R. (2011). Doing good deeds in times of need: A strategic perspective on corporate disaster donations. *Strategic Management Journal, 32*(9), 911-929.

Ortlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies*, *24*(3), 403-441.

Provasi, R., & Harasheh, M. (2021). Gender diversity and corporate performance: Emphasis on sustainability performance. *Corporate Social Responsibility and Environmental Management, 28*(1), 127-137.

Rindova, V. P. (1999). What corporate boards have to do with strategy: A cognitive perspective. *Journal of Management Studies, 36*(7)*,* 953–975.

Russo, M. V., & Fouts, P. A. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal, 40*(3)*,* 534–559.

Saeidi, S. P., Sofian, S., Saeidi, P., Saeidi, S. P., & Saaeidi, S. A. (2015). How does corporate social responsibility contribute to firm financial performance? The mediating role of competitive advantage, reputation, and customer satisfaction. *Journal of Business Research, 68(2),* 341-350.

Sarhan, A. A., Ntim, C. G., & Al-Najjar, B. (2018). Board diversity, corporate governance, corporate performance, and executive pay. *International Journal of Finance & Economics, 24*(2)*,* 761–786.

Servaes, H., & Tamayo, A. (2013). The impact of corporate social responsibility on firm value: The role of customer awareness. *Management Science, 59*(5), 1045-1061.

Shen, C. H., & Chang, Y. (2008). Does corporate social responsibility improve financial performance? Evidence from FTSE4GOOD UK index. *Academic Economic Papers, 36*, 341–385.

Singh, V., Terjesen, S., & Vinnicombe, S. (2008). Newly appointed directors in the boardroom: How do women and men differ? *European Management Journal, 26*(1)*,* 48–58.

Tang, Z., Hull, C. H., & Rothenberg, S. (2012). How corporate social responsibility engagement strategy moderates the CSR–financial performance relationship. *Journal of Management Studies, 49*(7), 1274-1303.

Terjesen, S., Sealy, R., & Singh, V. (2009). Women directors on corporate boards: A review and agenda. *Corporate Governance: An International Review, 17*(3)*,* 320–337.

Terjesen, S., Couto, E. B., & Francisco, P. M. (2016). Does the presence of independent and female directors impact firm performance? A multi-country study of board diversity. *Journal of Management & Governance, 20*(3), 447–483.

Torres-Reyna, O. (2007). *Panel data analysis: Fixed and random effects using STATA*. Princeton University. https://www.princeton.edu/~otorres/Panel101.pdf

Wang, H., & Qian, C. (2011). Corporate philanthropy and corporate financial performance: The roles of stakeholder response and political access. *Academy of Management Journal, 54*(6)*,* 1159-1181.

Zhuang, Y., Chang, X., & Lee, Y. (2018). Board composition and corporate social responsibility performance: Evidence from Chinese public firms. *Sustainability, 10*(8)*,* 1-12.