

The Impact of Cultural Diversity of the Corporate Board on the Firm's Performance: Evidence from Australia

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Abstract

We examine the impact of cultural diversity in corporate boards on firm performance of the Australian large companies using the measure of national cultural diversity. We quantify the cultural scores based on Hofstede's 6-dimension culture framework (Hofstede, 2001). Our results suggest that the cultural diversity of directors has positive impacts on firm performance measured by Tobin's Q and ROA. We suggest that boards with a higher level of cultural diversity will provide resources that are more valuable to the firm and brings the benefit that outweighs the cost of potential relationship conflict caused by cultural differences. Our findings hold after controlling for time-invariant firm-specific factors and year fixed effects, and after implementing an instrumental variables approach. Furthermore, our results are further robust to controlling for different measures of "foreignness" both of the board and the firm, as well as to the use of alternative culture frameworks. Lastly, we find that different aspects of cultural differences have a different impact on the firm performance, and it is predominately the diversity in masculinity, uncertainty avoidance, and long-term orientation dimensions that have a positive impact on firm performance.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

1. Introduction

The trend of a growing awareness of the importance of corporate governance has lasted for decades and has accelerated rapidly since the exposure of the world-famous Enron scandal in 2001. Different governments around the world urgently introduce regulations on corporate governance (e.g. Sarbanes-Oxley Act in the US, and similar legislation in Norway and Spain). Generally, they are designed to increase corporate efficacy and transparency. Along with the new changes in legislation, numerous studies investigate the board diversity based on the established theory (Becker, 1964; Milliken & Martins, 1996; Pfeffer & Salancik, 2003) to see how directors' functions are affected by the board's composition (Kiel & Nicholson, 2003; Hillman et al. 2000).

Lately, in the corporate finance literature, board diversity and its impact on firm performance have become as popular topics¹. However, among these types of board diversity, cultural diversity has either been ignored or been measured by rough proxies (often as the percentage of foreigners on the board). We question about the capability of capturing the culture diversity by using such rough proxy, because many existing studies fail to find a significant relationship between cultural diversity and firm's performance (Darmadi, 2011; Rose 2011; García-Meca et al. 2015; Ujunwa, et al.,2012). We doubt the accuracy of measuring the cultural diversity because these existing evidences is contradictive to the Resource Dependence Theory that introduced by Pfeffer and Salancik (1978), which suggest that the external linkage provided by foreign directors can significantly benefit the firm's performance. We believe that the finding of Frijns et al (2016) reflects the relationship more accurately not only because it finds a significantly negative relationship between cultural diversity and firm's performance but also using a more descriptive mathematical methodology. To provide more evidence of finding the relationship between the cultural diversity and firm's performance, We want to apply this novel methodology on discovering the relationship in a difference sample. We look into Australian market because of its sizable economy (Top 15 largest economy in the world in 2019);

¹ See Bonn (2004); Joecks, Pull, & Vetter (2013); Carter, D'Souza, Simkins, and Simpson (2011); Rose (2007); Darmadi (2011); Ujunwa, Okoyeuzu, & Nwakoby, (2012) on gender and ethnicity diversity; Bonn, (2004), Anderson, Reeb, Upadhyay, & Zhao (2011); Hambrick & Mason (1984); and Pfeffer & Salancik (2003) on independence; Higgs Report (2003); Abdullah, Ismail, & Izah (2017), and Talavera, Yin, & Zhang (2018) on age

and considered as one of the best countries for immigrant; having 8 million of immigrant by 2019, which contribute to the culture diversity of Australia (1/3 of the total population are emigrated from overseas countries). We believe the economy is influenced by the cultural diversity and the novel methodology will help us capture the relationship better. We find that the exiting literature with Australian sample has overlooked the impact of cultural diversity on the firm's performance. Therefore, investigating the relationship between this crucial factor and the firm's performance in Australia will help us to verify the extent to which prior research findings are applicable in the Australian context.

Therefore, in this study, we focus on the board's cultural diversity which is different from other observable board's diversity, such as gender or age diversity. We employ the novel methodology introduced by Frijns, Dodd, & Cimerova (2016), quantifying the cultural background of directors based on their nationality using Hofstede's 6-dimension culture framework² (Hofstede, 2001). Given that all director's nationality has a specific score in 6 dimensions (Appendix A), we can measure how each pair of directors culturally diverse by calculate the difference between two scores. The average of distances between every pair of directors within a board will reveal the cultural diversity level of the company. We examine the impact of cultural diversity in corporate boards on the firm's performance measured by Tobin's Q (market-based performance measure) and return on assets (ROA) (accounting-based performance measure). We focus on a sample of large Australian firms that constitute about 84% of the market capitalization across the period from 2004 to 2018. In our empirical analysis, we adopt the cross-sectional firm fixed effect regression model to control for the time-invariant firm-specific factors. The results show that the cultural diversity in corporate boards has a significantly positive impact on the firm performance. Based on the Resource Dependent theory, we suggest that a more diverse board is likely to provide more valuable resources to the firm and the magnitude of the benefits outweigh the potential costs of relationship conflicts arise by cultural difference. This finding remains robust after including other measures of board diversity and firm

² Hofstede's 6-dimensions includes individualism-collectivism, masculinity-femininity, power distance, uncertainty avoidance, long-term orientation, and indulgence – restraint.

characteristics, and quantify the cultural distance using alternative culture frameworks (House, Hanges, Javidan, Dorfman, & Gupta, 2004; Schwartz, 2006; Tang & Koveos, 2008). Our findings are economically significant, in our sample, the variable with 75th percentile cultural diversity has a Tobin's Q of 2.05, which is 7% greater than the average Tobin's Q and two times larger than the Tobin's Q at the 25th percentile of Cultural diversity (1.03).

To examine whether cultural diversity reflects more information related to firm performance than foreign orientation. We further investigate other factors that measure the foreignness of the firm and board. We employ the foreign orientation variables used in Masulis et al. (2012) and Frijin et al. (2016). We find that the board cultural diversity remains as a significant and positive determinant of firm performance after controlling for the foreignness factors³.

Frijns et al. (2016) suggest that a firm's higher level of operational complexity and foreign market participation mitigate the potential cost of relationship conflicts caused by cultural diversity. Therefore, we divide the total sample into sub-samples based on the complexity (measured by the number of business segments that the firm operates in), then divide it based on foreign market participation (measured by the percentage of foreign assets and sales). Our results suggest that the performance of the firm that has more than one business segments are affected more positively by the cultural diversity in the board due to higher level of company complexity. This finding is in line with Maznevski's conclusion (1994) of Task-related conflict has more benefit than the cost to group performance when complex tasks are involved. We also consider the firm's participation in the foreign markets and find that there is a significant and positive relationship between cultural board diversity (CD board) and ROA in the firms with higher foreign assets ratios. Therefore, we conclude that the unique information and expertise carried by the foreign director are more favourable to the needs of firms with higher complexity and significant foreign market participation, and having more diverse boards will benefit the firm's return on assets.

³ Foreignness factors are the dummy variable for the presence of a foreign independent/dependent director, and the percentage of foreign independent directors at the board level. For the firm level, Foreignness factors are the inclusion of the firm's foreign sales/foreign assets and dummy variables for either being listed in NYSE/any foreign market

Finally, we assess the importance of each of the six cultural dimensions of Hofstede (2001) separately, since Shenkar, (2010) argues that not all aspects of cultural differences within the society will have equal impacts regarding bringing synergy or disruption. Our results suggest that the impacts of cultural diversity on the firm's performance are majorly driven by three dimensions: Masculinity, Uncertainty Avoidance, and Long-term orientation. Based on the Hofstede's theory, we think a more culturally diverse board will have a significant positive impact on the firm's performance, due to the more neutrally oriented masculinity makes the decision making process to be neither overly assertive or lack of opinions expression. To the Uncertainty Avoidance dimension, firm's financial performance will be significantly benefited by the having a more correct positioning of risk appetite. Lastly, a board with more diverse scores in Long-term Orientation dimension will find a better balance between being sustainable and adaptive to future challenges and valuing the traditions at the same time, which will have a significant impact on the firm's performance.

Overall, our paper makes two significant contributions. First, we contribute to the growing literature on culture and finance by proving empirical evidence on the validity of the novel metric introduced by Frijin et al. (2016) and by demonstrating the significant explanatory power of this sophisticated measure. Second, our results emphasize the positive effects of cultural diversity on a firm's performance, being contribute to the political implication. Furthermore, we find that firms with a higher level of operational complexity and foreign markets participation benefit more from the director's foreign expertise and knowledge.

Our results provide evidence to support the argument of the Human Capital Theory, which primarily suggests that the combination of a person's education, experience, and skills can bring benefits to an organization (Becker, 1964). This concept is also associated with the board diversity derived from Resource Dependence Theory, which suggests that a more diverse board is likely to provide more valuable resources to the firm as demonstrated in Hillman et al. (2000). Although our findings are contrary to the negative effect of cultural diversity on firm performance found in Frijns et al. (2016) with the UK sample. Our study supports the opinion of that a board's cultural diversity has both pros and cons to the firm's performance in Frijns et al. (2016). However, in our Australian

sample, the benefits of cultural diversity outweighing the costs and indicating that firms with a more culturally diverse board is likely to have a better firm performance.

The next section of this study will be Section 2 introducing the background of related works of literature on cultural and finance, and addressing our research question and hypothesis. We will further demonstrate our methodology and data in Section 3 and 4, respectively. In Section 5, we report our results for both the empirical analysis and robustness test. Section 6 will finally document our conclusions and discussion of further research.

2. Background and hypothesis

2.1 Literature review

Discovering the relationship between the diversity of the board and the firm's performance has become a popular research topic nowadays. This is because of the evolving cultural, political, and societal perceptions of corporate board composition that are partially driving researchers' interest in the demographic diversity of corporate directors (Carter, D'Souza, Simkins, & Simpson, 2010). Since the governance failures (e.g., Enron, HIH Insurance and Worldcom) and heightened awareness of the importance of corporate governance, U.S. government introduced some world-effective legislation, the Sarbanes-Oxley Act, which was enacted in 2002. This act has a retrospective effect on corporate governance and stimulates the changes of regulations on corporate boards around the world. Rose (2007) reports that Norway introduced legislation to require the corporate boards have at least 40 percent of female directors; Spain also passed similar legislation to require a quota for the presence of female directors (Adams & Ferreira, 2009). The British Department of Trade and Industry published the Higgs Report in 2003 that suggested that demographic diversity increases board effectiveness and specifically encourages including more female directors on the board (Higgs, 2003). Along with the new changes in legislation, many literatures broadly document that the diversity of the board has a significant impact on the firm's performance by several director characteristics such as gender, age, independence, and ethnicity (Bonn, 2004; Anderson et al., 2011; Darmadi, 2011; Ujunwa, et al., 2012; White et al., 2014). Gender diversity is being extensively investigated in the U.S.

together with ethnicity, because shifting toward the inclusion of women and ethnic minorities has been the most critical trend in US boardrooms over the past two decades (Hillman, Cannella Jr, & Harris, 2002).

Gender and ethnicity:

Numerous studies investigate gender and ethnicity, the easily observable characteristics of directors, and find different impacts on the firm's performance across different samples: Bonn's study in 2004, based on Australian evidence, reports that the percentage of female directors is positively correlated to firm performance, while another study documents that there is a positive correlation only when the boards already have sufficiently large gender diversity (higher than 30% of the board are female) based on evidence from Germany (Joecks, Pull, & Vetter, 2013). Carter, D'Souza, Simkins, and Simpson (2011), however, suggest that there is no significant relationship between them. In addition, they further argue that the gender diversity and ethnicity diversity of the board and firm performance appear to be endogenous based on evidence from the U.S (Carter et al., 2010), that is, there is no empirical evidence of causation, going from gender and ethnicity diversity to firm performance. Gender is also suggested to be insignificant in an earlier study in Denmark (Rose, 2007). In contrast, the evidence from Nigeria, Indonesia and Malaysia, which are emerging countries, supports a mixed finding, that the presence of female directors is negatively associated with a firm's performance and positively for the presence of directors with foreign ethnicity. (Darmadi, 2011; Ujunwa, Okoyeuzu, & Nwakoby, 2012).

Independence

Bonn also illustrates how independent directors play an essential role in enhancing firm performance and being perceived by the investor as an indicator of board efficacy (Bonn, 2004). This finding echoes the view of Anderson, Reeb, Upadhyay, & Zhao (2011) that there is a positive correlation between independent directors and a firm's valuation. Again, more independent directors will increase board effectiveness with a better balance of power and better representation of

shareholder interests than a board full of dependent directors (Hambrick & Mason, 1984; Pfeffer & Salancik, 2003).

Age:

In the Higgs Report (2003), it is reported that the UK's boards are predominately white males nearing retirement ages (65-years-old). In Malaysia, a study suggests the effect of age diversity on firm performance is overall insignificant, since the presence of directors that are older than 60 has a negative correlation with ROA (accounting-based performance measure) but a positive one with Tobin's Q (market-based performance measure) (Abdullah, Ismail, & Izah, 2017). A recent study investigates the impact of age diversity on profitability, specifically among Chinese banks, and finds a negative correlation (Talavera, Yin, & Zhang, 2018).

The findings of the existing studies introduced above hold different views on the impact of the board's characteristics, and the contradictory evidence mainly exists when it is based on samples from different countries. This is because countries across the world have different legal, economic and institutional frameworks (Hitt, Ireland, & Hoskisson, 2012). Stulz and Williamson (2003) document that the legal protections for shareholders and creditors vary for different countries based on their culture, and suggest that the legislation in Protestant countries predominately protects the stakeholders' rights better than in Catholic countries (Stulz & Williamson, 2003). Furthermore, the corporate governance systems also vary between different countries, that is, some of the board characteristics relevant for firm performance in the US or UK might not be necessarily important for companies listed in some emerging countries (e.g. Indonesia and Malaysia). (Craswell, Taylor, & Saywell, 1997). Therefore, investigating the relationship between the board's diversity and the firm's performance in Australia will help us to verify the extent to which prior research findings are applicable in an Australian context (Bonn, 2004).

One crucial factor has been overlooked in the corporate finance literature, that is cultural diversity. It had either been ignored in terms of explaining the impact of diversity of the board or been measured by inefficient proxies that fail to capture the relationship between cultural diversity and the

firm outcomes accurately. The common proxy used in the existing studies to measure cultural diversity is the percentage of foreign directors on the board (Darmadi, 2011; Rose 2011; García-Meca et al. 2015; Ujunwa, et al.,2012). This rough proxy measures the cultural diversity based only on the number of foreign directors which causes measurement bias because it only considers the quantitative difference (the number of foreign directors) but ignores the qualitative difference (cultural differences among directors from different cultural backgrounds). For instance, the boards of two different companies in Australia have only one foreign director on board, but one is from the Middle East and the other one is from New Zealand. By using the commonly used proxy introduced above, it will consider the cultural diversity of these two company as being at the same level, but the fact is that the culture of the Middle East varies from Australia to a much higher degree than the culture of New Zealand. Therefore, the findings of the studies that use this proxy regarding the relationship between cultural diversity and firm performance are questionable, and a more comprehensive proxy is needed to measure the cultural diversity of boards.

We find a more sophisticated methodology in a recent study by Frijns, Dodd and Cimerova (2016), it introduces a novel metric that conquers the shortage of not measuring the qualitative cultural difference between directors previously, and successfully find a significant relationship between cultural diversity and firm's performance. This new measure is built on the conceptual culture framework of Hofstede (2001). Frijns et al. (2016) also empirically show that this measure is superior to the commonly used proxy of 'number of foreign directors on board', and to the use of alternative culture frameworks and alternative measures of culture. The findings of this paper show that the cultural diversity in boards negatively affects firm performance, based on the sample of large British firms. This finding is in contrast to the findings of several articles, such as Oxelheim and Randøy (2003) who report significantly higher Tobin's q for firms that have Anglo-American nationals on the board of directors based on the sample of Norwegian and Swedish firms; Ruigrok and Kaczmarek (2008) who find a positive relationship in the sample from the UK, the Netherlands, and Switzerland; Choi et al. (2007) who document the positive impacts of the presence of foreign directors on the financial performance of Korean firms. Therefore, it is possible that either the method used in the

previous studies caused a significant measurement bias or the impact of cultural diversity on the firm performance varies over time or across different samples. Therefore, in our study, we use the novel metric of (Frijns, Dodd, & Cimerova, 2016) to measure the cultural diversity of boards in order to examine the relationship between the cultural diversity of boards and firm performance.

Furthermore, a recent study by Giannetti and Zhao (2016) finds evidence that supports their conjecture, which is that cultural diversity may make the decision-making process more erratic because diverse preferences cannot be univocally aggregated. They argue that erratic decision-making brings both benefits and costs to the firm, since firms with a culturally diverse board tend to have less persistent and conforming strategies, which make the firm experiment more and end up innovating more and having more numerous patents. Nevertheless, these firm with cultural diversity appears to have more board meetings and to experience higher director turnover unrelated to performance due to frictions in the erratic decision-making process. Giannetti and Zhao (2016) use firm-performance volatility as a proxy for erratic decision-making, and the results show that board diversity increases a firm's fundamental volatility. This also means that the cultural diversity of a firm's board may have a significant impact on the firm's uncertainty, which raises the firm's risk. In this study, we control for the firm's fundamental volatility while estimating the impact of cultural diversity on firm performance.

In summary, numerous studies have attempted to explain the relationship between board diversity and firm performance, and different findings are documented based on the evidence from different countries. However, cultural diversity has rarely been studied directly in the corporate finance literature. Lately, a novel methodology has been introduced and it is considered more accurate to capture the cultural diversity of different boards. Our study focuses on applying this novel method to investigate the relationship between cultural diversity and firm performance in the Australian market.

2.2 Research question and hypothesis

Our research question: What is the impact of cultural diversity in the corporate board on the firm's performance in the Australian market?

Our research aims to examine the relationship between the cultural diversity of the board and the firm's performance based on an Australian sample, using a novel metric that has been recently introduced in the corporate finance literature.

Based on the findings from the existing studies, we expect a positive correlation between the percentage of foreign directors and firm performance that reflects only the "firm's foreignness" rather than its cultural diversity. This is because evidence from a UK sample using the novel methodology correctly captures the difference in cultural diversity between companies and makes the negative correlation robust. Therefore, our hypotheses are:

The functions of the board of directors are generally perceived as having at least four essential functions – monitoring and governing the senior managers, providing guidance and advice to managers, monitoring compliance with applicable laws and regulations, and linking the corporation to the external environment (Mallin, 2007). Mostly, the theories related to corporate boards address these functions in one way or another. One basic argument is that the composition of the board affects how the board performs those functions, which directly or indirectly determine firm performance (Kiel & Nicholson, 2003). This concept underpins the likelihood that board composition, in general, includes cultural diversity as a subset of the composition, and is linked to firm performance. Cater et al. (2010) adopt four relevant theories taken from organization theory, economics, and social psychology to provide the theoretical basis for hypothesizing the impact of board diversity on firm performance. We conduct our hypothesis following their footprints.

Pfeffer and Salancik (1978) introduce the Resource Dependence Theory that argues that the function of the board is to generate linkage between the corporation and other external organizations. They suggest four primary benefits for the external linkages: (1) delivery of resources such as information and expertise; (2) relationship build-up with external important constituents; (3)

establishment of commitments of support from external important organizations or groups; and (4) creation of legitimacy for the firm in the external environment. Later, Hillman, Cannella, and Paetzold (2000) specifically describe these four benefits as several types of directors that provide various resources to the firm: insiders, business experts, support specialists, and community influential. Hillman et al.'s (2000) extension of the resource dependence theory underpins the idea that a more diverse board is likely to provide more valuable resources to the firm, which might generate better firm performance. On the other hand, Milliken and Martins (1996) argue that relationship conflict is more likely to exist when directors share a diverse culture, and some studies suggest that relationship conflict has significant impacts on group commitment and decision quality due to increased tension and conflict within the board and less focus on resolving the firm's cognitive problem (De Wit, Greer, & Jehn, 2012; Jehn & Mannix, 2001). Furthermore, complementary to the findings introduced in the literature review, we expect that cultural diversity has a significant impact on the firm's performance. However, the impact can either be positive or negative, depending on the magnitude of the costs and benefits of the valuable resource brought to the firm by cultural diversity.

Hypothesis 1: Cultural diversity has significant impacts on the firm's performance.

On top of our expectation for hypothesis 1, the finding of Maznevski (1994) suggests that task-related conflict has more benefit than the cost to group performance when tasks are complex. This finding can be explained by the Resource Dependent Theory and extended to the theory that a person's foreign culture might include more valuable resources to a firm with a higher level of complexity (involved in more market segments). Therefore we expect that cultural diversity is more beneficial to firms with a higher level of firm complexity.

Hypothesis 2: Cultural diversity is more beneficial to firms with a higher level of firm complexity

A different theory called Human Capital Theory suggests that a combination of the education, experience, and skills of a person can bring benefits to an organization (Becker, 1964). Furthermore, differences in culture result in directors having unique human capital (foreign education and experience).

Human capital theory complements some of the concepts associated with board diversities that are derived from the resource dependence theory. It is reasonable to expect that cultural diversity has different impacts on the firm's performance based on the level of foreign operations.

Hypothesis 3: Cultural diversity has different impacts on the firm's performance based on its level of foreign operations.

Our calculation of Cultural diversity for each board includes six different dimensions, which represent how values in the workplace are influenced by culture from different angles. Some studies find that different dimensions will not impact the firm's performance in the same extend, their empirical evidence suggests the individualism-collectivism and masculinity-femininity dimensions of culture have the most substantial impacts on a firm's performance. Because a more culturally diverse corporate board is likely to have relationship conflicts between directors who perceived differently in these dimensions, and as they both reflect the willingness of a director to cooperate with the others, a large different in these dimensions will be hard to have an efficient communication and allocation of work within the board. (Frijns et al., 2016; Lim, Makhija, & Shenkar, 2016). It is rational to expect that different dimensions of the Hofstede's 6-dimension framework have different impacts on the firm's performance.

Hypothesis 4: Different dimensions of Hofstede's 6-dimension framework have different impacts on the firm's performance.

3. Methodology:

To address our research questions, we use a panel data sample that includes all listed Australian firms during the period 2004 – 2018 to test our hypotheses.

To measure each firm's board cultural diversity, we use the novel metric of Frijns et al. (2016). Frijns et al. (2016) first collect the cultural score of the director's country for all four dimensions of Hofstede's framework based on the ethnicity of the directors, which are individualism-collectivism, masculinity-femininity, power distance, and uncertainty avoidance. Then they measure the cultural distance between every two directors on the board for all four dimensions. Finally, they estimate a

cultural diversity score by summing up the cultural distances within each board and scaling by the number of board members.

We firstly collect the board composition of the sample firms and then the personal information of each board member in our sample, including name, gender, age, and nationality. Next, we employ the cultural framework of Hofstede (2001) to assign different cultural scores to different countries in 6 dimensions: the four dimensions listed in the previous paragraph plus the recently introduced long-term orientation vs short-term orientation and indulgence vs restraint. The cultural scores for every country are shown in Appendix C. Having all the cultural scores for each dimension helps us to calculate the cultural distance between each pair of directors on the board following the formula used in Kogut and Singh (1988) below:

$$CD_{nt} = \sqrt{\sum_{k=1}^6 \left\{ \frac{(I_{ki} - I_{kj})^2}{V_k} \right\}} \quad \text{Given } i \neq j$$

Where CD_{nt} is the cultural distance between every two directors (i, j), I_{ki} is the culture score on dimension k for a director I , I_{kj} is the cultural score on dimension k for another director j , and V_k is the in-sample variance of the score for the specific cultural dimension

After estimating the cultural distance scores for each pair of directors, we can compute the firm-level cultural diversity of the board defined as the average of cultural distances for all the pairs of board members:

$$CD_BOARD_{nt} = \frac{\sum_{ij} CD_{ij,nt}}{m(m-1)/2} \quad \text{Given } i < j \quad (1)$$

Where CD_BOARD_{nt} is the measure of the cultural diversity of the board of firm n in year t , and m is the number of board members. The measure of cultural diversity is scaled by the number of pairs of board members so that the measure is normalized for the size of the board.

The dependent variables of our study are proxies for firm performance. We employ the two commonly used proxies mentioned previously for measuring the firm performance (Darmadi, 2011; Rose, 2007; Ujunwa et al., 2012), Tobin's Q and ROA.

$$\text{Tobin's } Q_{nt} = \frac{(BV_{ntTA} - BV_{ntTE} + MV_{ntTE})}{BV_{ntTA}} \quad (2)$$

Where BV_{ntTA} is the book value of the firm n's total asset at time t, BV_{ntTE} is the book value of the firm n's total equity at time t, MV_{ntTE} is the market value of the firm n's total equity at time t.

$$\text{ROA}_{nt} = \frac{\text{Operational Income}}{\text{Ending Book Value}_{\text{Total Asset}}} \quad (3)$$

We employ the cross-sectional fixed effect regression model to estimate the dependent variables mentioned above, using this regression model to control for any time-invariant and firm-specific factors that are related to both the independent variable (Tobin's Q & ROA) and cultural diversity. It addresses the potential endogenous issue of having omitted variables bias. In order to control for other board diversity effects and the impacts of the firm's characteristics, we add a series of control variables in our regression. We add the logarithm of the total number of directors on the board in our regression because the absolute number of directors is regarded as an essential determinant of effective corporate governance (Dalton, Daily, Johnson, & Ellstrand, 1999). Bonn includes this variable when investigating the relationship between board structure and firm performance (Bonn, 2004). Abdullah et al., (2017) include the logarithm of total assets as a control variable for firm size and find that the firm size is positively associated with the firm performance. Therefore, we add firm size as a control variable in our regression. The leverage, firm age and firm complexity are included in a similar study to control for firm characteristics. They are measured as the ratio of the book value of total debt to the book value of total assets; the number of years since the firm was established; and the number of segments that the firm operates within respectively

(Anderson, Reeb, Upadhyay, & Zhao, 2011). Lastly, the control variable for risk and growth opportunity are the standard deviation of the daily return within each financial year and the sales growth (Anderson et al., 2011; Frijns et al., 2016).

$$\begin{aligned} \text{Tobin's } Q_{nt} = & \alpha_{nt} + \beta_1 \text{CD_BOARD}_{nt} + \beta_2 \ln(\text{BOARD_SIZE}_{nt}) + \beta_3 \% \text{ of } FEMALE_DIRECTOR_{nt} + \beta_4 \\ & \% \text{ of independent directors}_{nt} + \beta_5 \ln(\text{AGE_AVERAGE}_{nt}) + \beta_6 \ln(\text{AGE_RANGE}_{nt}) + \beta_7 \\ & \ln(\text{TOTAL_ASSETS}_{nt}) + \beta_8 \text{LEVERAGE}_{nt} + \beta_9 \ln(\text{FIRM_AGE}_{nt}) + \beta_{10} \ln(\text{NUM_SEGMENT}_{nt}) + \beta_{11} \text{RET_Vol}_{nt} + \\ & \beta_{12} \text{Sales_Growth}_{nt} \end{aligned}$$

(4)

Where n_j is indicating for firm n and time t . $\ln(\text{BOARD_SIZE}_{nt})$ is the logarithm of the number of directors. $\% \text{ of } MALE_DIRECTOR_{nt}$ is the proxy for measuring the gender diversity. $\% \text{ of independent directors}_{nt}$ is the proxy for measuring the board independence. $\ln(\text{AGE_AVERAGE}_{nt})$ is the logarithm of the average age of the board. $\ln(\text{AGE_RANGE}_{nt})$ is the logarithm of the difference between the oldest director's age and the youngest, which is a proxy for measuring the age diversity. $\ln(\text{TOTAL_ASSETS}_{nt})$ is the logarithm of firm n 's total asset, which is the proxy for measuring the firm size. LEVERAGE_{nt} is the leverage ratio using the total debt to total assets ratio as measurement; $\ln(\text{FIRM_AGE})$ is the logarithm of the number of years that the firm has been established. $\ln(\text{NUM_SEGMENTS})$ is the logarithm of the number of segments the firms are operating in, which is a proxy for the firm's complexity. RET_Vol_{nt} is the standard deviation of the daily return of the year i for company n . Sales_Growth_{nt} is the measure of firm growth.

4. Data

To test our hypothesis, we run an empirical analysis of the large Australian companies from 2004 to 2018. In order to provide an overview of the composition of our data sample, we report the descriptive data analyses at two levels separately with respect to director-level and firm-level.

We extract our board data from Thomson Reuter's Eikon, which provided corporate governance information for both listed and delisted Australian companies. We focus on the large companies, the constituent stocks of ASX 200, to represent Australia's stock market, which accounts for 84% of the Australian market capital value. To avoid having survivorship bias, we first collect the lists of ASX 200 constituents from Eikon by the end of each year, from 2004 to 2018. Since the composition of the ASX 200 changes from time to time, our sample includes the companies that had been delisted from ASX200 but historically been listed on ASX200 for more than five years during this period (In total 213 companies met the criteria). Additionally, using a common practice in academic financial research, financial companies (25 companies) are excluded from our sample (based on the Thomson Reuter Business Classification). Furthermore, after dropping out four companies that have insufficient data, our final dataset eventually covers 184 companies for a total of 2,267 firm-year observations. At the director level, we collect information on 1,864 directors for a total number of 14,025 director-year observations.

4.1 Director-level data

Regarding the level of director-data, we collect name, gender, age, nationality, role and independence for all the directors in our sample. Although the availability of the nationality and age data is relatively high, there is still about 15% of data missing. Therefore, we complement Thomson Reuter's Eikon with online websites and public social platforms such as Companies House, LinkedIn and Facebook to collect information on age and nationality manually. In addition, we collect the company data from DataStream.

All 1864 directors in our final sample come from 47 different countries; Table 1 below shows the countries composition from 2004 to 2018. The last two rows summarize the total number of directors within each observed year and the percentage of foreign directors. The entire size of directors for all companies was in an increasing trend that arrived at a peak in the year 2015. The percentage of foreign directors is also considered as an increasing trend, arriving at a peak in the latest observed year. The last Column measures the total percentage of directors from different countries based on the entire period.

About 68% of directors are from Australia, the second largest group of directors is from UK (~11%), followed by directors from United States (~9%).

In our sample, we also cover other characteristics of the board: gender diversity, average directors' age and board independence. To have a better understanding, we separate all directors into two groups: local directors from Australia and foreign directors with various nationalities. In Table 2, we provide the result of the comparison between the two groups in terms of gender: 17.39% of Australian directors are female versus 10.51% of foreign directors. The difference of 6.87% is considered as significant at the 1 % level; therefore, we have evidence that there are significantly more local female directors than female foreign directors. In terms of the average director's ages, no significant difference is found. Lastly, our results show that 57.31% of local directors are independent versus 51.79% of foreign directors. It is statistically significant that Australian companies are more likely to hire local directors as their independent directors.

Table 1

Number of directors from each country by year

Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total	% Total
Argentina	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	10	0.07%
Australia	180	246	318	406	528	625	746	906	862	850	820	820	775	717	685	9484	67.64%
Austria	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	23	0.16%
Belgium	1	1	1	1	1	1	1	1	1	1	2	2	3	3	2	22	0.16%
Bermuda	1	2	4	4	4	4	7	8	5	2	2	1	1	0	0	45	0.32%
Brazil	0	0	0	0	1	1	1	1	1	1	3	3	3	4	6	25	0.18%
Canada	3	4	7	8	12	14	17	23	20	19	20	22	21	22	25	237	1.69%
China	1	1	3	4	5	6	12	14	15	12	15	25	15	15	19	162	1.16%
China (Taiwan)	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.01%
COLOMBIA	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	0.02%
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	6	0.04%
Demark	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	6	0.04%
Dominican Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.01%
Finland	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	3	0.02%
France	1	2	3	4	4	4	5	5	5	5	7	7	6	8	8	74	0.53%
Germany	1	2	2	2	3	3	3	4	5	5	3	2	3	2	2	42	0.30%
Hong Kong	0	0	0	0	1	1	1	1	2	2	2	2	2	2	2	18	0.13%
India	0	1	1	1	1	1	1	1	1	1	2	2	2	3	5	23	0.16%
Indonesia	0	0	0	1	1	1	1	1	1	0	0	0	0	0	3	9	0.06%
Ireland	5	6	7	7	8	10	11	14	13	13	9	8	8	9	8	136	0.97%
Italy	1	1	3	3	3	3	5	5	4	4	6	7	6	3	2	56	0.40%
Jamaica	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.01%
Japan	0	0	0	0	0	3	4	4	5	2	3	1	1	3	6	32	0.23%
Kenya	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.01%
Korea	0	0	0	0	1	2	2	3	3	2	2	1	1	0	0	17	0.12%
Malaysia	1	2	2	2	3	4	5	7	6	6	7	6	6	3	2	62	0.44%
Mexico	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	8	0.06%
New Zealand	10	12	14	18	23	29	33	41	45	43	39	37	35	37	34	450	3.21%
Pakistan	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	7	0.05%
Papua New Guinea	0	1	1	2	2	2	2	3	2	3	4	5	3	4	4	38	0.27%
Philippines	0	0	0	0	1	1	1	1	1	1	2	2	2	2	2	16	0.11%
Poland	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	6	0.04%
Romania	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	8	0.06%
Russia	0	0	0	0	0	0	0	1	1	1	1	1	2	2	2	11	0.08%
Singapore	1	2	4	5	6	8	8	9	8	9	12	13	9	10	6	110	0.78%
Solomon Islands	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.01%
South Africa	0	0	3	3	3	5	7	7	6	8	8	9	9	8	5	81	0.58%
Spain	0	0	0	0	0	0	0	0	0	0	4	4	3	5	3	19	0.14%
Sweden	0	0	0	0	0	0	1	2	1	1	1	2	2	2	2	14	0.10%
Switzerland	0	0	0	0	0	0	1	1	1	1	1	2	2	2	2	13	0.09%
Thailand	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	4	0.03%
Trinidad and Tobago	0	1	1	1	1	1	2	2	2	2	3	3	2	2	1	24	0.17%
Turkey	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0.01%
Ukraine	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	6	0.04%
United Kingdom	26	40	44	59	73	86	99	123	120	125	126	138	141	138	146	1484	10.58%
United States	29	35	42	49	59	75	82	98	96	96	103	109	105	109	121	1208	8.62%
Zimbabwean	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	10	0.07%
Total	264	362	464	584	749	896	1066	1297	1239	1223	1214	1245	1177	1127	1115	14022	
% of foreign director	32%	32%	31%	30%	30%	30%	30%	30%	30%	30%	32%	34%	34%	36%	39%	32%	

Note: This table shows the number of different nationalities that appear each year. The observed period is from 2004 to 2018, reporting the data at the end of each financial year. Row “% of foreign directors” reports the percentage of non-Australian directors in each financial year. Column “% Total” reports the percentage of the number of times for a specific nationality to appear in the total sample.

Table 2

Characteristics of domestic and foreign directors

Nationality	Gender (Female)	Directors' age	Directors' independence
All directors	15.36%	58.72	56.11%
Austalia	17.39%	58.76	57.31%
Foreign	10.51%	58.62	51.79%
Difference	-6.87%***	0.14	5.52%*

This table shows the mean of Gender, Director’s age and independence for Australian versus foreign directors. The row "Difference" shows the difference of mean for three characteristics and their statistical significance based on their t stat. *** p<0.01, ** p<0.05, * p<0.1

4.2 Board Characteristics: Firm-level data

After analysing the director-level data, we broaden our scope to have a view on the firm-level information, which helps us to have a better understanding of board composition in Australia.

4.2.1 Firm-level board characteristics

Firstly, we want to see the trend of boards' cultural diversity. Therefore, we observe how the percentage of firms with foreign directors vary from year to year. In Table 3, our sample shows that for the period from 2004 to 2018, more and more listed companies tended to assign at least one foreigner as a director, and the ratio of companies with foreign directors almost doubled from 45.03% in 2004 to a peak of 86.06% in 2018.

Panel A of Table 3 provides a more in-depth distribution of the number of foreign directors on each board from 2004 to 2018. The first row shows that the number of companies without foreign directors diminishes over time, in-total 541 firm-year observations. Boards with two foreign directors happen most frequently during this period, and the largest number of foreign directors together on board is.

Next, we consider other vital boards characteristics. Table 4 provides descriptive statistics of the board characteristics. First, we focus on the primary explanatory variable, Cultural Distance. For our sample, the Cultural Distance measure has a mean of 1.5776, a median of 1.3 and a maximum of 6.1142. Companies that have all of its directors with the same nationality have a minimum CD of 0. In addition, Panel B of Table 4 shows the distribution of CD by year. Consistent with observations in Table 3 (numbers of foreigner directors are increasing over time), there is an apparent increasing trend in terms of the board's CD. Our sample shows a mean of 0.56 in 2004 and it increases rapidly four times across the period, achieving a peak of 2.053 in 2018.

As mentioned previously, in the corporate finance literature, it is a common practice to include different aspects such as Board size, Gender, Independence, and Age to describe a board's characteristics. Therefore, they are also included in our study as essential control variables. Like CD, both descriptive statistics and distribution by year for each variable are reported in Table 4. For our

sample, the mean of board size across the period is 4.8152, (it was only 1.652 in 2004) and arrive at the highest level of 6.321 in 2011. After that, the average size of the board remains stable around 6. The overall mean of the number of foreign directors is 1.59, a rise from 0.587 in 2004, and arrives at a peak of 2.127 in 2015. This distribution is combined with the Director-level data in Table 3, because the ratio of companies with a foreign director still increases after 2015, and we know that foreign directors have been more widespread across different companies since 2015.

The board's gender diversity in Australia is relatively weak for the first ten years of our observed period, having only 2.8% of female directors in 2004. This is much lower than the documented average of 11.92% and 5.87% in the US and UK samples respectively in the existing literature for the same period (Anderson et al., 2011; Frijns et al., 2016). However, since the increasing awareness of the gender gap in the boards, the Female director percentage has climbed up to 21.9% in 2018 (50% is considered as perfect gender diversity). The average percentage of independent directors is 62.84%, with an increasing trend from 56.2% in 2004 to 70.5% in 2018. The overall average age is 58.47, raised from 54.4 in 2004 to 60.85. Nevertheless, by looking at the age range, which is calculated by using the oldest director's age minus the youngest director's age, it has increased rapidly by three times since 2004, achieving 17.89 in 2018, which means the age of directors is now far more diversified. We see this as increasing board size significantly contributes to age diversity, since newly appointed directors are likely to have a large difference in age compared with the old directors. More younger directors are now sitting on the boards than before.

Table 3

Foreign directors and nationalities in boards

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Total # of firms	92	123	141	154	166	169	171	168	167	164	162	158	149	144	140	2268
Firms with foreign directors	46	68	80	100	111	123	135	139	135	135	134	133	132	129	127	1727
% of firms with foreign directors	50.0 0%	55.3 %	56.7 %	65.0 %	66.9 %	72.8 %	79.0 %	82.7 %	80.8 %	82.3 %	82.7 %	84.2 %	88.6 %	89.6 %	90.7 %	76.1 %
Panel A. Number of foreign directors on the board																
0	46	55	61	54	55	46	36	29	32	29	28	25	17	15	13	541
1	37	49	49	65	59	56	56	46	48	43	37	40	43	46	39	713
2	8	16	26	24	35	40	46	41	38	41	44	31	41	33	44	508
3	1	3	4	9	15	19	20	25	24	29	27	34	23	23	15	271
4	0	0	1	2	0	6	7	12	13	13	16	9	12	20	18	129
5	0	0	0	0	2	2	6	12	9	8	8	14	10	6	9	86
6	0	0	0	0	0	0	0	2	3	1	1	4	2	0	1	14
7	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0	4
8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2

This table shows the distribution of the number of firms that have foreign directors on the board for the period of 2004-2018. Panel A reports the number of firms that appoints a given number of foreign directors.

Table 4

Firm-level characteristics of boards

Year	CD Board	Board Size	# of foreign directors	Gender (Female)	Board Independence	Director's Age Average	Director's Age Range
Panel A. Summary statistics							
Mean	1.5776	4.843	1.5947	9.92%	68.53%	58.47	14.6
Median	1.3	4	1	0.00%	66.67%	58.50	17
Min	0	1	0	0.00%	7.69%	27.00	0
Max	6.1142	18	8	75.00%	100%	76	54
Sub-sample							
with FDs	2.07	2.86	2.09	9.00%	69.54%	57.47	11.29
without FDs	0	5.46	0	10.36%	67.98%	58.82	19.6
Difference	2.07***	-2.6***	2.09***	-1.36%**	1.56%***	-1.35***	-8.31***
t state	58.40	-24.02	70.19	-2.39	10.67	-3.01	-7.31
Panel B. Average value by year							
2004	0.56	1.70	0.61	0.028	50.09%	55.08	5.380
2005	0.81	2.07	0.73	0.031	50.50%	55.38	7.048
2006	0.97	2.49	0.83	0.036	51.00%	56.12	8.539
2007	1.20	2.95	0.97	0.049	59.72%	57.14	10.941
2008	1.30	3.62	1.11	0.046	62.81%	57.34	14.939
2009	1.42	4.36	1.34	0.052	58.12%	57.94	17.236
2010	1.67	5.18	1.56	0.066	60.20%	58.24	19.573
2011	1.83	6.33	1.96	0.092	59.70%	61.92	32.166
2012	1.74	6.06	1.86	0.109	61.83%	58.66	20.455
2013	1.77	6.07	1.89	0.121	62.74%	59.21	19.817
2014	1.85	5.98	1.99	0.121	64.10%	59.07	19.919
2015	1.93	6.13	2.16	0.14	65.12%	58.91	20.227
2016	1.97	5.99	2.09	0.171	66.14%	59.62	19.959
2017	2.00	5.82	2.08	0.187	68.78%	60.10	19.868
2018	2.05	5.75	2.16	0.219	68.73%	60.61	18.850

Panel A. shows the summaries statistics of firm-level characteristics of boards in our sample. CD Board is our main dependent variable calculated using the formula in Eq(2). The resource and definition for all variables are given in Appendix A. The Row “Sub-sample” reports the mean of firms that with Foreign directors and without, their statistical significance based on their t stat *** p<0.01, ** p<0.05, * p<0.1. Panel B. shows the distribution of the mean for each characteristic yearly, data reported by the end of each financial year.

4.2.2 Firm performance measure

To examine the relationship between CD and firm performance, we use Tobin's Q and Return of Assets (ROA) to measure firm performance, which is a common practice in corporate finance literature (Bonn, 2004; Carter et al., 2010; Darmadi, 2011). In terms of the calculation, we use the Book Value of the total assets to subtract the book value of the equity and then add the market value of the equity. After that, the sum divided by the book value of the total assets will be Tobin's Q. The overall average of Tobin's Q is 1.91, with a lower median of 1.40, ranging from 0.32 to 17.3. We investigate different subsamples regarding with and without foreign directors, and our analysis shows a significant difference between subsamples, in that the mean of companies without FDs (2.22) is higher than those with FDs (1.81). Even though this might indicate that having FDs negatively impacts the firm's performance, we consider the presence of foreign directors is a rough measure of a firm's foreignness. One thing we need to address clearly is that CD is not identical to firm foreignness, which will be addressed in Section 6.4.

4.2.3 Firm characteristics

Panel B of Table 5 reports summary statistics of firm-level characteristics that may have a significant impact on firm's performance (the control variables). We compare the differences in firm characteristics between the two subsamples, which are with and without foreign directors. There is no significant difference in Firm Size, Leverage, Return Volatility nor Sales Growth between the two subsamples. Interestingly, companies with FDs have a significantly higher average firm age and firm complexity than companies without. It indicates that either older companies or companies that involved in more market segments tend to hire more foreign directors.

Table 5

Summary statistics: firm performance and firm characteristics.

					Mean for subsamples			
Variables	Mean	Median	Min	Max	Mean for sub-sample with FDs	Mean for sub-sample without FDs	Difference	t-stat
Panel A Firm performance								
Tobin's Q	1.9106	1.3995	0.3217	17.5	1.81	2.22	-0.41***	4.26
ROA	7.81%	7.63%	-202.77%	138.53%	7.26%	9.58%	-0.0232	2.84
Panel B Firm characteristics								
Firm Size (AUD mil)	2259	1269.84	1.32	151661.2	4153.97	3759.5	394.47	0.77
Leverage	0.2228	0.2146	0	2.8777	0.2266	0.2105	0.0161	1.60
Firm age	46.89	26	0	222	49.69	37.94	11.75***	5.49
Firm complexity	2.75	2	1	9	2.89	2.28	0.61***	8.31
Return Volatility	32.96%	3.21%	0.64%	64.02%	29.19%	44.97%	-15.78%	1.41
Sales Growth	1.47%	8.07%	-5.69%	962.40%	1.47%	1.50%	-0.03%	4.93%

This table shows the summary statistics for firm performance in panel A and firm characteristics in Panel B. On the right side of the table, reports the mean for two sub-samples and their difference with statistical significance based on their t stat *** p<0.01, ** p<0.05, * p<0.1

5. Results

5.1. The cultural diversity of boards and firm performance: main results

We start by estimating Tobin's Q by using two firm fixed-effect regressions on the Cultural Diversity of the board; one is controlling only for firm characteristics, whereas the other one controls for both the characteristics of the Board and firm characteristics. In terms of firm characteristics, we control for Firm Size, Leverage, Firm Age, Firm Complexity, Return Volatility and Sales Growth. In terms of board characteristics, we control for Board size, Gender, Board independence, average director age, and the directors' age range, with regard to board characteristics.

The results after controlling for the firm characteristics can be seen in column (1) of Table 6. CD board, the independent variable that we focus on, has a significantly positive impact on the dependent variable Tobin's Q. The coefficient of 0.0408 at the 5% significant level means that we have 95% confidence that the Tobin's Q will increase by 0.0408 percent for every 1 percent increase of CD board. We then control for other board characteristics; the estimation results are reported in column (2). They show that the CD board is still positive and significant at 5 %, and none of the board level control variables is significant. Therefore, we find evidence suggesting that the potential benefits of having culturally diverse boards outweigh the costs and friction inherent in cultural diversity. To see whether it also has economic significance, our sample shows that Tobin's Q locates at the 75th and 25th percentile

of the CD board and is 2.05 and 1.03 respectively. This suggests that firms with higher CD boards tend to have better performance in terms of Tobin's Q.

To have a robust result, we have an alternative measure for the firm's performance, that is, the Return on Assets (ROA). In column (3) and (4) of Table 6, we can see that CD board is positive to ROA and significant at the 5% level, which is in line with the results for Tobin's Q.

We find that Firm size is positive and significant to Tobin's Q and ROA, which means companies with large size of market capitalization tend to have a higher valuation and a higher return on assets. This is a commonly found correlation in other corporate finance papers. Interestingly, firm age is found to be negatively correlated to Tobin's Q but positively correlated to ROA in our sample, and we conclude it is because older firms will have a valuation that is more approaching their book value but will have a higher return on their assets due to economies of scale.

Table 6.

Dependent versus independent directors.

VARIABLES	Tobin's Q (1)	(2)	ROA (3)	(4)
CD Board	0.0408** (2.108)	0.0437** (2.096)	0.00353** (1.996)	0.00393** (2.058)
Board characteristics				
Board Size		0.00201 (0.131)		-0.00124 (-0.886)
Gender		0.0765 (0.372)		-0.0146 (-0.778)
Board Independence		0.145 (1.545)		-0.0152* (-1.779)
Age Average		-0.0467 (-0.183)		0.00488 (0.210)
Age Range		-0.00290 (-0.0926)		-0.000517 (-0.180)
Firm characteristics				
Firm Size	0.242*** (9.360)	0.241*** (9.269)	0.0382*** (16.02)	0.0381*** (15.94)
Leverage	0.103 (0.649)	0.120 (0.749)	-0.0453*** (-3.119)	-0.0469*** (-3.214)
Firm Age	-0.212** (-2.251)	-0.210** (-2.228)	0.0243*** (2.837)	0.0243*** (2.837)
Firm Complexity	-0.0952* (-1.811)	-0.0952* (-1.807)	-0.00325 (-0.674)	-0.00325 (-0.674)
Return Volatility	-0.00540 (-0.680)	-0.00540 (-0.679)	-0.000453 (-0.623)	-0.000463 (-0.635)
Sales Growth	0.000136 (0.147)	0.000114 (0.123)	3.17e-05 (0.373)	3.19e-05 (0.375)
Constant	-2.116*** (-3.966)	-2.063* (-1.775)	-0.747*** (-15.25)	-0.741*** (-6.967)
Observations	2,258	2,258	2,256	2,256
R-squared	0.107	0.108	0.156	0.158
Number of Company	184	184	184	184
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

This table shows the firm fixed-effect regression results of firm performance measures on board and firm characteristics. CD Board is our primary dependent variable calculated using the formula in Eq (2). The resource and definition for all variables are given in Appendix A. t-statistics are reported in parentheses, *** p<0.01, ** p<0.05, * p<0.1

5.2 Potential endogeneity of cultural diversity in boards

To test the robustness of our result, we address the potential endogeneity of the relationship between CD and firm performance. First, we are aware that potential the endogeneity issue could arise due to variable bias, which is mainly because of some independent variables being omitted when estimating the firm's performance. Therefore, we adapt the firm fixed effect regression model when estimating the firm's performance, which helps to control the firm-specific factors that are potentially being omitted. As discussed above, we estimate firm performance by using the firm fixed effect regression model. Moreover, we run two regressions for each performance measure, firstly estimating

the dependent variables with the control variables that are only for firm characteristics then adding the rest of the control variables for board characteristics in the second regression. The results that are provided in Table 6 show that for both dependent variables, after adding the control variables for board characteristics in the second regression, the coefficients for both CDs remain significantly positive at the same 5% significant level, which provides solid evidence to prove that our results are not driven by the omitted variables bias.

Second, we address the potential simultaneity issue, which can also give rise to the endogeneity problem. We employ an instrumental variable approach to test the potential simultaneity between CD boards and firm performance. Different from having omitted variables, simply adding control variables will not address such endogeneity problem. Additionally, due to the difficulty of finding a strong instrumental variable, the concern of endogeneity is filed in most cases due to simultaneity (Darmadi, 2011). In our case, simultaneity issues exist if the firm's performance is also one of the determinant of CD board. To address this problem, we adopt the instrumental variables approach, which is a common practice that employs instrumental variables which correlate with our independent variable, but have no impact on the dependent variables after controlling for firm fixed-effect and time fixed effect. The instrumental variable approach also helps to address potential errors-in-variables issues.

We construct an instrumental variable similar to the one used in Frijns et al. (2016), a dummy variable that indicates whether the head office of the company is located inside a large metropolitan area. The distribution of cities of each companies' head office is provided in the Appendix B, 46 of 184 companies in our sample choose Sydney as the city of their head office. Followed by 37 in Melbourne and 34 in Perth, there is more than half of our sample choose large metropolitan area. We define a large metropolitan area as a town with a population greater than 0.5 million, since the companies' head offices are highly concentrated in Australia's large cities. The reason for choosing it as our instrumental variable is that we expect the companies that are headquartered in a large metropolitan area will have a significant positive impact on the CD of their boards. The embedded logic is that having greater access to potential foreign directors (since more foreigners live in metropolitan areas), will increase the possibility of them being appointed as directors, which then causes the CD in these companies to

increase. This argument is in line with Anderson et al. (2011), who employ country heterogeneity as an instrumental variable to test for the endogeneity regarding the board heterogeneity. Furthermore, our instrumental variable is also in line with Masulis et al. (2012), who argue that any difficulty reaching the head office's location will affect the number of foreign directors being employed. Rather than using population as a determination, they refer to the geographic distance to a large US airport, arguing that locating within 100km of a large US airport makes it easier to reach, therefore it will be more likely that the company will have more foreign directors.

The results of our instrumental regression estimated by two-stage least squares are shown in Table 7. The regression outcomes in Column (1) is our first-stage regression of CD Board, estimating the CD board using the instrumental variable AU Large metropolitan area, and including all control variables regarding firm characteristics and board characteristics. Surprisingly, the instrumental variables have an unexpected negative correlation with a CD board at the 1% significance level, which suggests that companies located at large metropolitan areas have a significantly less culturally diverse board in our sample. It is contradictory to our expectation of having a significant positive correlation, and to the evidence of Frijns et al. (2016). We think it may be because of two potential reasons: 1. In our sample, the firms headquartered in non-metropolitan areas are in the industries that have a high level of demand for foreign expertise and information. There are 19 firms in our samples that are headquartered in a non-

metropolitan area, and among them, 12 firms are operating in either Mining, Software development or Engineering industries. These industries are considered as highly expertised and tends to have directors with international industrial experience. 2. There are less domestic candidates that can meet the standard of the shareholders' appointment (e.g. a proven track record in a large business, a good reputation and linkage to external institutions and groups), so they are more open to the foreign directors. 3. The instrumental variable is weak; it can be tested by looking at its Cragg-Donald Wald F-statistic.

We can also see board size, gender, age-range, and firm complexity all positively correlates to CD board at a statistically significant level, which is consistent with our findings in descriptive data analysis.

Before continuing to the second stage, we want to declare that the strength of the chosen instrumental variable is not weak. Our standard test result for weak instruments using the Cragg-Donald Wald F-statistic of the variable suggests that our instrumental variable is not weak. The F-statistic of the instrumental variable is 21.729, which is well in excess of the Stock and Yogo (2005) weak ID test critical value of 10% (16.38).

Even though we find that the instrumental variable is negative to CD board, it is shown to be empirically strong from the Cragg-Donald Wald F-statistics, which provides evidence that underpins the first two reasons we provided in the previous paragraph. Therefore, we expect that our instrumental variable is applicable and run the second stage regression for both of our performance measures. Column (2) shows that the correlation coefficient between Tobin's Q and CD board is 0.627, statistically significant at the 5% level, almost achieving 1 %, and a much stronger correlation is shown in comparison to the fixed-effect regression model we have run. This can be explained as the result of using a different regression model. The OLS regression model used here might cause the coefficient of CD board to describe the firm-specific characteristics or timing trend, which could cause its estimated coefficient to be of a much larger magnitude and have a higher significance level. Regarding ROA, given the results of which are in column (3) and (4), our sample shows that CD board is significant and positive to ROA in the sub-sample where ROA is winsorized at 5% of each tail, and insignificant for the other sub-sample at 1%. The coefficient remains positive and also of a larger magnitude.

Table 7

Instrumental variables regressions

	First Stage	Second Stage		
	CD Board	Tobin's Q	ROA (1%)	ROA (5%)
	(1)	(2)	(3)	(4)
Instrumental variables				
AU large town	-0.2912*** (-3.85)			
CD Board		0.627** (2.459)	0.0183 (1.016)	0.0228* (1.654)
Board characteristics				
Board size	0.1096*** (7.39)	-0.158*** (-4.695)	-0.00815*** (-3.419)	-0.00737*** (-4.051)
Gender	0.6359*** (2.86)	-0.812*** (-2.710)	-0.0292 (-1.368)	0.000625 (0.0384)
Board Independence	-0.1271 (-0.1158)	0.595*** (4.209)	0.0377*** (3.771)	0.0377*** (4.943)
Age Average	0.1844 (0.63)	0.28 (0.8)	0.0307 (1.235)	0.0508*** (2.677)
Age Range	0.3237*** (8.59)	-0.167* (-1.788)	-0.00297 (-0.449)	-0.00617 (-1.220)
Firm characteristics				
FirmSize	-0.0297 (-1.53)	0.180*** (7.441)	0.0292*** (17.01)	0.0224*** (17.06)
Leverage	-0.0995 (-0.61)	-1.078*** (-5.590)	-0.0838*** (-6.122)	-0.0569*** (-5.447)
Firm Age	0.0006 (0.84)	-0.00313*** (-3.821)	0.0000242 (0.416)	0.000056 (1.26)
Firm Complexity	0.1634*** (3.46)	-0.557*** (-7.805)	-0.0132*** (-2.615)	-0.0128*** (-3.335)
Return Volatility	-0.004 (-0.36)	0.00969 (0.748)	0.000833 (0.906)	0.00105 (1.495)
Sales Growth	0 (-0.05)	-0.00116 (-0.746)	-0.000123 (-1.117)	-0.000136 (-1.622)
Constant	-0.2798 (-0.22)	-1.623*** (-0.22)	-0.557*** (-0.22)	-0.557*** (-0.22)
Observation	2267	2267	2267	2267
R-squared	0.17	0.11	0.11	0.07
Number of Company	184	184	184	184
Observations	2,258	2,258	2,258	2,258
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

This table shows the results of the instrumental variables regression estimation. Column 1 reports the first-stage result with CD Board as the dependent variable. CD Board is our main dependent variable calculated using the formula in Eq (2). The resource and definition for all variables are given in Appendix A. t-statistics are reported in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Column 2 and 3 report the second stage results for both Tobin's Q and ROA that winsorized at 1 %. Column 4 reports the second stage results for ROA that are winsorized at 5%.

5.3 Further analysis

5.3.1 Alternative measures related to the “Foreignness” of the board

Although we control for endogeneity using firm fixed effect and instrumental variables approaches, the robustness of our finding can still be damaged if the CD board only reflect the "foreignness" characteristics of the board. As described in the literature review, some studies describe the cultural diversity of boards using the "foreignness" measure. Therefore, we also run regressions to estimate the firm's performance using different alternative variables regarding "foreignness".

Following the existing studies (Darmadi, 2011; Ujunwa, Okoyeuzu, & Nwakoby, 2012), we classify all "foreignness" measures into two groups: (1) Board foreignness; (2) Firm foreignness. The Board foreignness includes the measures of the percentage of foreign directors on board, the number of nationalities on the board as a percentage of board size, dummy variables for the presence of foreign independent directors on the board, and the percentage of foreign independent directors. On the other hand, Firm foreignness includes foreign sales as a percentage of total sales, foreign assets as a percentage of total assets, and dummy variables for either an NYSE listing or a Foreign Listing.

We suggest that foreign sales and foreign asset ratios reflect the level of a firm's international market size and the degree of its foreign operation, which contributes to the firm's "foreignness". Before we look at the regression result, we also want to provide a descriptive overview of the "foreignness" of the firms in our sample. On average, the firm's foreign sales constitute 28.32% of their total sales, whereas the firm's foreign assets account for 21.60% of the total assets. Our difference in means t-test suggests that there is no significant difference in both foreign sales % and foreign assets % between those firms with foreign directors and those without. Besides, we observe a very small proportion of NYSE listing in our sample, 1.28%, but 78.77% of the samples are listed in a foreign market. In addition, we find no significant difference in the proportion of foreign listing between the two subsamples regarding the presence of foreign directors. Other descriptive information for board characteristics can be found in the previous Section 4.2.1,

The regression results are listed on three separate tables, the last three rows show that, for each regression, we adapt the firm fixed effect regression model and include the variables for both board's and firm's characteristics as described in section 4.1 and 4.2, therefore they are all filled as YES. In Panel A of Table 8, Column (1.1) to (1.9) shows the regression output estimating Tobin's Q as firm performance. After adding the existing control variables, the CD board is still significant and positive after adding the foreign directors' ratios and the Foreign Independent Director (FID) ratios. On the other hand, the significance of CD board is damaged by the presence of Nationality ratios and the FID dummy, because these two control variables are highly correlated to CD board, and having both variables together with CD board will make them all insignificant. It can be seen from Columns (10) to (18) that except for nationality ratios, the others have the same impacts when estimating ROA compared to Tobin's Q.

We then move on to the "foreignness" of firms, in Panel B of Table 8. It shows that adding foreign sales and assets ratios will not affect the CD board's significance either on Tobin's Q or ROA. Up to this point, all regressions reported in Table 8 (a) and (b) are estimated using the firm-fixed effect and year fixed effect regression models, but only a very few companies in Australia are listed in NYSE (4 of 184). Therefore, the NYSE listing dummy variable will be omitted using such regression models. Instead, we perform an OLS regression model to see whether being listed in a foreign market will affect the firm's performance. In Panel C of Table 8, our sample shows that firms listed on a foreign stock market will have a higher valuation and ROA, whereas being listed on NYSE does not have a significant impact on both performance measures. After controlling for these two variables, the CD board remains positive and significant at the 10% level.

In summary, we have strong evidence proving that the CD board is not simply a proxy for measuring the "foreignness" of the board or the firm. It also captures the positive impact of the cultural diversity of the board on the firm's performance, which cannot be shown by the alternative measures of "foreignness".

Table 8 (a)

Measures of the “foreignness” of the board

	Tobin's Q								ROA									
VARIABLES	(1.1)	(1.2)	(1.3)	(1.4)	(1.5)	(1.5)	(1.7)	(1.8)	(1.9)	(2.1)	(2.2)	(2.3)	(2.4)	(2.5)	(2.6)	(2.7)	(2.8)	(2.8)
Panel A. "Foreignness" of board																		
CD Board	0.0437**		0.0393*		0.0374		0.0346		0.0393*	0.00381*		0.00403*		0.00503**		0.00325		0.00403*
	(2.096)		(1.744)		(1.537)		(1.496)		(1.744)	(2.000)		(1.951)		(2.259)		(1.532)		(1.951)
Foreign Directors Ratios		0.144	0.0617								0.00534	0.00307						
		(1.264)	(0.502)								(0.513)	(-0.273)						
Nationality Ratio				0.224	0.0874								0.00166	-0.0168				
				(1.510)	(0.505)								(0.122)	(-1.059)				
FID dummy						0.122*	0.0708								0.00926	0.00442		
						(1.718)	(0.896)								(1.422)	(0.611)		
FID ratio								0.144	0.0617								0.00534	-
								(1.264)	(0.502)								(0.513)	(-0.273)
Constant	0.344	-0.0350	0.308	-0.185	0.232	0.0633	0.325	-0.0350	0.308	-0.643*	-0.676*	-0.641*	-0.678*	-0.622*	-0.668*	-0.644*	-0.676*	-0.641*
	(0.088)	(-0.009)	(0.079)	(-0.048)	(0.060)	(0.016)	(0.083)	(-0.0090)	(0.079)	(-1.804)	(-1.898)	(-1.798)	(-1.901)	(-1.741)	(-1.876)	(-1.807)	(-1.898)	(-1.798)
Observations	2,267	2,267	2,267	2,267	2,267	2,267	2,267	2,267	2,267	2,265	2,265	2,265	2,265	2,265	2,265	2,265	2,265	2,265
R-squared	0.105	0.104	0.105	0.104	0.105	0.105	0.106	0.104	0.105	0.154	0.153	0.154	0.153	0.155	0.154	0.154	0.153	0.154
Number of Company ID	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184	184
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

This table shows the firm fixed-effect regression results of firm performance measures on different characteristics regarding “foreignness”. CD Board is our main dependent variable calculated using the formula in Eq (2). The resource and definition for all variables are given in Appendix A. t-statistics are reported in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Both Tobin’s Q and ROA are winsorized at 1 %

Table 8 (b)

Measures of the “foreignness” of the firm regarding the operation

VARIABLES	Tobin's Q					ROA				
	(1.1)	(1.2)	(1.3)	(1.4)	(1.5)	(2.1)	(2.2)	(2.3)	(2.4)	(2.5)
CDBoard	0.0437** (2.096)		0.0437** (2.100)		0.0407* (1.956)	0.00381** (2.000)		0.00381** (2.000)		0.00371* (1.942)
Foreign Sales		-0.00237** (-2.483)	-0.00237** (-2.486)				0.000199** (2.278)	0.000199** (2.279)		
Foreign Assets				-0.00396*** (-3.082)	-0.00386*** (-3.008)				-0.000210* (-1.779)	-0.000201* (-1.705)
Constant	0.344 (0.0883)	-0.200 (-0.0514)	0.186 (0.0478)	0.00478 (0.00123)	0.362 (0.0933)	-0.643* (-1.804)	-0.663* (-1.863)	-0.630* (-1.768)	-0.672* (-1.887)	-0.640* (-1.795)
Observations	2,267	2,267	2,267	2,266	2,266	2,265	2,265	2,265	2,264	2,264
R-squared	0.105	0.106	0.108	0.107	0.109	0.154	0.155	0.156	0.154	0.156
Number of CompanyID	184	184	184	184	184	184	184	184	184	184
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

This table shows the firm fixed-effect regression results of firm performance measures on different characteristics regarding “foreignness”. CD Board is our main dependent variable calculated using the formula in Eq (2). The resource and definition for all variables are given in Appendix A. t-statistics are reported in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Both Tobin's Q and ROA are winsorized at 1%

Table 8 (c)

Measures of the “foreignness” of the firm regarding listing

VARIABLES	Tobin's Q				ROA			
	(1)	(1.1)	(1.2)	(1.3)	(1.4)	(1.5)	(1.6)	(1.6)
CD Board		0.0398** (1.961)		0.0397* (1.954)		0.00340* (1.867)		0.00336* (1.848)
NYSEListed	1.126 (1.399)	1.126 (1.395)			-0.00453 (-0.0741)	-0.00449 (-0.0732)		
ForeignListed			0.522*** (2.627)	0.520*** (2.611)			0.0117 (0.773)	0.0116 (0.762)
Constant	-1.506 (-1.337)	-1.499 (-1.332)	-2.045* (-1.790)	-2.035* (-1.782)	-0.644*** (-6.367)	-0.643*** (-6.364)	-0.658*** (-6.427)	-0.657*** (-6.420)
Observations	2,267	2,267	2,265	2,265	2,265	2,265	2,263	2,263
Number of CompanyID	184	184	184	184	184	184	184	184
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

This table shows the firm fixed-effect regression results of firm performance measures on different characteristics regarding “foreignness”. CD Board is our main dependent variable calculated using the formula in Eq (2). The resource and definition for all variables are given in Appendix A. t-statistics are reported in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Both Tobin's Q and ROA are winsorized at 1%.

5.3.2 Cultural diversity and firm operations

We have seen that it is strongly significant for foreign sales ratios and foreign assets ratios to have a negative impact on both performance measures in Section 6.3.1. This encourages us to further divide the sample based on the firm's operation categories. Besides foreign operation, in the study of Frijns et al. (2016), firm complexity is also found to be highly correlated to the firm's performance, and it mitigates the potential cost of the cultural diversity of the board. Therefore, we run several regressions on multiple samples based on different operational categories.

We first split our sample into two by the median point of the Firm Complexity variable, which is measured by the number of segments of the firm described in Section 4. Then we split the sample by the median point of foreign operational variables. The actual values of the median are 2 for Firm Complexity, 9.61% for foreign sales and 6.59% for foreign assets. Dividing the total sample by the median can utilize all the data, which will mostly describe our sample's characteristics. In table 9 (a), we can observe in Panel A that CD board is positive to Tobin's Q at the 1% significant level with firms that have a higher level of firm's complexity, and insignificant with firms that only operate in a single segment. ROA does not show any significant relationship in both subsamples. Interestingly, looking down to panel B our subsamples show that CD board is positively correlated to Tobin's Q at the 5% significance level with firms that have less foreign sales. However, in contrast, the CD board is significant and positively correlated to ROA with firms that have more foreign sales. We conclude that this is because having a higher level of foreign operation will require more foreign director's local knowledge and monitoring to boost the return on foreign assets, but in terms of valuation, having a higher level of cultural diversity will have a positive impact on firm's valuation, subject only to firms with a low level of foreign operation. Furthermore, when we look at the regression output for the subsamples divided by the level of foreign assets in Table 9 (b), we cannot find any significant correlation between CD board and Tobin's Q either by using the median point or splitting using the 25/75 percentile of foreign assets. However, with firms having a high level of foreign assets ratios, there is a significant and positive correlation between CD board and ROA. So we then can emphasize our conclusion that having more foreign directors on the board will benefit the firm's return on assets when

they have a high level of foreign operations. However, whether this will benefit the firm's valuation might remain questionable.

Table 9 (a)

Cultural diversity, firm performance, and firm's operations.

	Tobin's Q		ROA	
Panel A. Firm's complexity				
VARIABLES	Segments>=2	Segments<2	Segments>=2	Segments<2
CD Board	0.0612*** (3.313)	0.0152 (0.300)	0.00170 (0.926)	0.00678 (1.583)
Constant	-3.822*** (-2.844)	1.710 (0.805)	-0.726*** (-5.433)	-0.484*** (-2.690)
Observations	1,360	898	1,361	895
R-squared	0.200	0.122	0.194	0.127
Number of Company ID	146	125	146	125
Control variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Panel B. Foreign Sales				
VARIABLES	(Foreign Sales>=9.61%)	(Foreign Sales<9.61%)	(Foreign Sales>=9.61%)	(Foreign Sales<9.61%)
CD Board	-0.00371 (-0.132)	0.0669** (2.224)	0.00688*** (2.665)	-0.00254 (-0.913)
Constant	-3.286** (-2.204)	2.603 (1.236)	-0.664*** (-4.853)	-0.616*** (-3.152)
Observations	1,134	1,124	1,134	1,122
R-squared	0.148	0.152	0.144	0.183
Number of Company	122	133	122	133
Control variables	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

This table shows the result of firm fixed-effect regression measures on firm's complexity in Panel A and foreign sales in Panel B. CD Board is our main dependent variable calculated using the formula in Eq (2). The resource and definition for all variables are given in Appendix A. t-statistics are reported in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Both Tobin's Q and ROA are winsorized at 1 %.

Table 9 (b)

Cultural diversity, firm performance, and firm's operations

	Tobin's Q				ROA	
VARIABLES	(Foreign Assets>=6.59%)	(Foreign Assets<6.59%)	(Foreign Assets>=37.28%)	(Foreign Assets=0)	(Foreign Assets>=6.59%)	(Foreign Assets<6.59%)
Panel C. Foreign Assets						
CD Board	-0.0114 (-0.411)	0.0297 (1.006)	-0.0258 (-0.456)	0.0336 (0.89)	0.00547** (2.245)	-0.000113 (-0.0387)
Constant	-1.117 (-0.804)	-0.340 (-0.155)	-5.466* (-1.762)	-0.5173 (-0.19)	-0.642*** (-5.236)	-0.516** (-2.375)
Observations	1,135	1,123	568	815	1,135	1,121
R-squared	0.160	0.121	0.240	0.127	0.133	0.149
Number of Company	125	141	83	108	125	141
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

This table shows the result of firm fixed-effect regression measures on foreign assets in Panel C. CD Board is our main dependent variable calculated using the formula in Eq (2). The resource and definition for all variables are given in Appendix A. t-statistics are reported in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Both Tobin's Q and ROA are winsorized at 1 %.

5.4 Alternative culture frameworks

To further test for the robustness of our regression results, we also want to investigate other cultural frameworks.

We found three most relevant cultural frameworks that apply to our study following the study conducted by Frijns et al., (2016). The first one we employ is the cultural framework that was developed by Tang & Koveos in 2008, who indicate that individualism, power distance, and long-term orientation have a significant curvilinear correlation with GDP per capita. This new framework is an updated version of Hofstede's cultural dimensions, which controls a non-cultural factor, GDP per capita (Tang & Koveos, 2008). The second one we use is the cultural scores of the GLOBE project, which represents the Global Leadership and Organizational Behavior Effectiveness Research program. It is programmatic research by House, Hanges, Javidan, Dorfman, & Gupta (2004) using extensive quantitative and qualitative studies of 62 cultures (House et al., 2004). The last one we use is the cultural scores of Schwartz (2006), which quantifies the characterization of cultures from three cultural value dimensions (Schwartz, 2006)

These three different cultural frameworks are represented because Tang describes culture with the same dimensions as Hofstede. The GLOBE uses different methodologies since it is serving a different purpose, but the dimensions are relatively comparable to Hofstede. Lastly, Schwartz presents a theory of seven cultural value orientations that from three different cultural dimensions in compare with Hofstede. We recalculate the CD board for each of them using the same formula as in Eq (2). On top of that, we run our empirical analyses on both the full sample and a sub-sample that only includes firms with foreign directors. The number of observations is reduced because the cultural scores are only available for a subset of countries that are included in our sample.

In Table 10, we first report the regression output of estimating Tobin's Q in Panel A. Our samples show that the CD board is positively correlated to Tobin's Q for the sub-sample following Tang's cultural framework. It is also shown that the CD board is significant and positive for both the total sample and the sub-sample following Schwartz's cultural framework. The regression output from

using the CD board of the GLOBE project does not show any significant correlation. In panel B, neither of these three frameworks shows a significant correlation with ROA.

In general, the results of these alternative frameworks support our finding at some level, but are not considered perfectly convincing, and they can be caused by having fewer observations in the regression due to cultural scores being unavailable.

Table 10.

Alternative culture frameworks

VARIABLES	Tang & Koveos		GLOBE		Schwartz	
	All firms	Firms with FDs	All firms	Firms with FDs	All firms	Firms with FDs
Panel A: Tobin's Q						
Tangs CD	0.0704 (1.618)	0.0838* (1.710)				
Globe CD			0.0001809 0.01	-0.0188617 -0.74		
Schwartzs CD					0.00725** (2.184)	0.00616* (1.866)
Constant	-0.788 (-0.680)	0.0437 (0.0317)	-2.696* (-1.838)	-0.680 (-0.410)	-3.037** (-2.088)	-1.298 (-0.794)
R-squared	0.108	0.109	0.105	0.102	0.108	0.107
Panel B: ROA						
Tangs CD	0.00426 (1.076)	0.00107 (0.238)				
Globe CD			0.000858 (0.47)	-0.0017269 (-0.76)		
Schwartzs CD					0.0003863 (1.32)	0.0002326 (0.79)
Constant	-0.740*** (-6.973)	-0.516*** (-4.101)	-0.552*** (-4.305)		-3.959*** (-2.775)	-3.037** (-2.088)
R-squared	0.164	0.179	0.164		0.113	0.108
Observations	2,237	1,705	1,790	1,444	1,810	1,466
Number of Company	182	177	164	159	164	159
Control variables	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

This table shows the result of firm fixed-effect regression measures on the CD Board calculated following different cultural frameworks. CD Board is our main dependent variable calculated using the formula in Eq (2). The resource and definition for all variables are given in Appendix A. t-statistics are reported in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Both Tobin's Q and ROA are winsorized at 1 %.

5.5 Individual culture dimensions

Shenkar, (2010) argues that not all aspects of cultural differences within society will have equal impacts regarding bringing synergy or disruption. There is also strong evidence supporting the idea that cultural differences in respect to the Masculinity dimension will cause a difference in perceiving assertive behaviour, competition, material success and interpersonal relationships, which seem to be the principal source of relationship conflict on boards (Frijns et al., 2016). Therefore, we examine each dimension of the Hofstede cultural framework, in order to discover whether specific cultural traits are more effective than others. We recalculate six different cultural diversity measures for each dimension using equation (4) and use them to estimate the impact of CD on the firm performance separately.

Our regression results are reported in two panels in Table 11, estimating the different measures of firm performance separately on both total sample and sub-sample. In Panel A of Table 11, we observe that cultural diversity measured by the single dimensions of masculinity, uncertainty avoidance and long-term orientation have a significant positive impact on Tobin's Q in both the total sample and the sub-sample of firms with FDs. However, our result shows an insignificant impact of the Individualism power distance and indulgence. In Panel B of Table 11, CD based on masculinity also shows significant and positive for individualism and insignificant for indulgence in both samples. However, long-term orientation and power distance turn to significantly negative with ROA. We will now discuss the potential reasons in the paragraphs below.

The Masculinity dimension is defined as "a preference in society for achievement, heroism, assertiveness and material rewards for success" (Geert & Jan, 1991), with the counterpart of femininity representing "a preference for cooperation, modesty, caring for the weak and quality of life" (Geert & Jan, 1991). We explain here that in boards with higher cultural diversity measures in the masculinity dimension, the decisions made in the boardroom will be neither overly assertive nor lack of the expression of opinions. We expect that these boards will have a better balance between cooperation and execution. Therefore, we suggest that a higher level of diversity in the Masculinity dimension will reduce relationship conflict between directors, which will improve the efficiency and quality of decision-making.

Uncertainty avoidance is defined as "a society's intolerance for ambiguity" (Geert & Jan, 1991). It can be described as people's aversion to embrace or avert an event or something unexpected or remaining unknown. We explain here that boards with a high cultural diversity score in this dimension will be more likely to position themselves as having a moderate risk appetite. To avoid the situation of those with low cultural diversity measures in respect to dimension, who might be able to bear more or less risk since the risk appetite of the board is either risk seeking or risk averse in consensus. Therefore, our regression results suggest that a more diverse view on risk appetite in the boardroom will be beneficial to the firm's performance.

The Long-term orientation dimension is defined as "the connection of the past with the current and future actions/challenges." (Hofstede, 2011). We explain here that boards with a high cultural diversity score in this dimension are more likely to be able to be adaptive to the dynamic environment and to be pragmatic problem solvers while respecting traditions and corporate culture. Therefore, our samples show that boards with a higher score in cultural diversity in this dimension will find a better balance between being sustainable and adaptive to future challenges and valuing traditions at the same time. We expect that it will be beneficial to the firm's valuation since they will have a more sustainable social image, which will build up the confidence of shareholders. However, it might damage the return on assets as a trade-off for changing strategies or even industrial transformation.

Overall, among the Hofstede 6-dimension cultural framework, we expect that having a higher level of diversity in masculinity, uncertainty avoidance, and long-term orientation will bring more synergy than the other dimensions in the model. We also find some evidence that a high level of power distance may be disruptive to the return on assets, which could be caused by inefficiency in execution. Overall, we expect individualism and indulgence to have an insignificant impact on the firm's performance.

Table 11.

Individual culture dimensions

VARIABLES	All firms					Firms with FDs						
	(IDV)	(MAS)	(PDI)	(UAI)	(LNT)	(IDG)	(IDV)	(MAS)	(PDI)	(UAI)	(LNT)	(LDG)
Panel A: Tobin's Q												
Individualism	0.0277 (0.892)						0.0442 (1.186)					
Masculinity		0.188** (1.985)						0.336*** (3.184)				
Power Distance			0.0363 (0.787)						0.0702 (1.178)			
Uncertainty avoidance				0.176*** (2.888)						0.247*** (2.983)		
Long-term orientation					0.0937** (2.464)						0.0937** (2.46)	
Indulgence						0.0820 (1.579)						0.082 (1.58)
Constant	0.108 (0.0277)	0.168 (0.0432)	0.0719 (0.0185)	0.395 (0.102)	0.425 (0.109)	0.170 (0.0436)	5.605 (1.375)	6.075 (1.497)	5.511 (1.352)	5.471 (1.349)	5.471 (1.349)	5.472 (1.349)
Observations	2,267	2,267	2,267	2,267	2,267	2,267	1,014	1,014	1,014	1,014	1,014	1,015
R-squared	0.104	0.105	0.104	0.107	0.106	0.104	0.133	0.142	0.133	0.141	0.141	0.142
Number of CompanyID	184	184	184	184	184	184	150	150	150	150	150	151
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: ROA												
Individualism	0.00203 (0.715)						-0.00399 (-1.084)					
Masculinity		0.0278*** (3.214)						0.0295*** (2.826)				
Power Distance			0.000383 (0.0910)						-0.0144** (-2.447)			
Uncertainty avoidance				0.0154*** (2.751)						0.00739 (0.900)		
Long-term orientation					0.00548 (1.573)						-0.0142** (-2.312)	
Indulgence						0.00385 (0.810)						-0.00911 (-1.405)
Constant	-0.666* (-1.866)	-0.645* (-1.815)	-0.675* (-1.894)	-0.638* (-1.793)	-0.649* (-1.821)	-0.667* (-1.870)	-0.875** (-2.162)	-0.819** (-2.030)	-0.862** (-2.138)	-0.871** (-2.152)	-0.878** (-2.175)	-0.869** (-2.149)
Observations	2,265	2,265	2,265	2,265	2,265	2,265	1,011	1,011	1,011	1,011	1,011	1,011
R-squared	0.153	0.157	0.153	0.156	0.154	0.153	0.192	0.198	0.196	0.191	0.196	0.192
Number of CompanyID	184	184	184	184	184	184	150	150	150	150	150	150
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

This table shows the result of firm fixed-effect regression measures on the CD Board calculated with respect to each dimension of Hofstede's cultural framework. CD Board is our main dependent variable calculated using the formula in Eq (2). The resource and definition for all variables are given in Appendix A. t-statistics are reported in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Both Tobin's Q and ROA are winsorized at 1 %.

6. Conclusion

This study empirically examines the impact of cultural diversity in corporate boards on the firm's performance. Our results suggest that the cultural diversity of directors has positive impacts on firm performance. We conclude that a more culturally diverse board will provide resources that are more valuable to the firm, and that the benefit it brings outweighs the cost from potential relationship conflict due to cultural difference. This is because this diversity generates better firm performance. Our findings hold after controlling for time-invariant and firm-specific factors, and after implementing an instrumental variables approach. Furthermore, our results are further robust to different measures of "foreignness" regarding both firm and board, as well as to the use of alternative culture frameworks. Consequently, Hypothesis 1 is supported by our findings.

We also find that the cultural diversity of directors provides more valuable resources to the firms with a higher level of firm complexity, which underpins Hypothesis 2 in our study. For firms that are present to a large extent in foreign markets, our results provide evidence that having more foreign directors on board will benefit the firm's return on assets, but whether it will benefit the firm's valuation might still remain questionable. Hence, Hypothesis 3 cannot be justified and we think it is worth conducting further research on this dimension. Finally, based on the Hofstede's 6-dimensions cultural framework, we find that different aspects of cultural differences have a different impact on the firm's performance, and it is predominately the diversity in masculinity, uncertainty avoidance, and long-term orientation dimensions that have an impact on firm performance. This finding supports Hypothesis 4 and is in line with the findings of the existing study of Frijin et al. (2016).

In the corporate finance literature, an increasing number of studies have investigated cultural diversity surrounded by the mist. Our study sheds some light on the novel metric introduced recently by Frijin et al. (2016) and highlights the significant explanatory power of this sophisticated

measure. We contribute to promoting this measure by finding that cultural diversity in boards is economically significant with evidence from Australia.

Our results emphasize the positive effects of cultural diversity on a firm's performance, and show that the foreign directors' expertise and unique information to the firm's demand make cultural diversity a valuable resource for firms. However, unlocking the potential of cultural diversity might also require dealing with its disruptive, negative consequences and may require initiatives that improve communication and promote group integration on boards (see, e.g., Nederveen Pieterse et al., 2013, or for a practitioner's perspective, see Manzoni et al., 2010). From the perspective of implication, our results provide an insight into cultural diversity's benefit to corporate governance and highlight the positive impact of cultural diversity on the board. Our findings are in line with the proposals of regulations on corporate governance by governments across the world since we emphasize that cultural diversity is a vital factor of the board's composition.

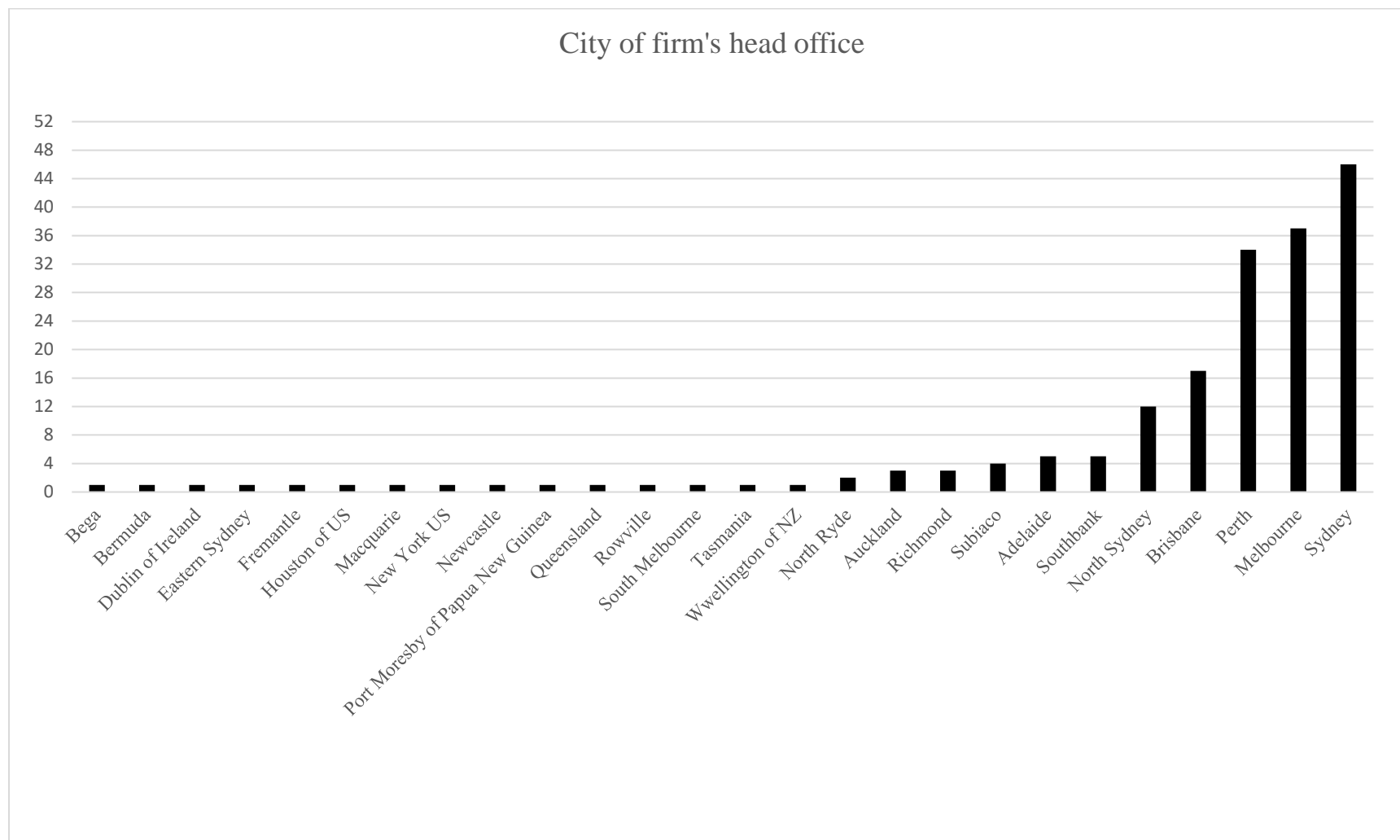
Future research should investigate more in-depth on how cultural diversity has different effects on the market-based performance measure Tobin's Q and the accounting-based performance measure ROA in terms of magnitude and that reasoning that underpins them. This research should use a mixture of qualitative and quantitative methods that involve primary data to collect the shareholders' perception of cultural diversity. This approach would complement the quantitative and correlational approach taken in our study.

Appendix A

Variable definitions and data sources

Variable	Source	Definition
Panel A: Cultural diversity		
CD Board	Calculated based on the data from Eikon	Based on the cultural scores quantified by Hostede in 6 dimensions, respectively calculate the difference between every two directors, sum up and standardised by overall variance.
Panel B: Firm performance		
Tobin's Q	Calculated based on the data from DataStream	A ratio measure of the Market value of total assets over book value of total asset. The market value of the total asset is calculated as: Book value of asset - Book value of equity + Market value of equity
ROA	Calculated based on the data from DataStream	Return on Asset: Measured using the end of fiscal year value of Operating income / Book value of total asset, winsorized at 1 percent at both sides of the distribution.
Panel C: Firm characteristics		
Firm size	DataStream	Market capitalisation in NZD at the end of each financial year, standardized using the natural log transformation
Leverage	Calculated based on the data from DataStream	Using the end of the financial year's value of total debt divided by the total liabilities
Firm age	DataStream	Number of financial years since the company established, standardized using the natural log transformation
Firm complexity	DataStream	The number of the business segment the company is operating in
Return volatility	Calculated based on the data from DataStream	The standard deviation of daily stock returns during the financial year (in %)
Sales growth	Calculated based on data from DataStream	The annual growth rate of the firm's total sales (in %)
Panel D: Board characteristics		
Board size	Annual reports	The number of directors on the board by financial year; standardized using the natural log
Gender (female)	Eikon	The percentage of male directors over board size (in %).
Board independence	Eikon	The proportion of independent directors (in %)
Director age	Eikon	The average age of all directors; standardized using the natural log transformation
Directors' age range	Eikon	The age difference (in years) between the oldest and youngest directors on the board; standardized using natural log transformation
Panel E: Measures of "foreignness"		
Foreign directors ratio	Calculated	The proportion of directors that have a foreign nationality on the size of the board
Nationalities ratio	Calculated	The number of different nationalities represented on the board divided by the total number of directors.
FID dummy	Calculated	An indicator variable that equals one if the firm has at least one foreign independent director on the board, and zero otherwise.
FID ratio	Calculated	The number of foreign independent directors on the board divided by the total number of directors.
Foreign sales	DataStream	A firm's foreign sales as a percentage of total sales.
Foreign assets	DataStream	A firm's foreign assets as a percentage of total assets.
NYSE listing	DataStream	An indicator variable that equals one if a firm is listed on the New York Stock Exchange (NYSE), and zeroes otherwise.
Foreign listing	DataStream	An indicator variable that equals one if a firm is listed on a stock exchange outside of the UK, and zeroes otherwise.

Appendix B



Appendix C

Cultural scores of nationality

	Power Distance	Individualism	Masculinity	Uncertainty avoidance	Long term orientation	Indulgence
Argentina	49	46	56	86	20	62
Australia	38	90	61	51	21	71
Austria	11	55	79	70	60	63
Belgium	65	75	54	94	82	57
Bermuda	65	30	65	45	13	54
Brazil	69	38	49	76	44	59
Canada	39	80	52	48	36	68
China	80	20	66	30	87	24
China (Taiwan)	58	17	45	69	93	49
Colombia	67	13	64	80	13	83
Czech Republic	57	58	57	74	70	29
Denmark	18	74	16	23	35	70
Dominican Republic	65	30	65	45	13	54
Finland	33	63	26	59	38	57
France	68	71	43	86	63	48
Germany	35	67	66	65	83	40
Hong Kong	68	25	57	29	61	17
India	77	48	56	40	51	26
Indonesia	78	14	46	48	62	38
Ireland	28	70	68	35	24	65
Italy	50	76	70	75	61	30
Jamaica	65	30	65	45	13	54
Japan	54	46	95	92	88	42
Korea	60	18	39	85	100	29
Malaysia	100	26	50	36	41	57
Mexico	81	30	69	82	24	97
New Zealand	22	79	58	49	33	75
Pakistani	55	14	50	70	50	0
Philippines	94	32	64	44	27	42
Poland	68	60	64	93	38	29
Romania	90	30	42	90	52	20
Russia	93	39	36	95	81	20
Singapore	74	20	48	8	72	46
South Africa	49	65	63	49	34	63
Spain	57	51	42	86	48	44
Sweden	31	71	5	29	53	78
Switzerland	34	68	70	58	74	66
Thailand	64	20	34	64	32	45
Trinidad and Tobago	47	16	58	55	13	80
Turkey	66	37	45	85	46	49
Ukraine	92	25	27	95	86	14
United Kingdom	35	89	66	35	51	69
United States	40	91	62	46	26	68
Zimbabwean	49	65	63	49	34	63

Reference:

- Abdullah, S. N., Ismail, K., & Izah, K. N. (2017). Gender, ethnic and age diversity of the boards of large Malaysian firms and performance. Abdullah, SN, & Ismail, KNIK (2013). Gender, Ethnic and Age Diversity of the Boards of Large Malaysian Firms and Performance. *Jurnal Pengurusan*, 38, 27-40.
- Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of financial economics*, 94(2), 291-309.
- Anderson, R. C., Reeb, D. M., Upadhyay, A., & Zhao, W. (2011). The economics of director heterogeneity. *Financial Management*, 40(1), 5-38.
- Becker, G. (1964). *human capital*, NY. GS Becker.
- Bonn, I. (2004). Board structure and firm performance: Evidence from Australia. *Journal of Management & Organization*, 10(1), 14-24.
- Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review*, 18(5), 396-414.
- Craswell, A. T., Taylor, S. L., & Saywell, R. A. (1997). Ownership structure and corporate performance: Australian evidence. *Pacific-Basin Finance Journal*, 5(3), 301-323.
- Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. (1999). Number of directors and financial performance: A meta-analysis. *Academy of Management journal*, 42(6), 674-686.
- Darmadi, S. (2011). Board diversity and firm performance: The Indonesian evidence. *Corporate ownership and control Journal*, 8.
- De Wit, F. R., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: a meta-analysis. *Journal of applied psychology*, 97(2), 360.
- Frijns, B., Dodd, O., & Cimerova, H. (2016). The impact of cultural diversity in corporate boards on firm performance. *Journal of Corporate Finance*, 41, 521-541.
- Geert, H., & Jan, H. G. (1991). *Cultures and organizations: Software of the mind*. McGrawHill USA.
- Giannetti, M., & Zhao, M. (2016). Board Ancestral Diversity and Firm Performance Volatility. *European Corporate Governance Institute (ECGI)-Finance Working Paper*, (462), 16-01.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review*, 9(2), 193-206.
- Higgs, D. (2003). Review of the role and effectiveness of non-executive directors.
- Hillman, A. J., Cannella Jr, A. A., & Harris, I. C. (2002). Women and racial minorities in the boardroom: How do directors differ? *Journal of management*, 28(6), 747-763.
- Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2012). *Strategic management cases: competitiveness and globalization*: Cengage Learning.
- Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online readings in psychology and culture*, 2(1), 8.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage publications.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*: Sage publications.
- Jehn, K. A., & Mannix, E. A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management journal*, 44(2), 238-251.
- Joecks, J., Pull, K., & Vetter, K. (2013). Gender diversity in the boardroom and firm performance: What exactly constitutes a "critical mass"? *Journal of business ethics*, 118(1), 61-72.
- Kiel, G. C., & Nicholson, G. J. (2003). Board composition and corporate performance: How the Australian experience informs contrasting theories of corporate governance. *Corporate Governance: An International Review*, 11(3), 189-205.
- Lim, J., Makhija, A. K., & Shenkar, O. (2016). The asymmetric relationship between national cultural distance and target premiums in cross-border M&A. *Journal of Corporate Finance*, 41, 542-571.
- Mallin, C. A. (2007). *Corporate governance*: Oxford University Press, USA.

- Milliken, F. J., & Martins, L. L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of management review*, 21(2), 402-433.
- Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*: Stanford University Press.
- Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review*, 15(2), 404-413.
- Schwartz, S. (2006). A theory of cultural value orientations: Explication and applications. *Comparative sociology*, 5(2-3), 137-182.
- Shenkar, O. (2001). Cultural distance revisited: Towards a more rigorous conceptualization and measurement of cultural differences. *Journal of International Business Studies*, 32(3), 519-535.
- Stulz, R. M., & Williamson, R. (2003). Culture, openness, and finance. *Journal of financial economics*, 70(3), 313-349.
- Talavera, O., Yin, S., & Zhang, M. (2018). Age diversity, directors' personal values, and bank performance. *International Review of Financial Analysis*, 55, 60-79.
- Tang, L., & Koveos, P. E. (2008). A framework to update Hofstede's cultural value indices: economic dynamics and institutional stability. *Journal of International Business Studies*, 39(6), 1045-1063.
- Ujunwa, A., Okoyeuzu, C., & Nwakoby, I. (2012). Corporate board diversity and firm performance: Evidence from Nigeria. *Revista de Management Comparat International*, 13(4), 605.