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The effect of board nationality and educational diversity on CSR performance: Empirical evidence from Australian companies

Ahmad Shatnawi [a*], Jassim Ahmad Al-Gasawneh[b], Hasan Mansur[a] and Adel Alresheedi[c]

[a]*Faculty of Business, Applied Science Private University, Accounting Department, Amman Jordan*
[b]*Faculty of Business, Applied Science Private University, Marketing Department, Amman Jordan*
[c]*College of Business and Economics, Qassim University, Department of Accounting, Qassim Saudi Arabia*

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In this study, the impact of board nationality and educational diversity on corporate social responsibility is investigated, by applying a fixed-effect model, instrumental variable approach (IV-GMM), and dynamic panel model (GMM) estimator to account for endogeneity issues, on a sample of Australian listed firms over 10 years from 2010 to 2020. The study findings reveal a significant positive relationship between board nationality diversity and CSR performance and its-related subdimensions including environmental performance and social performance. Furthermore, we find that educational diversity is positively and significantly related to CSR performance and environmental performance, though not to social performance. The findings remained robust under the instrumental variable approach and dynamic panel model. Additional tests compare between two groups of firms—those from heavily and less regulated sectors—and find that the former group has more educated directors, but a similar level of nationality diversity is found among both sectors. Although diversity in terms of nationality and education is still modest at best, its effect on CSR performance and its related sub-dimensions is more pronounced within heavily regulated sectors only. This result contends that when board nationality diversity and educational diversity are properly incentivized (with regulating CSR activities, for instance), the board tends to improve the social and environmental activities of the firm.

1. Introduction

Corporate social responsibility (CSR) is an area of growing debate and discussion in the academic literature, the business world, and increasingly in Australia (Rao & Tilt, 2020). It is widely recognised as several issues beyond narrow financial business activities— social and environmental concerns, employee welfare, corporate philanthropy, human resource management, community relations and so on— that are voluntary in nature, highly complicated and unregulated activities (Gamerschlag et al., 2011). With CSR, companies need to consider the interests of all stakeholders, including stockholders, suppliers, clients, staff members, and the environment and society, when conducting business (Adams & Zutshi, 2004). However, researchers and practitioners believed that CSR performance is becoming an essential issue that contributes to achieving operational excellence, social legitimacy, enhancing employee commitment, loyalty, as well as building sustained financial success and a good reputation for firms (Kim et al., 2017; Porter & Kramer, 2006; Yousfi & Béji, 2020). Despite its importance, and the growing demands of several groups of stakeholders on firms to act in socially responsible manner, recent studies on CSR in the Australian context indicate that CSR performance and report thereon is still modest at best (Chen et al., 2009; Golob & Bartlett, 2007; Rao & Tilt, 2015; Rao & Tilt, 2020). Consequently, it is critical to identify the factors that contribute to improving the CSR performance of Australian companies. Indeed, a wide range of factors has been

* Corresponding author
E-mail address ah_shatnawi@asu.edu.jo (S. Ahmad)

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identified that contribute to increasing corporate CSR performance, but one possible area, among other things, for consideration is the way how firms are governed (Roa and Tilt, 2015). Boards of directors are, in fact, the heart of corporate governance because they are responsible for monitoring management actions (Hillman & Dalziel, 2003; Saidat et al., 2018), as well as providing advice to management on how to successfully handle and manage challenges posed by the external environment (Pfeffer, 1972; Pfeffer & Salancik, 1978; Pfeffer & Salancik, 2003). For boards to be effective in this regard, they should include members with diverse attributes in terms of financial skills, gender, educational level, age, skills, and nationality (Hillman & Dalziel, 2003; Shaukat et al., 2016).

Scholars have highlighted the importance of the board of directors and their influence on the firm CSR's engagement decision (Beji et al., 2021; Helfaya & Moussa, 2017; Shaukat et al., 2016). Literature on the board-CSR relationship so far has focused on the board's composition in terms of independence, size, gender, financial and nonfinancial expertise, directors with academic and professional backgrounds, and directors who belong to minorities (Yousfi & Béji, 2020). In addition, a plethora of studies like those conducted by Harjoto et al. (2015), Rao and Tilt (2015), Maretno Agus Harjoto et al. (2018), Hassan et al. (2020), and Issa et al. (2021) clearly show board diversity as a driver of firms to engage in CSR activities. Even though nationality and educational differences among board members may play an important role, these differences have primarily been studied in terms of their influence on firm performance (Martínez-Ferrero et al., 2021), while their implication of non-financial area such as CSR is largely unexplored (Beji et al., 2021; Martínez-Ferrero et al., 2021; Yousfi & Béji, 2020). This has led us to examine how board members with diverse nationalities and educational levels act with respect to CSR activities. Therefore, this study focuses on the impact of board nationality, and educational diversity on the corporate social performance.

We examine the relationship mentioned above in the context of the Australian firms, chosen because board diversity in terms of nationality and educational level are increasingly gaining the attention of stakeholders and policymakers and regulators in Australia. For instance, the Governance institute of Australia has been continuously encouraging listed companies to enhance nationality and educational diversity. The report of Board Diversity Index (BDI, 2021) released by the governance institute of Australia indicates that while gender diversity in the boardroom of Australian companies has significantly accelerated over the last years, nationality and educational level diversity among board members are still moderate at best. This point is also highlighted in the report released by the Australian Corporate Governance Council (ASX, 2019). Similar to board diversity, the issue of improving socially responsible practice of firms has also become a priority on the political agenda globally, and increasingly in Australia (Rao & Tilt, 2020). The Australian Securities Investment Commission (ASIC, 2018) has so far and consistently urged firms to prioritize CSR issues (Rao & Tilt, 2020), and clearly indicate that "the social and environmental impact of corporate activity is an increasingly acute criterion considered in deciding which company to invest in or transact with" (ASIC, 2018, p. 4). In its 4th edition recommendations, the Australian Stock Exchange Governance Principles (ASX, 2018) also emphasizes the necessity for listed firms to behave ethically, in a socially accountable and sustainable way, and consistent with the regulations. Furthermore, according to Rao and Tilt (2020), the Australian Council of Superannuation for Investors has recently initiated measures to measure socially responsible engagement and activities of listed firms and their progress in this field. Given the relevance of these two issues, this study aims to provide a preliminary insight at how nationality and educational diversity influences CSR performance. This is of significance in the Australian context because both policymakers and firms are increasingly looking for ways to improve firms' CSR performance, which is often viewed as a board-level governance matter (Rao & Tilt, 2016). Hence, the relationship between these two dimensions needs to be studied to understand the potential impact of diversity in terms of nationality and educational level on firms' CSR outcomes.

2. Theoretical Background and Literature Review

The resource dependency perspective links board human capital, which is based on collective functional experience, educational background, nationality, and skills of the directors' team to the strategic outcome and firms overall performance. This perspective also considers organizational outcomes as reflections of the presence of diverse individuals in the boardroom having broader relationships with external parts (Hillman & Dalziel, 2003; Pfeffer, 1972; Pfeffer & Salancik, 1978). The advocates of this perspective stress that resource provision functions include but are not limited to enhance reputation and legitimacy of firms (Hillman & Dalziel, 2003). Under this perspective, it is argued the need for diversity among board members to be enhanced by firms to improve strategic decision-making process and ensure the flow of critical resources which is of importance to firm survival. Without having a well-diversified boardroom, the board function of providing valuable resources to the firms will be of little value (Hillman & Dalziel, 2003).

Despite the proposed benefit associated with diversity at the board level, the theories-related diversity considers diversity issue as a double-edged sword that could either promote or restrain group performance (Hambrick et al., 1996). Diversity-related theories on group-performance relationships range from perspective that provides a support for positive effect to the ones that do not (Maretno A Harjoto et al., 2018). For example, intergroup contact theory and cognitive resource diversity perspective suggest that diversity among group members might improve the deliberation, discussion and decision-making process, largely through providing diverse solutions and alternatives (Pettigrew & Tropp, 2006). While social categorization theory and similarity/attraction paradigm articulate that diversity may generate less cohesion and interrelatedness among group members that could negatively affect decision making process (Turner et al., 1987). The former theoretical frameworks are in line with the advocates of resource dependency perspective suggesting that more diverse boards possess a broader

range of knowledge, information, experience, and relational resources that improves the quality of decision-making process (Estélyi & Nisar, 2016; Hillman & Dalziel, 2003). Even though diversity among board members is an emerging issue in the corporate governance literature, there is no clear definition of board diversity. However, prior studies suggest that diversity is based on heterogeneity among board members according to broad dimensions (Van Knippenberg et al., 2004). Board diversity associated dimensions could be more visible (e.g., nationality, gender, age, and ethnicity), or less visible (e.g., educational, functional, and occupational background, industry experience and multi membership) (Kang et al., 2007). An increasing body of recent literature on boards articulates that diversity among board members has the potential to improve board effectiveness and, as a consequence, firm overall outcomes (Martínez-Ferrero et al., 2021; Rao & Tilt, 2015; Rao & Tilt, 2020; Setó-Pamies, 2015; Yousfi & Béji, 2020). It is well-argued that the board work as a team and the differences among team members "lead to an increase in the skills, abilities, knowledge and information of the team as a whole (Nielsen & Huse, 2010, p. 17). Such distinct and diverse attributes lead directors to bring different perspectives to the boardroom, which in turn, facilitates and broadens the board discussion, debate, and deliberation thereby enhancing the board decision-making process and performance. Moreover, and according to Rao and Tilt (2016), heterogeneous boards are likely to have dissimilar perspectives, opinions, and orientations, leading the board to make strategic decisions from broad perspectives, as opposed to a homogeneous boardroom with members who share similar beliefs and perspectives. A diverse board, as such, is likely to enable firms to avoid poor strategic decisions, especially when firms work in a less stable or stakeholder-oriented business environment (Shaukat et al., 2016).

Although a considerable body of study has been conducted on the influence of board diversity on a company's economic success, it is rarely investigated whether non-financial performance such as CSR activities is also affected by diversity (Rao & Tilt, 2015, 2016). CSR activities include several issues beyond narrow financial business activities— social and environmental concerns, employee welfare, corporate philanthropy, human resource management, community relations and so on— that are voluntary in nature and highly unregulated activities (Gamerschlag et al., 2011). Theories drive CSR research also range from it being related to external motivations (e.g., getting legitimacy, meeting the expectations of a wide group of stakeholders, securing the flow of critical resources the firm needs to operate), through to it being a part of internal motivations (e.g., satisfying managers' private needs, and developing new internal capabilities and resources) (Frynas & Yamahaki, 2016; Mellahi et al., 2016). Such diverse dimensions and motivations for CSR activities make it difficult to provide a unified definition for CSR. Matten and Moon (Matten & Moon, 2008), while demonstrating the difficulty of defining CSR, argue that CSR is "… an essentially contested concept because it is appraisee; internally complex; and their rules of application are relatively open". Hence, heterogeneous teams will likely result in good decisions related to CSR, as heterogeneity is assumed to carry broad and heterogeneous viewpoints to the decision-making process and to generate different alternatives and solutions (Rose, 2007).

Studies that examine diversity-CSR relationships have suggested a positive association (Beji et al., 2021; Martínez-Ferrero et al., 2021; Yousfi & Béji, 2020). Yet, most existing research examines one of two distinct measures of board diversity— commonly known as diversity of the board and the diversity in the board. While diversity in the board is not yet fully explored, very few areas of the diversity of the board have been explored (Beji et al., 2021; Yousfi & Béji, 2020). This point is also confirmed by Rao and Tilt (2016) who conducted a comprehensive review of the literature on diversity-CSR relationships and highlighted some important gaps within the literature. More specifically, they conclude that the influence of diversity characteristics (e.g., gender diversity, independent directors, tenure, members' affiliations, etc.) on CSR activities has received great attention, but the ways in which diversity in terms of nationality/ethnicity, and educational level, may influence the CSR activities are still very rare. In this study, we test the impact of board nationality and educational diversity on CSR performance.

3. Hypotheses Development

3.1 Nationality Diversity

The nationality/cultural background of the boards' members has been an important aspect of board attributes (Haniffa & Cooke, 2005; Zhuang et al., 2018). Nationality diversity reflects the "existence of foreign directors from different nationalities on the boardroom" (Zaid et al., 2020, p. 3). Existing literature stresses that the presence of non-local directors among board members is of importance to improve corporate behaviours, actions and strategic decisions. Increased nationality diversity, as suggested by related-literature, leads to bring a larger and more diverse set of new networks to the organisation, as well as fresh talents, information, views, competencies, and innovative ideas to the boardroom, which contribute, in turn, to improve the strategic decision-making process inside firms, and ultimately influence management behaviours and corporate disclosure practices (Fuente et al., 2017; Maretno Agus Harjoto et al., 2018). The valuable contributions offered by foreign directors may include information about the importance of technologies that minimize waste and pollution (Yousfi & Béji, 2020), given that those directors are directly or indirectly exposed to different social-environmental investments and their associated economic benefits when they work in foreign countries, particularly industrial and developed countries (Zhuang et al., 2018). It is, therefore, suggested that foreign directors may encourage the companies to consider environmental protection and social engagement policies as opportunities for innovation and building a competitive advantage (Maretno Agus Harjoto et al., 2018; Yousfi & Béji, 2020; Zhuang et al., 2018). Moreover, according to Hofstede (1980), non-local directors who come

from different cultural backgrounds that have a high score on "uncertainty avoidance" are less likely to prioritize activities that create uncertain and ambiguous situations. As social and environmental activities may include diverse risks on firms financial position— maintenance, litigation cost, and reputational (Helfaya & Moussa, 2017; Shaukat et al., 2016), foreign directors are more likely to exert pressure on firms to adopt environmentally and socially responsible initiatives and, as a consequence, enhance the CSR practices of the firms (Huijsmans, 2017). Furthermore, from the standpoint of an agency perspective, nationality diversity may improve the board's effectiveness in performing its oversight role because diversity may significantly boost board independence and objectivity (Kang et al., 2007). Increased board independence, as asserted by Johnson and Greening (1999), leads the board to make strategic decisions from the perspectives of stakeholders. Given that fact that a wide group of stakeholders are interested in CSR-related issues (Rao & Tilt, 2015; Setó-Pamies, 2015; Shatnawi, 2021), foreign directors are likely to induce firms to enhance CSR activities. Accordingly, empirical research suggests a positive association between nationality diversity and CSR performance (Haniffa & Cooke, 2005; Louis & Osemeke, 2017; Zaid et al., 2020; Zhuang et al., 2018). In line with theoretical arguments discussed above, and previous empirical results, the following hypothesis is proposed:

H_1: *There is a positive association between board diversity in terms of nationality and CSR performance.*

3.2 Educational Diversity

Different educational backgrounds are a valuable form of diversity in boardrooms. While this form of diversity is novel thus far, there are sound reasons to support it. From a resource dependency perspective, diverse resources offered by boards might be fully recognized and utilized for strategically managing relevant stakeholder demands (Hillman & Dalziel, 2003). Board level diversity in terms of education may capture or reflect the board's cognitive resources and ability to engage in complex and creative problem-solving (Hambrick & Mason, 1984). For example, variations in the educational backgrounds of members may bring to the boardroom unique attributes, namely competencies, knowledge, and skills that can promote the airing of different perspectives, and produce a wider range of solutions and alternatives for strategic decisions (Beji et al., 2021). Directors with a higher level of education are more likely to use their intellectual competence to absorb new ideas and adopt new challenging tendencies as well as understanding the knowledge and conceptions behind financial and nonfinancial issues including CSR (Beji et al., 2021; Karabašević et al., 2016). This, as suggested by the literature, would translate into a greater level of commitment toward CSR activities and a more CSR-supportive resource (Yousfi & Béji, 2020). A previous study that examines the influence of educational level diversity on CSR is still very limited (Beji et al., 2021; Maretno Agus Harjoto et al., 2018; Kagzi & Guha, 2018). For example, Beji et al. (2021) while examining the relationship between the educational level of directors and CSR activities, they reveal that highly-educated directors have a positive and statical influence on CSR performance. Another study by Karabašević et al. (2016), focused on the board membership educational level, as measured by the type of the academic degree, and how it could influence a firm's involvement in CSR activities. Specifically, they examine the potential association between educational level diversity of directors and CSR, and they indicate that educational level diversity has a positive impact on CSR activities. In line with prior empirical findings, we expect that firms that have well-diversified directors in terms of education level are the ones that are more likely to be involved in CSR activities. Thus, we propose the following hypothesis:

H_2: *There is a positive association between board diversity in terms of educational level and CSR performance.*

4. Research Methodology

4.1 Sample and Data Source

To empirical tests the proposed hypotheses, this study uses panel data set of Australian firms for 10 years from 2010 to 2020. The panel data is unbalanced – the sample after dropping missing observations consists of 227 listed firms and the total number of observations is 1198 from 9 sectors based on Global Industry Classification System (GICS). Since data on directors' attributes is not available for most companies being studied before 2010, this study covers 10 years only. However, data on CSR are collected from the Thomson Reuter database. Assets4 ESG-database is used to construct our CSR measures. This database offers information on ESG performance and its related subdimensions; those include environmental performance score, social performance score, and governance performance score with a rating of 1 (good) to 0 (bad), which is given for each data-point involved in each dimension related assessment process (Shaukat et al., 2016). Given the nature of this study, and to avoid any unobservable multicollinearity problem among governance performance score and exploratory variables (nationality diversity and educational diversity), our main measure for CSR performance is solely calculated by using environmental performance and social performance scores (Harjoto et al., 2015; Shatnawi, 2021). Several prior research on CSR measurement has used an aggregated measure to capture CSR through the combination of environmental score and social score (Chakrabarty & Wang, 2012; Galbreath, 2016). Other studies, however, use disaggregated measures and test environmental performance and social performance separately, arguing that firms' orientation toward CSR and its related subdimensions may differ from one firm to another according to the regulations, the importance of social issues to society, and operational activities of the firm. For example, environmentally sensitive firms would pay more attention to environmental issues since poor performance in this aspect would have significant negative financial impacts on firms' financial position in terms of environmental fines, remediation, and prevention costs (Helfaya & Moussa, 2017). While social-related CSR emerges from relationships between firms and employees, business partners and other stakeholders, and

therefore, companies would pay more attention to this aspect, especially when the history of social issues is highly important in society (Qiu et al., 2016). Given this, we also test CSR at disaggregated levels. Data on diversity in terms of nationality and educational background is also obtained from the BoardEx database. This database offers data on each director in the boardroom in terms of educational level, nationality, age, and multi memberships, etc. Since issues on the association between diversity and CSR performance in Australian context are still very rarely addressed (Rao & Tilt, 2015), this study focuses on observable or readily-detected attributes, with particular reference to nationality diversity, and educational level diversity. The definitions of such diversity attributes are explained in next section.

4.2 Research Variables and Model

Dependent variable used in this study is CSR-computed by the sum of social score and environmental score divided by 2. The environmental score, as defined by Asset4, "measures a company's impact on living and non-living natural systems, including the air, land and water, as well as complete ecosystems. It reflects how well a company uses best management practices to avoid environmental risks and capitalize on environmental opportunities''. While the social score "measures a company's capacity to generate trust and loyalty with its workforce, customers and society, through its use of best management practices. It covers issues like employee turnover, accidents, training hours, donations, and health and safety controversies" (Shaukat et al., 2016, p. 576). The independent variables (nationality and educational level) have been collected from the BoardEx database, and the definitions of such variables are presented under a research model. This study also accounts for the key control elements that affect CSR in an Australian context. These variables, as suggested by prior studies, are size, industry, and historical profitability of firms (Galbreath, 2010, 2016). Firms size is computed by the logarithm of total assets, while return on assets (ROA) was used as a measure of firms' profitability. Because this study uses a fixed-effect model, industry is excluded from control variables. In addition, firms' maturity-measured by age is included in the research model, as the extent of literature has done so (Withisuphakorn & Jiraporn, 2016). We also control for other corporate governance attributes— board independence, size, and CEO duality— that could have a potential effect on firms CSR engagement (Galbreath, 2016; Maretno A Harjoto et al., 2018; Zhuang et al., 2018). Board independence is calculated by the percentage of independent directors in the boardroom. Board size represents the number of directors serving in the boardroom, whereas CEO duality is a dummy variable, which takes 1 if the chairman of the board is one of the executive directors, 0 otherwise. The research model is specified as follows:

$$CSR_{it}/EP_{it}/SP_{it} = \beta_0 + \alpha_i + \beta_1 ND_{it} + \beta_2 ED_{it} + \beta_3 BI_{it} + \beta_4 BS_{it} + \beta_5 CEO_{it} + \beta_6 Size_{it} + \beta_7 ROA_{it} + \beta_8 FL_{it} + \beta_9 Age_{it} + \beta_{10} Year_{it} + \varepsilon_{it}. \quad (1)$$

where *i* denotes firm, *t* the period of time, CSR is index-measured corporate social and environmental responsibility; EP: environmental performance score; SP: social performance score; ND: nationality diversity is the index of heterogeneity for the nationality diversity across two categories: 0 (Australian directors/citizenship), 1 (directors who have nationalities different from the location of the corporate headquarters/ non-local directors); ED: education diversity is the index of heterogeneity for the educational level that each director holds across five categories: 0 (diploma), 1 (bachelor), 2 (master), 3 (PhD), 4 (post-doc), and 5 (professional financial certified such as CMA, CFA, CPA, etc); BI: percentage of independent directors; BS: number of directors on the boardroom; CEO: dummy variable which takes 1 if chairman of board is not one of executive team members, 0 otherwise; ROA: return on assets; FL: total debts divided by total assets (financial leverage); Age: is a company age; Year: dummy variable; ε: error term.

To compute nationality diversity and educational level diversity, we used Shannon diversity Index-calculated by the following formula:

$$\textbf{Shannon Diversity Index} = -\sum_{i=1}^{n} Pi \ ln \ Pi,$$

where: P_i is the percentage of directors with a particular category in the boardroom and n is the number of categories in the boardroom. The diversity value of the Shannon index ranges from 0 to 1 (Shannon, 1948). Such a diversity index reaches its maximum value when the number of directors (non-local directors, for example) in the boardroom is the same as the number of local directors. Because the Shannon index is a logarithmic measure, its results do not only consistent with other diversity indexes results (e.g., Blau diversity index), but also are more sensitive to any slight changes in the diversity in the boardroom (see, for example, Abad et al., 2017).

5. Results

5.1 Descriptive Statistics

The descriptive statistics and correlations analysis are presented in Panel A, B and C of Table 1. Panel A of Table 1 shows the distribution of our sample across the Global Industry Classification System (GICS). The results indicate that 27% of firms being studied belong to the materials sector. Followed by real estate, financial, energy and consumer discretionary sectors with approximately 10%. Moreover, Health care and Industrials sectors represent 8% of our sample. We conduct a sensitivity analysis by excluding the materials sector and the result is discussed under the additional tests section. Panel B of Table 1 summarizes the descriptive statistics for variables utilized in the empirical analysis. As the main explanatory variable,

nationality diversity is found to have an average value of 25%, indicating that board members with diverse nationality in firms being studied is still modest. Furthermore, educational diversity, on average, is 66%, meaning that highly educated directors are sitting in the boardroom. It is also evident that while the average value of CSR performance is 66%, the average of EP and SP are 0.48 and 0.28, respectively. Moreover, and regarding control variables, it is found that the average values of BI, CEO, ROA, FL, and CEXP are 81%, 5%,12%, 0.45%, and 0.24%, respectively.

The results of correlation analysis among research variables are shown in Panel C of Table 1. However, the results indicate that board diversity in terms of nationality and educational level is positively related to CSR performance and its related subdimensions. Among the control variables, we found that all control variables are positively related to CSR performance, EP and SP. Finally, no high correlations among research variables are observed and, therefore, we conclude that a multicollinearity problem does not exist. This point is also confirmed by the VIF test.

Table 1
Panel A

Sector	Freq.	Percent	Cum.
Communication Services	31	2.59	2.59
Consumer Discretionary	110	9.18	11.77
Consumer Staples	64	5.34	17.11
Energy	109	9.10	26.21
Financials	130	10.85	37.06
Health Care	100	8.35	45.41
Industrials	99	8.26	53.67
Information Technology	66	5.51	59.18
Materials	322	26.88	86.64
Real Estate	121	10.10	96.16
Utilities	46	3.84	100.00
Total	1198	100.00	

Table 1
Panel B: Mean and standard deviation

Variables	Mean	Std. Dev.	Median	p10	p90
CSR	0.34	0.23	0.28	0.08	0.72
EP	0.28	0.27	0.21	0	0.71
SP	0.4	0.22	0.35	0.13	0.075
ND	0.1	0.13	0	0	0.3
ED	0.46	0.13	0.45	0.27	0.6
BI	0.81	0.1	0.83	0.66	0.9
BS	6.63	1.76	7	4	9
CEO	0.05	0.23	0	0	0
Size	21.29	1.72	20.8	19.62	23.52
ROA	0.12	0.07	0.03	-0.102	0.12
FL	0.54	0.67	0.35	0.03	1.8
CEXP	24.9	53.9	20.9	28.4	70.5
Age	18.77	12.5	15	4	40

Table 1
Panel C: Correlation matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
CSR	1												
EP	0.94***	1											
SP	0.92***	0.74***	1										
ND	0.21***	0.18***	0.22***	1									
ED	0.31***	0.31***	0.26***	0.20***	1								
BI	0.25***	0.25***	0.20***	0.03	0.14***	1							
BS	0.63***	0.59***	0.59***	0.31***	0.34***	0.26***	1						
CEO	0.07**	0.05**	0.07***	0.09***	0.01	-0.04	0.03	1					
Size	0.78***	0.77***	0.68***	0.30***	0.3***	0.33***	0.75***	0.03	1				
ROA	0.13***	0.11***	0.13***	-0.05*	0.08***	0.03	0.15***	-0.02	0.1***	1			
FL	0.29***	0.27***	0.28***	0.18***	0.09***	0.16***	0.29***	0.00	0.4***	-0.05*	1		
CEXP	0.49***	0.45***	0.46***	0.21***	0.2***	0.14***	0.46***	0.07*	0.58***	0.07*	0.24**	1	
Age	0.34***	0.34***	0.30***	0.05**	0.11***	0.15***	0.20***	0.12*	0.27***	-0.02	0.04	0.2*	1

*Note: P-value in parentheses *** p<0.01, ** p<0.05, * p<0.1.*

5.2 Regression Analysis

In his study, we used regression analysis to examine the relationship between the exploratory variables and dependent variables. The Hausman test is used to identify whether the fixed-effects or random-effects model is appropriate for research variables and data sets. The results of the Hausman test indicated that the fixed-effect model was the better approach because the p-value of (chi2 = 0.00), is lower than the usual threshold of 0.05 (95% significance). Omitted variables bias test was

conducted as well, and the results indicated that the p-value is above 0.05. Thus, we concluded that the model does not need more variables. However, the results of the fixed-effect model are presented in Table 2. Table 2 provides results regarding the impact of board nationality and educational diversity on CSR performance and its-related subdimensions (environmental-related dimension and social-related dimension). The results confirm Hypothesis (1), which states that the higher nationality diversity the higher CSR performance and its related subdimensions. The coefficient on nationality diversity is positive and significant for CSR performance ($\beta = 0.10$, $p < 0.01$), EP ($\beta = 0.08$, $p < 0.01$), and SP ($\beta = 0.12$, $p < 0.01$), thus Hypothesis (1) is supported. The foregoing findings are not only statistically significant, but also economically significant, as a one-standard-deviation increase in board nationality diversity leads to a 10%, 9%, and 12% increase in CSR, EP, and SP, respectively. The results further display that board educational diversity is positively and significantly related to CSR performance ($\beta = 0.05$, $p < 0.01$), and EP ($\beta = 0.067$, $p < 0.01$), though not to SP ($\beta = 0.05$, $p > 0.1$), so hypothesis 2 is partially supported. The significant association between educational diversity and SP justifies our treatment of environmental-related dimension and social-related dimension, as distinct constructs.

Table 2
The results of Fixed effect model

Variables	CSR	EP	SP
ND	0.101***	.085**	.117***
	(0.033)	(.039)	(.038)
ED	0.059*	.067*	.052
	(0.036)	(.043)	(.041)
BI	-0.014	-.003	-.025
	(0.04)	(.049)	(.047)
BS	-0.004	-.006	-.002
	(0.003)	(.004)	(.004)
CEO	-0.019	-.008	-.03*
	(0.015)	(.018)	(.017)
Size	0.069***	.091***	.048***
	(0.01)	(.012)	(.012)
ROA	0.069	.051	.087
	(0.05)	(.06)	(.058)
FL	-0.014*	-.012	-.016*
	(0.008)	(.01)	(.009)
CEXP	0.0	0	0**
	(0.000)	(0)	(0)
Age	-0.001	-.001	-.001
	(0.002)	(.003)	(.003)
Constant	-1.199***	-1.683***	-.714***
	(0.207)	(.251)	(.24)
Obs	1198	1198	1198
Adj R2	0.236	.057	.236
Year Dummy	Yes	Yes	Yes

*Note: Standard errors are in parentheses*** p<.01, ** p<.05, * p<.1. Variables defined under research variables and model section. The standard errors are clustered by firms*

6. Robustness and Additional Tests

To ascertain the outcomes reported in the preceding table, we conducted a set of robustness tests. These tests include instrumental variable approach (IV), and the dynamic panel model (GMM).

6.1 Instrumental Variable Approach (IV-GMM)

The Durbin Wu-Hausman test for endogeneity concern is used to identify whether variables of interest are endogenous, and the findings confirm this case where the residuals are correlated with explanatory factors (nationality and educational level diversity) (Aldomy et al., 2020; Jo & Harjoto, 2012). Since Pagan and Hall tests highlight heteroskedasticity as another issue with the panel data set, we used the GMM option to produce the estimation of more valid, reliable, efficient, and robust (Shatnawi, 2021). Given the lack of the existence of valid instrumental variables with respect to board attributes in corporate governance literature, we followed prior-related studies (e.g., Cai et al., 2011; Feng et al., 2020), to create valid instrumental variables which measured by the sector median of the variable of interest (nationality and educational level diversity) based on the Global Industry Classification System (GICS). To ensure the validity of such presumed instrumental variables, two instrument relevance tests; the weak instrument test and the identification instrument test, are undertaken. However, presumed instruments passed all validity tests. The GMM-IV estimation results of the first stage and second stage are displayed in table 3. Panel A of Table 3 shows the results of the first stage of IV regression examining the effect of proposed instruments on original independent variables (nationality and educational level diversity). The results show that each instrumental variable has significant and positive coefficients. Furthermore, according to Staiger and Stock (1994), in the first-stage estimation, the statistical value of F (F-statistic) of proposed instrumental variables should not be less than 10. The F-statistic of the first-

stage estimation on each suggested instrumental variable is above 10, as shown in panel A of Table 3. As a result, the validity of suggested instrumental variables is confirmed.

The second stage of GMM-IV estimation is reported in Panel B of Table 3. In this stage, independent variables are generated from the first stage estimate; then, their influence on the CSR and its-related subdimensions (environmental-related dimension and social-related dimension) was examined. Nonetheless, the findings indicate a positive association between nationality diversity and dependent variables (CSR, EP and SP). While educational diversity is positively and significantly related to CSR performance and EP, though not to SP. These results are consistent with the findings of the fixed-effect model.

Table 3
Panel B: First Stage of IV-GMM

Variable	ND	ED
L.ND	.818*** (.018)	
NDiv	.41*** (.072)	
L.ED		.849*** (.017)
EDiv		.305*** (.076)
Obs	936	936
Adj R^2	.758	.787
F-stat	98.593	116.124
Year Dummy	Yes	Yes
Control variable	Yes	Yes

*Note: Standard errors are in parentheses*** p<.01, ** p<.05, * p<.1. L.ND: first year lagged value of nationality diversity; L.ED: first year lagged value of educational diversity; NDiv: instrumental variable generates from nationality diversity variable ; EDiv: instrumental variable generates from educational diversity variable. Control variables are included and defined under research variables and model section. The first year lagged values are included to handle serial correlation problem.*

Table 3
Panel B: Second Stage of IV-GMM

Variables	CSR	EP	SP
L.CSR	.877*** (.015)		
L.EP		.862*** (.016)	
L.SP			.857*** (.017)
ND	.002* (.019)	.041* (.024)	.036** (.023)
ED	.058** (.024)	.09*** (.03)	.03 (.029)
Obs	936	936	936
R-squared	.938	.927	.903
Adj R2	.936	.925	.899
F-stat	440.015	371.525	270.096
Year Dummy	Yes	Yes	Yes
Control variables	Yes	Yes	Yes

*Note: Standard errors are in parentheses*** p<.01, ** p<.05, * p<.1. L.CSR: first year lagged value of CSR; L.EP: first year lagged value of environmental performance; L.SP: first year lagged value of social performance; ND: nationality diversity; ED: educational diversity. Control variables are included and defined under research variables and model section. The first year lagged values are included to handle serial correlation problem.*

6.2 *Dynamic Panel Model (GMM)*

Despite the importance of the IV-GMM test, significant relations among research variables under pooled ordinary least squares test may be the result of spurious correlations (Schultz et al., 2010). It is, thus, usually hard to statistically assert that an endogeneity problem is fully addressed (Ullah et al., 2018). To effectively minimize the adverse influence of any remaining endogeneity concern, three possible sources of endogeneity— unobserved heterogeneity, simultaneity, and dynamic endogeneity— that might affect governance-performance relationship are examined (Wintoki et al., 2012). In this study, the dynamic panel model (GMM) is used to address such possible sources of endogeneity. Under this method, researchers typically use the first year lagged value of the dependent variables as explanatory variable (Aldomy et al., 2020; Shatnawi, 2021; Wellalage et al., 2018), or more (e.g., two or three lags) to generate more consistent and less biased estimates (Schultz et al., 2010) and capture the persistence of the dependent variable (Shatnawi, 2021; Ullah et al., 2018). However, to empirically identify the necessary number of lags of dependent variables, we use OLS regression analysis of current performance on two lags of past performance, and the results indicate that only the first lagged value of dependent variable has a significant impact. Thus, we conclude that first-year lagged value is adequate to conduct dynamic panel models. The results of the dynamic panel model in table 4 are quantitatively similar to the main results reported in the main tables.

Table 4
GMM-Dynamic Panel Model

Variables	CSR	EP	SP
L.CSR	1.072***		
	(.042)		
L.EP		1.036***	
		(.033)	
L.SP			.874***
			(.031)
ND	.034**	.027*	.024*
	(.013)	(.014)	(.014)
ED	.034**	.049**	.014
	(.015)	(.02)	(.019)
BI	.017	.011	-.01
	(.017)	(.019)	(.02)
BS	-.004*	-.003	.006***
	(.002)	(.002)	(.002)
CEO	.007	.019*	.008
	(.009)	(.01)	(.009)
Size	-.002	-.001	.008***
	(.004)	(.004)	(.003)
ROA	.073***	.073***	.032
	(.024)	(.023)	(.024)
FL	-.001	0	-.004
	(.003)	(.003)	(.003)
CEXP	0***	0***	0
	(0)	(0)	(0)
Age	0*	0	0
	(0)	(0)	(0)
AR (1)	-5.71***	-5.53***	-5.92***
AR (2)	0.26	-0.15	0.84
Hansen test	0.22	0.31	0.192
# of instruments	85	74	85
# of groups	196	196	196
Obs	936	936	936
Orob > chi2	0.000	0.000	0.000
Wald chi2	1101.6	946.3	873.8
Year Dummy	Yes	Yes	Yes

*Note: P-value in parentheses*** p<.01, ** p<.05, * p<.1. L.CSR: first year lagged value of CSR; L.EP: first year lagged value*

6.3 Additional Tests

In addition to robustness tests reported above, we conducted several additional subsample analysis tests to confirm whether the results of the hypothesis are still hold or not. First, a subsample of firms is analysed based on the sector to which the firm belongs. In this test, the sectors are divided into two groups (regulated and unregulated sectors); then the presumed relationships are separately examined. However, the classification reveals that while 762 of observations belong to unregulated sectors (consumer discretionary, consumer staples, industrial materials, and real estate), 436 of observations belong to regulated sectors (communication service, energy, health care, financial, and information technology). The results (unablated) indicate that nationality diversity, and educational diversity have a positive and significant impact on CSR performance, EP, and SP when only the firms belong to regulated industries. Since our sample is dominated by the Materials sector, we also re-test our regression analyses after excluding this sector from the sample. Despite the decrease in sample size to 893 observations with 174 firms, we find that the impact of nationality diversity and educational diversity on dependent variables remain robust. Finally, it is worth noting that the above findings might be affected by unobservable multicollinearity problems among corporate governance factors (Jo & Harjoto, 2012). To check this case, we re-run the regression analysis for all models after excluding other corporate governance variables (board independence, size, and CEO duality) from control variables to remove any remaining multicollinearity concern. Untabulated results of these tests are quantitatively similar to the main results reported in the main tables.

7. Conclusion

As a consequence of growing globalization, and particularly during the post-global Financial Crisis, there has been a large demand on firms to be more transparent, and to behave in a socially responsible manner. At the same time, the importance of board of directors and their related attributes are widely acknowledged and increasingly linked with CSR activities in the academic literature, the business world, and increasingly in Australia. Therefore, the impact of corporate governance on CSR activities is an important issue that needs further investigation. This paper examines the impact of board national and educational diversity on CSR performance, atopic that is not yet explored in the Australian setting. Using a sample of Australian listed firms for the period of 2010 to 2020, we find a significant positive relationship between board nationality diversity and CSR performance and its-related subdimensions including environmental performance and social performance. It is also found that educational diversity is positively and significantly related to CSR performance and environmental

performance, though not to social performance. The findings remained robust under the instrumental variable approach and dynamic panel model. Further tests compare between two groups of firms—those from heavily and less regulated sectors—and find that the former group has more educated directors, but a similar level of nationality diversity is found among both sectors. Although diversity in terms of nationality and education is still modest at best, its effect on CSR performance and its related sub-dimensions is more pronounced within heavily regulated sectors only. This result contends that when board nationality diversity and educational diversity are properly incentivized (with regulating CSR activities, for instance), the board tends to improve the social and environmental activities of the firm. Reported results provide support for the view that increased nationality and educational diversity leads to bring a larger and more diverse set of new networks to the organisation, as well as fresh talents, information, views, competencies, and innovative ideas to the boardroom, enabling the board to enhance nonfinancial performance such as CSR activities.

This study contributes to the existing literature on CSR determinants, board diversity, and, particularly, in the Australian context. First, while little research has focused on board diversity in terms of tenure, gender, and multi directorship, this study has focused on nationality and educational diversity and its implication of CSR performance as Roa and Tilt (2015) requested. In practice, the examination of Australian corporations is important because: stakeholders are increasingly expecting companies to engage in CSR activities, and boards have been identified as having overall responsibility for improving and encouraging enterprises to engage in CSR activities. In this regard, the evidence reported here re-enforces the recommendations of the Governance institute of Australia indicating that nationality and educational level diversity among board members are modest and need further representation. Therefore, this study extends the topic of prior studies and moves beyond traditional board composition to include other board diversity attributes (nationality and educational diversity) in Australian firms. Theoretically, this study contributes to resource dependency perspective and diversity-related theories. The resource dependency theory articulates that a well-diversified board is more likely to represent diverse stakeholders, which should lead to better CSR. There is some support for this where diversity at the level of the board (nationality and educational diversity) is associated with higher levels of CSR engagement. The outcomes of this study are of interest to several parties such as management, academics, and policymakers. The most important finding for managers is that firms that would like to enhance their outcomes in the field of CSR activities, which are of importance to business image in the ^{21}century, should increase board diversity in terms of nationality, and educational level. For scholars, the study examines the relationship between board diversity and CSR, by highlighting the role of nationality and educational diversity in the improvement of CSR performance and reporting thereon. This study also sheds a light on the importance of splitting CSR performance into social and environmental dimensions when researchers examine the association between CSR and board diversity and board composition. For policymakers, the results of this study shed a light on the need to boost not only board diversity in terms of gender, and financial experience, but also nationality diversity, and educational level diversity. The findings of this study are of importance to policymakers as it highlights the importance of CSR-related regulations and their associated impacts on directors' tendency and orientation to encourage the firms to engage in CSR activities.

This study has several limitations. First, the size of the sample and data gathering method make the results of this study less generalizable. For example, the report of Board Diversity Index (BDI) 2021 released by the Governance institute of Australia indicates that most directors with different nationalities in the Australian firms typically come from commonwealth countries, in particular, and European countries, in general. Such directors are more likely to share the same beliefs, thoughts, and perspectives with Australian directors. In this sense, nationality diversity that is measured as the percentage of members with different nationality in the boardroom, without considering the countries in which the directors belong to, is more likely to provide less accurate and generalizable findings. Therefore, further work involving large sample size, and subsample analysis of board nationality diversity in terms of ethnicity and region would provide a more in-depth understanding of the impact of nationality diversity. Second, this study considers the educational level of directors but not the major of such directors. Further research could focus on this issue, which would provide a more in-depth understanding of the impact of educational diversity on CSR performance.

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Conflicts of Interest

The authors declare no conflict of interest.

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