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ORIGINAL PAPER

Comprehensive Board Diversity and Quality of Corporate Social Responsibility Disclosure: Evidence from an Emerging Market

Nooraisah Katmon[1,2] · Zam Zuriyati Mohamad[3] · Norlia Mat Norwani[2] · Omar Al Farooque[4]

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Abstract This study empirically examines the relationship between wide-ranging board diversity and the quality of corporate social responsibility (CSR) disclosure variables in Malaysia. We extend prior literature covering broader dimensions of board diversity (e.g., gender, education level, education background, age, tenure, nationality and ethnicity) and their impact on CSR after controlling for board and audit committee characteristics. Using 200 listed firms in Bursa Malaysia during 2009–2013 and applying both OLS and 2SLS instrumental variables (IV) approaches, we document significant positive effect of board education level and board tenure diversity on the quality of CSR disclosure. Further analysis using robust regression also shows positive association between gender diversity and CSR disclosure. Our findings also demonstrate that the quality of CSR disclosure is significantly negatively associated with board age and nationality diversity. These results remain consistent with using alternative measures for board diversity, and characteristics for board of director and audit committees as well as split samples between large and small firms. Additional tests exhibit complementary relationship of education level and nationality with gender, while substitutive relationship of age and tenure with gender in influencing CSR. These findings provide useful insights into the policy makers in setting regulations in respect of board diversity in Malaysia and other emerging economies in the Asian region. Our evidence is also useful for listed companies in setting the criteria to identify directors who can support their strategic decisions.

Keywords Comprehensive board diversity · Corporate social responsibility disclosure · Agency theory · Resource dependency theory · Endogeneity

✉ Omar Al Farooque
ofarooqu@une.edu.au

Nooraisah Katmon
nooraisah@fpe.upsi.edu.my

Zam Zuriyati Mohamad
zzyatie@yahoo.com

Norlia Mat Norwani
norlia@fpe.upsi.edu.my

[1] Kuliyyah of Economics and Management Sciences, International Islamic University Malaysia, Jalan Gombak, 53100 Kuala Lumpur, Malaysia

[2] Faculty of Management and Economics, Sultan Idris Education University, 35900 Tanjung Malim, Perak, Malaysia

[3] Faculty of Business and Finance, Universiti Tunku Abdul Rahman, 31900 Kampar, Perak, Malaysia

[4] UNE Business School, University of New England, Armidale, NSW 2351, Australia

Introduction and Overview

We empirically examine the relationship between board diversity and the quality of corporate social responsibility (CSR) disclosure in the annual reports of listed firms in Malaysia. CSR is defined as "a discretionary allocation of corporate resources toward improving social welfare that serves as a means of enhancing relationships with key stakeholders" (Barnett 2007, p. 801). In Malaysia, with effect from December 31, 2007, Malaysian public listed companies are required to include *"A description of the corporate social responsibility activities or practices undertaken by the listed issuer and its subsidiaries or if there are none, a statement to that effect"* as stated in the

Listing Requirements of Bursa Malaysia ("Appendix 9C," Part A, paragraph 9.25 and 9.41, item 29). This requirement, however, is vague and offers very little explanation about the content of CSR activities and practices that will be disclosed by the firms. In this instance, firms largely depend on the board's discretion and deliberation in their CSR disclosure decision in the annual report, given that the Listing Requirement in respect of CSR disclosure is highly subjective. This suggests that CSR disclosure is one form of voluntary disclosure in Malaysia.

We argue that the role of the board of directors is central to CSR disclosure given that it is an outcome of the judgment, discretion and decision-making process of the board which is mainly derived from their personal (i.e., ethnicity, nationality, age) and professional (i.e., educational level, educational background, tenure) contexts in shaping the firm's custom in respect of CSR disclosure. According to Harjoto et al. (2015, p. 645), "directors with diverse backgrounds (i.e. beyond gender) bring their unique perspectives to the board and increase the boards' ability to recognize the needs and interests of various stakeholder groups, facilitating more in-depth discussion on manager's CSR performance as the outcome of stakeholder management." During the last couple of decades, the diversity of managers and board members has been one of the most important corporate governance issues (Shehata 2014) and the demand to have a diverse board is a global issue (Butler 2012). In Malaysia, the implementation of board diversity was started in 2010 by the enforcement and participation of female directors on the board.[1] The board diversity agenda continued when Bursa Malaysia Berhad issued its letter dated July 22, 2014 ("Letter"), clarifying that a listed issuer is required to disclose in the annual report issued on or after January 2, 2015, its diversity policy for its Board of Directors and workforce in terms of gender, age and ethnicity as part of the enhanced disclosure requirements to Paragraph 15.08A of the Main Market Listing Requirements of Bursa Malaysia Securities Berhad.

We contend that in the emerging market, CSR disclosure is a subtle manifestation of governance environment, rules and regulation that differentiates itself from the context of a developed economy. When compared to the developed economies, emerging economies are often characterized as having weak investor and legal protection (La Porta et al. 2000; Machuga and Teitel 2009; Ntim et al. 2017), weak institutional setup, standard and government enforcement (Chapple and Moon 2005; La Porta et al. 2000), weak external mechanism (Claessens and Yurtoglu 2013), high family and concentrated ownership (Machuga and Teitel 2009; La Porta et al. 1999; Ntim et al. 2017), higher corruption index (Transparency International 2015) and unbalanced distribution of income (World Bank 2016). With all this negativity in governance, business ethics and regulation landscape in emerging markets, the credibility of CSR reporting in an emerging economy is often viewed as less credible (Lock and Seele 2015), subject to criticism and labeled as less relevant because investors often fail to value such information (Hung et al. 2015). Therefore, although emerging economies tend to imitate the Western CSR using regulatory pressure in order to cope with globalization (KPMG 2015), the adoption of CSR disclosure in an emerging economy is thought provoking and challenging due to their contentious issues in social, environmental and governance (Hung et al. 2015; Chapple and Moon 2005). Moreover, KPMG (2015) reports that the CSR disclosure from emerging economies such as Malaysia, India, South Africa and Indonesia has achieved significant improvement recently through mandatory requirements, and most firms are not able to enjoy the capital market benefits of mandatory disclosure when firms are operating in weak legal enforcement (Daske et al. 2008; DeFond et al. 2011),[2] given that CSR penetration depends on the civic engagement, regulatory effectiveness and competitive condition at a national level (Halkos and Skouloudis 2016).

Jamali and Neville (2011) assert that the practice of CSR in developing countries is shaped by the unique historical trajectories, sociopolitical, economic and cultural landscape in the particular country. Halkos and Skouloudis (2016, p. 1151) posit that business practices within the context of CSR and institutional mechanism are related to cross-disciplinary area such as "political economy, political science, corporate law, sociology of organizations, cultural traits, religious norms and/or regional traditions" including the demand from institutional mechanisms. This has been clearly demonstrated in the prior literature as the underlying motive of CSR in the context of emerging economies.[3] According to Jamali et al. (2017, p. 7), there

[1] In 2004, the then Prime Minister, Abdullah Badawi, announced a policy which stipulated that 30 percent of the decision makers in all sectors of the economy should be women. The deadline for the 30 percent target to be achieved in the public sector was set as 2010. As a continuation of this policy, in June 2011, Prime Minister Najib Tun Abdul Razak announced that listed companies had until 2016 to ensure that at least 30 percent of their board members are women (Abdullah and Ismail 2013). Therefore, 2016 is the starting point where 30 percent female directors in the board must be appointed by Malaysian listed firms.

[2] Daske et al. (2008) examine the mandatory IFRS reporting around the world. We acknowledge that mandatory IFRS is different to mandatory CSR disclosure. However, the point we intend to highlight is the impact of mandatory disclosure itself and not referring to the types of disclosure.

[3] For example, in China, although the government is serious to use CSR disclosures to report pollution-related breaches such as carbon emission, pollution disclosure and depletion of natural resources

are six logics behind the CSR translation and adaptation in the emerging economies which include state (through regulatory pressure on CSR and corruption opportunities through CSR), market (coping with globalization and competition as well as to legitimize their business activity within society), corporation (competing with international business and to provide welfare), professions (managers signal high professionalism through CSR), family (where CSR functions to help families and relatives) and religion (religious doctrine and cultural orientation).

Our study contributes to the literature in several ways. *First,* while the majority of the previous studies are concentrated on the USA (Bear et al. 2010; Boulouta 2013; Hafsi and Turgut 2013; Kabongo et al. 2013; Harjoto et al. 2015; Zhang et al. 2013) and Canada (Ben-Amar et al. 2015), we offer evidence from the developing country where the study on this topic is not yet well researched. Only a handful of studies in the emerging economies narrowly focus on this area of research (such as Abdullah et al. 2016, Abdullah and Ismail 2013, Haniffa and Cooke 2002, 2005 in Malaysia; Hoang et al. 2016 in Vietnam; Ntim et al. 2012, Ntim and Soobaroyen 2013 in South Africa). Rao and Tilt (2016a) point out that studies that examine the impact of ethnicity, educational qualification and background diversity on CSR are extremely rare. Thus, to fill the gap in the literature, examining the impact of comprehensive board diversity on CSR disclosure in Malaysian contributes to the understanding of the link within the context of emerging economies. Unlike prior studies that identify limited scope of diversity (Larkin et al. 2012; Lazzaretti et al. 2013; Carter et al. 2010; Zhang 2012; Upadhyay and Zeng 2014; Muttakin et al. 2015), our study covers broader dimensions of diversity comprising seven board diversity characteristics (e.g., gender, educational level, educational background, age, tenure, nationality and ethnicity). We note that all of these diversities shape the cognitive thinking of the board (Hambrick and Mason 1984) and enhance bounded rationality that would be helpful in their strategic decision making on CSR.

Second, unlike previous studies which mainly rely on the Kinder, Lydenberg, Domini Research & Analytics (KLD) rating as a proxy for CSR quality (Zhang et al. 2013; Bear et al. 2010; Harjoto et al. 2015; Boulouta 2013), we use a comprehensive set of CSR disclosure indexes (in terms of both quantitative and qualitative plus narrative information) to measure the quality of CSR disclosure in the annual reports which cover important aspects in CSR including employee relation, community involvement, product and environment. *Third,* we consider our study as the first that embedded a comprehensive set of board diversity and internal corporate governance variables covering board and audit committee characteristics in our regression model when we examine the association between board diversity and the quality of CSR disclosure, something that was predominantly neglected by the previous studies mentioned above.[4] *Fourth,* we utilize post-GFC sample data (specifically 2009–2013) where the board diversity agenda as well as voluntary disclosure are considered more important from the regulator's viewpoint, unlike previous research using pre-GFC (Hafsi and Turgut 2013; Boulouta 2013) or a mix of GFC period and/or pre- and post-GFC (Ben-Amar et al. 2015; Harjoto et al. 2015; Kabongo et al. 2013) data.

Fifth, most importantly, while prior studies (Harjoto et al. 2015; Ben-Amar et al. 2015; Kabongo et al. 2013; Abdullah and Ismail 2013, Bear et al. 2010) are mainly concentrated on agency theory, resource dependency theory, stakeholders theory, etc., none of the prior studies has focused on resource-based view (RBV) theory. We provide evidence from the RBV theory viewpoints and, therefore, fill the void in the literature. Our study contributes to the theoretical implication by refining the impact of board diversity on CSR in developing countries from the RBV theory perspective. Barney (1991, p. 101) outlines that (1) firms encompassed of heterogeneous resources such as firm assets, experience and intelligence of staff, as well as

Footnote 3 continued
(Gugler and Shi 2009, p. 15), nevertheless firms in China are less likely to disclose their information related to carbon reporting when compared to other European countries (KPMG 2015). Given that pollution is still an unresolved issue in China, the manager's decision not to disclose information on carbon and carbon emission might suggest that CSR disclosure in China is potentially a self-serving selection. In Bangladesh, high family ownership is found to be associated with lower levels of CSR disclosure (Belal and Owen 2007). In South Africa, block holders are often in few hands; thus, key governance decisions such as board appointments where block holders' decisions are involved have been politicized in such a way that the appointed board is ineffective in monitoring the managers, thus leading to the impairment of overall corporate governance structure including internal and external mechanisms (Ntim et al. 2017). In Malaysia, the involvement of Malays (i.e., the son of soil) to the board is due to political advantage and business ethics customs are corrupted by the "Ali Baba" practices where the Malays (i.e., the son of soil) who received license or contract from the government are, in fact, re-selling the contract to the non-Malays (Lim 1985). From the regulatory perspective, although Common Law has been used by emerging economies such as Malaysia, South Africa and India due to colonization by British in the past (La Porta et al. 2000), nonetheless, investor's protection in emerging countries is at stake since the institutional mechanisms are weak and resources are poorly governed.

[4] We acknowledge that Bear et al. (2010) include CEO duality, but neglect other board and audit committee characteristics; Harjoto et al. (2015) include the percentage of independent directors, but not other board and audit committee characteristics; Ben-Amar et al. (2015) take board independence and CEO duality into account, but neglect board meeting and audit committee characteristics; Hafsi and Turgut (2013) include board size, board independence and CEO duality, but ignore audit committee characteristics; and Hoang et al. (2016) include CEO duality and directors' ownership, while other board and audit committee characteristics are left behind.

planning, control and coordinating systems and (2) the resources owned by firms "may not be perfectly mobile across firms, and thus heterogeneity can be long lasting." As such, we consider board diversity is a cornerstone to the board uniqueness in line with RBV theory that supports the knowledge, intelligence and expertise of heterogeneous group of board members as valuable firm resources. This might explain the effectiveness of the board in governance and decision-making processes including information about the firm's CSR. Our findings suggest that board diversities related to gender, educational level and board tenure are unique firm resources/capabilities that contribute to the firm's value to be effective in dictating board decisions in developing strategies related to CSR quality which eventually leads to a sustained competitive advantage. On the other hand, diversity related to age and nationality values of capabilities is impaired which might be a result of poor management intervention (Bowman and Ambrosini 2001, 2003) and weak governance, given that resources in the firm are complementary to each other (Schmidt and Keil 2013) and the synergies are created out of the configuration between bundles of resources in firms (Bowman and Ambrosini 2003).[5]

We consider the Malaysian case as unique[6] in the sense that political/ethnic considerations have appeared to overrule economic and arm's length market forces as a matter of government policy. Malaysia is a multiracial country consisting of Malays (i.e., the Bumiputera—son of soil), Indians and Chinese where the Chinese dominantly control the economy. Therefore, through the New Economic Policy, the Malaysian government upholds the position of Malays to prevent an economic imbalance between races by giving an opportunity to extend their ownership in the share market up to 30 percent (Hasnan et al. 2013). Again, as a multiracial country where cultural differences including religions are unique, the Malaysian setting might be responsible in shaping the behavior of the relationship between board diversity and CSR, given that the culture derived from the traditions that are "instilled in its people and might help explain why things are as they are" (Haniffa and Cooke 2002, p. 318).[7] The culture and tradition of multiracial backgrounds in Malaysia might influence managers' discretion on CSR disclosure in different ways. From the RBV theory viewpoint, Richard (2000, p. 164) points out that cultural diversity is one of the valuable assets in firms which "contributes to firm competitive advantage." Therefore, we argue that investigating the effect of board diversity on quality CSR disclosure in Malaysia contributes to the literature and is appealing to responsible investors and stakeholders. Moreover, from the market perspective, prior literature demonstrates that CSR disclosure is associated with increasing company share price (Klerk et al. 2015), reducing cost of capital and share price volatility (Dhaliwal et al. 2011; Gonçalves et al. 2013), thus suggesting that CSR is one of the strategic decisions taken by firms that have an enormous influence on organizational outcomes and corporate performance or value.

We organize our paper as follows: In "Theory, Literature Review and Hypotheses Development" section, we will discuss relevant theories, the literature review on CSR and board diversity as well as the hypotheses development. In "Research Methodology and Data" section, we will explain about the research methodology, model, data and variables of interest for the study. In "Findings and Discussions" section, we will describe our findings from the analysis and discuss them first and then enumerate additional analysis and robustness checks. Finally, we will provide the conclusion in "Conclusion" section.

Theory, Literature Review and Hypotheses Development

Theoretical Orientations

The importance of board diversity can be explained from the theoretical perspective using the resource-based view (RBV) theory of the firm (Barney 1991; Galbreath 2005, 2016; Yu and Choi 2016), given the fact that, as part of a firm's strategic decision, board diversity signifies "core competence" (Hamel and Praharad 1994) or "dynamic capability" (Teece et al. 1997) of board members and a more diverse board improves the capability of an organization. According to RBV theory, firms design their strategies by organizing their internal resources in response to the environmental opportunities, while counterbalancing the external threat and preventing internal weaknesses in order to achieve competitive advantage (Barney 1991). The

[5] Bowman and Ambrosini (2003, p. 5) differentiate a firm's resources into *inert* input and *human* input. Inert input comprises of physical assets such as building and equipment which is valuable to the firm, but its function is not accelerating in the sense that it is not able to create new value. On the other hand, human input is capable of creating new value that contributes to the firm's profit. Human input also is more flexible than inert input in the sense that its value can be destroyed or developed depending on the firm's efficiencies and activities (i.e., whether firms are active in value-creating activities or value-destroying activities).

[6] We note that it is not as unique as South Africa during pre- and post-Apartheid periods, but unique as compared to other neighboring Asian countries.

[7] Population in Malaysia consists of Bumiputera (son of soil) (68.6%), Chinese (23.4%), Indian (7%) and others (1%)—information retrieved from official portal, Department of Statistic of Malaysia, October 18, 2016.

RBV theory reflects internal resources as the cornerstone for firms to achieve competitive advantage and, in order to be recognized as a firm's resources, the potential asset must comply with certain criteria which are valuable, rare and hard to imitate (Barney 1991; Hoopes et al. 2003). The RBV theory considers that (1) "firms within an industry (or group) may be heterogeneous with respect to the strategic resources they control" and (2) "these resources may not be perfectly mobile across firms, and thus heterogeneity can be long lasting" (Barney 1991, p. 101). The classical view suggests that a firm's resources comprise of tangible and intangible assets (Wernerfelt 1984; Galbreath 2005). While tangible assets include financial assets (Grant 1991) or physical assets that are of value financially and can be reported in the balance sheet (Galbreath 2005), intangibles assets are subject to wide-ranging possibilities that include capabilities, knowledge, skills and experience (Daft 1983; Helfat and Peteraf 2003), information technology (Lioukas et al. 2016), nationality diversity and international experience diversity (Kaczmarek 2009), organizational competence (Acquaah 2003), organizational culture (Yu and Choi 2016), gender diversity (Gallego-Alvarez et al. 2010), knowledge diversity (Barroso-Castro et al. 2017), directors' age (Lin et al. 2006) and ethnic diversity (Richard 2000).[8]

The RBV theory also recognizes that the heterogeneities of resources and capabilities are valuable assets that contribute to the firm's competitive advantage (Hoopes et al. 2003). Diverse board characteristics provide synergies to the firm's organizational outcome (Galbreath 2005) and offer a heterogeneous perspective in critical decision making, such as CSR (Rao and Tilt 2016a). Cognitive conflict from the diverse board perspective "helps to improve bounded rationality in board decision making by overcoming the limits in the directors' ability to process information and solve complex problems" (Barroso-Castro et al. 2017, p. 3). The more diverse is the perspective of the organization, the higher is the firm's capability to attract more resources and to generate new ideas in a creative and innovative fashion (Richard 2000). The acquisition of mixed capabilities in the board of directors has important implications on strategic firm decisions since the board of directors will establish the relationship with the external environment through networking, reputation and social ties (Zhang and Dodgson 2007).

A more diverse board offers a greater range of specialized human capabilities, skills and experience, which would be able to deliver advice on CSR (Galbreath 2016) in the sense that "people with different gender, ethnicity and cultural background might ask questions that would not be asked by other directors with a more traditional background" (Ayuso and Argandoña 2007, p. 7). Moreover, the organizational outcomes derived from the strategic decision and effectiveness is a reflection of board characteristics—"age, tenure, functional background, education, socioeconomic roots and financial position" that shaped values and a board's cognitive ability (Hambrick and Mason 1984, p. 196). Nevertheless, the RBV theory itself is not operating in a vacuum. The industry base view doctrine (Porter 1980) suggests that the industry condition determines the firm's strategy and its competitive advantage, while at the firm level the RBV theory focuses on the firm's rare, hard-to-imitate and valuable resources (Barney 1991; Wernerfelt 1984). Since CSR has been expanded to the environmental level (Hart 1995) and institutional level (Peng et al. 2008; Oliver 1997), the natural RBV theory suggests that CSR strategic orientation in preventing pollution, product stewardship and sustainable development is crucial to preserving the earth and the atmosphere, which subsequently affects the firm's economic activity and the firm's sustainable competitive edge. Again, the institutional-based view claims that the exploitation of firm-level resources into strategy is subject to the condition of the institutional mechanisms in which the firm is operating (Oliver 1997; Peng et al. 2008).

Many scholars and theorists also argue that diverse boards are more likely to be stakeholder oriented and concerned about ethical practices and socially responsible behavior to be inclined to take actions to reduce perceived risks (Adams and Ferreira 2009; Carter et al. 2003, 2010). According to Maurer et al. (2011), a firm's strategies that contradict with social values put their economic value at stake due to the risk that stakeholders might respond negatively to the firms, and vice versa. Given that diversity is not a purely economic-driven pursuit, stakeholder and broader social accountability perspectives closely fit between the societal tenets of diversity and the need for communication/accountability by firms. Thus, to be sensitive with the stakeholder's perception and social value and act accordingly in developing firm strategies is also one of the unique capabilities under the lens of RBV theory (Hsieh 2008; Maurer et al. 2011).

[8] Barney (1991, p. 101) classifies a firm's resources into three main categories (i.e., physical capital resources, human capital resources and organizational capital resources) (Williamson 1975; Becker 1964; Tomer 1987).

> Physical capital resources include the physical technology used in a firm, a firm's plant and equipment, its geographical location, and its access to raw materials. Human capital resources include the training, experience, judgment, intelligence, relationships, and insights of *individual* managers and workers in a firm. Organizational capital resources include a firm's formal reporting structure, its formal and informal planning, controlling and coordinating system, as well as informal relations among groups within a firm and between a firm and those in its environment (Barney 1991, p. 101).

Literature Review

Board diversity is defined as various compositions of board of directors, which can be categorized in directly observable aspects (e.g., gender, age and ethnicity) and less visible aspects (e.g., education and work experience) (Galia and Zenou 2013). The need for diverse boards is increasing due to globalized economies and complex challenges in business (Tan et al. 2014). Diversity in boards is favorable to improving the quality of corporate decisions (Marimuthu and Kolandaisamy 2009), offering better problem solving (Dobbin and Jung 2011), increasing organizational competitiveness (Gregoric et al. 2009) and providing new insights that lead to innovation (Cook and Glass 2015). Diversity among directors of the board improves the chances that different knowledge domains, perspectives and ideas will be considered in the decision-making process (Post et al. 2011; Liao et al. 2015).

Furthermore, this diversity on the board is likely to influence the quality of information disclosure since more diverse boards of directors would be able to make decisions based on the evaluation of more alternatives compared to a more homogeneous board (Ayuso and Argandoña 2007). A board with heterogeneity in skills, knowledge, background and expertise is necessary to improve the quality of decision making, while a homogeneous board will lead to failure and weakness of governance in general (Handajani et al. 2014). In addition, a diverse board becomes an important tool in corporate governance by providing effective monitoring that would enhance boardroom discussion and promote governance quality in the company (Gul et al. 2011) and ensuring that decisions made in the boardrooms reflect the realities of the society and the market (Tan et al. 2014). Several studies (Adams and Ferreira 2009; Gul et al. 2011) document the importance of board diversity as a monitoring device. A board combining the individual talent, views, diversity and personalities builds a strong top-level management team (Zhang 2012). Following the above argument, we suggest that having a diverse board will increase the corporate information disclosure. Carter et al. (2003) contend that board diversity can enhance better understanding of the marketplace because the board represents directors from various backgrounds.

Since board diversity is a characteristic of a firm's board of directors related to the existence of differences in its members' traits (Prado-Lorenzo and Garcia-Sanchez 2010), it improves board competence and capability in terms of gender, age, experience and racial/ethnicity diversity. Gender diversity is one of the more interesting human aspects that have been the focus of many studies (Williams 2003; Adams and Ferreira 2009; Post et al. 2011). As such, the role of women in board positions has received increased attention (Terjesen et al. 2009; Fernandez-Feijoo et al. 2014; Ben-Amar et al. 2015; Liao et al. 2015; Hoang et al. 2016) and become a global issue that has been recently perceived as an important topic.[9] The literature has shown that women have been socialized to care for the needs of others and they have a closer feeling toward social responsibility (Ciocirlan and Pettersson 2012). Introducing women to corporate boards also has important implications for board dynamics (Ruigrok et al. 2007). Women bring different characteristics to boards and are perceived to have a more participative, democratic and communal leadership style (Rudman and Glick 2001). The current literature suggests that female directors provide greater oversight and monitoring of managers' actions and reports (Hillman et al. 2007; Adams and Ferreira 2009) through promoting better board attendance, assuming monitoring positions on audit, nomination and corporate governance committees, and demanding greater accountability from managers for poor performance (Gul et al. 2011). This study also argues that gender-diverse boards improve the quality of public disclosure through better monitoring. It can be argued, therefore, female participation in the boardroom can increase the likelihood of voluntary disclosure and the ability of the board to provide better oversight of the firm's overall disclosure and reporting.

In addition to gender diversity, board ethnic diversity is likely to be contingent on board characteristics. Ethnicity shapes people's view of the world, and a highly ethnically diverse board is more open to new ideas and viewpoints. Board members from different ethnic backgrounds widen the board's perspectives in the decision-making process.

[9] Several European countries such as Norway, Spain, and Sweden have passed laws mandating firms to add more women directors on boards (Upadhyay and Zeng 2014). In Norway and Spain, 40% of gender quota was allocated for female; while in France the new law adopted in January 2011 decreed that the proportion of female directors should not be lower than 40% by the year 2017 (Galia and Zenou 2013). In Italy, the law required one-third of board members to be women by the year 2015 (Giovinco 2014). Australia has a faster progress in appointing more women to the boards of listed companies compared to most other countries where gender balance is addressed through voluntary codes of conduct and not mandatory gender quota legislation (Plessis et al. 2012). The Australian Institute of Company Directors target is 30% female board representations by the end of 2018. The KPMG Enterprise's 2017 ASX 300+ Report shows on average ASX 300 + boards comprise only 9% female directors while ASX 200 companies have 23%. Although Japan has lagged behind other advanced countries with regard to gender equality, the Japan Prime Minister has set a goal of increasing the percentage of women in executive positions in the country's companies to more than 30% by year 2020. The worldwide effort shows that gender diversity issues have gained attention globally. Particularly, in Malaysia, on 27 June 2011, the Prime Minister announced that the Malaysian Cabinet approved legislation where corporate companies must achieve at least 30% representation of women in decision making positions.

Given that every ethnic group is culturally different from other ethnic groups, the inclusion of various ethnic groups in the board is important for commercial reasons as well as designing the strategies as they understand their group more than others. Westphal and Milton (2000) suggest that directors from a minority group may encourage divergent thinking in the board's decision-making process. McLeod et al. (1996) argue that having people from different cultures in a group leads to high quality with more effective and feasible ideas than having people predominantly from the same culture in a group. Similarly, Butler (2012) claims that racially diverse boards generate and disclose more information because they approach issues from different perspectives, inspire group discussions and may encourage the formation of subgroups within groups. Carter et al. (2010) also contend that unique information held by diverse directors will improve the quality of the information that the board will provide to managers. However, nominations of ethnically diverse boards are more likely based on candidates' qualifications than their ethnic origin.

Prior studies have revealed that boards are responsible for the issues pertaining to CSR disclosure (Haji 2013; Jamali et al. 2008; Razek 2014). It foresees that a more diverse board is more creative and innovative (Oba et al. 2013) and thus able to influence the quality of information disclosed. Empirically, high CSR disclosure has been proven to be associated with lower cost of capital (Dhaliwal et al. 2011; Gonçalves et al. 2013) and lesser political costs (Gamerschlag et al. 2010), decrease the share volatility (Jayasree 2013) and improve the value relevance of the CSR information to the investors (Villiers and Marques 2016). Previous researchers also argued that CSR disclosure is associated with the value of the firm (Alotaibi and Hussainey 2016) and is able to generate profits to the company (Folorunsho Monsuru and Adetunji Abdulazeez 2014; Mahbuba 2013) and enhanced company innovation and company competitive advantages (Beardsell 2008). From the US market, Hafsi and Turgut (2013) report that there is a significant association between gender diversity and age diversity on corporate social performance in 100 firms using 2005 data. Another US study by Boulouta (2013) also reports that board gender is associated with corporate social performance that is measured using KLD rating. Using US sample data from 1999 to 2011, Harjoto et al. (2015) demonstrate that diversity in gender, tenure and expertise is significantly related to CSR.[10]

[10] We acknowledge that CSR disclosure and CSR performance are two different things. CSR disclosure is a method of communication between firms and users of annual reports about the CSR activities the firm engaged (Morsing 2006; Yip et al. 2011). While CSR disclosure can be "easily observed," CSR performance, however, is much more complicated and "multi-faceted" (Yip et al. 2011, p. 21). Wood (1991, p. 693) defines corporate social performance as "configuration of principles of social responsibility, process of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships." Nonetheless, we argue that CSR disclosure and CSR performance are connected in the sense that Font et al. (2012) demonstrate a positive association between CSR disclosure and CSR performance. In a related vein, Clarkson et al. (2008) also report a positive link between environmental performance and environmental disclosure.

Hypotheses Development

Board Members' Gender Diversity

According to Gallego-Alvarez et al. (2010, p. 59), the RBV theory is that the synergies between male and female interaction in the board are valuable "as a source of competitive advantage." Bear et al. (2010) conjecture that having more female directors may sensitize boards to CSR initiatives, and provide perspectives that can be helpful in relation to issues of CSR. It has also been argued that female directors move faster and more assuredly toward sustainability in the economic, social and environmental sense (Stevens 2010). This might be contributed by special characteristics of females such as being cooperative, polite, sympathetic and empathetic (Kramer et al. 2007). A strand of studies demonstrates that female directors on the board improve CSR reporting (Feijoo et al. 2012; Rupley et al. 2012; Hafsi and Turgut 2013). Rao et al. (2012) also report a positive relationship between gender diversity and CSR disclosure in large Australian companies.

Based on Risk Metrics Directors database from year 1998 to 2011, Harjoto et al. (2015) find that board gender diversity has a significantly positive influence on CSR disclosure. An empirical study by Fodio and Oba (2012) reveals that the proportion of female directors is significantly correlated with the level of corporate philanthropists among the listed firms in Nigeria. Liao et al. (2015) in their UK study document that the proportion of female directors is positively related to the disclosure on the greenhouse gas information. The prior literature also demonstrates that there is a positive impact of gender diversity on the firm's quality of reporting. Gender diversity is found to be positively related to intellectual capital disclosure (Rasmini et al. 2014); stock price information (Gul et al. 2011); lower variability of stock market returns (Jane et al. 2014); and lower earnings management (Gavious et al. 2012). Therefore, in line with the prior literature, we outline our first hypothesis on gender diversity as follows:

H1 *Ceteris paribus*, there is a positive relationship between gender diversity and quality of CSR disclosure.

Board Members' Educational Level Diversity

We posit that a board member's educational level is one of the firm's valuable resources in the sense that it fulfills all of the criteria of resources in RBV theory that is valuable, rare and hard to imitate, as suggested by Barney (1991). Diverse board educational level of the directors can be exploited by the firms in order to help firms in making strategic decisions and achieve competitive advantage. It is expected that directors with a lower level of education enjoy a relatively higher level of boundless experience either in the workplace or in any other environment, when compared to directors with a higher level of education where the education system they are engaged in is tied to the limited syllabus and curriculum.[11] Moreover, directors with lower levels of education might have an opportunity to gain an experience that might not be able to be taught in the classroom, thus underlining the opportunity cost that higher educational level directors have to bear. Nevertheless, according to Hsu et al. (2013), educational level shapes an individual's cognitive base and leads to a better ability to process information and ability to absorb new ideas. It enhances board cognitive ability that is derived from many different views which eventually improve the creativity and innovation in solving problems (Milliken and Martins 1996). Hambrick and Mason (1984) argue that the formal and structured program that the higher educational level directors have enrolled contributes significantly in shaping the cognitive ability of the directors as well as improving their social ties and networking with other university students/alumni who one day become the main market players in the capital market and regulatory institutions.

Managerial decisions on CSR disclosure might turn out differently when the board is more heterogeneous in educational level as compared to a homogenous board in respect of educational level. In strategic decision making, sometimes lower educational level with practical experience becomes more effective than higher-level education with technical knowledge, and vice versa. It is expected that educational level diversity in board members, rather than highly educated board members, will provide benefit to the firm as it will bring a variety of opinions, perspectives and experiences. In studies on innovation performance under CSR, Valls et al. (2016) provide evidence that board educational diversity is positively related to team performance. However, Mir-Babayev (2015) finds no relationship between educational level diversity and innovation performance, while Subramanian et al. (2016) report that diverse educational level among research scientists and engineers is negatively related to innovation performance. Given the mixed results in this area, we develop our hypothesis in line with the RBV theory.[12] Thus, our second hypothesis is:

H2 *Ceteris paribus*, there is a positive relationship between educational level diversity and quality of CSR disclosure.

Board Members' Educational Background Diversity

The RBV theory suggests that the "presence and diversity of knowledge on the board is a resource that provides to the board with the capabilities to participate in the company's strategic decision" (Barroso-Castro et al. 2017, p. 4), such as the decision on CSR disclosure. Diversity of knowledge and ability of the board members derived from their different educational background is crucial to speed up the strategic decision making (Clark and Maggitti 2012), to improve board effectiveness in evaluating strategic implementation (Hillman and Dalziel 2003), to share knowledge and generate new knowledge (Barroso-Castro et al. 2017), and to reduce the problem of bounded rationality (Barroso-Castro et al. 2017) that will be helpful in gaining competitive advantage. Various educational backgrounds indicate differences in individual attitude and intelligence (Westphal and Milton 2000) and cognitive base (Hambrick and Mason 1984) that might be beneficial in improving the quality of CSR disclosure from various perspectives (i.e., product quality, CSR initiatives, benefit of the mankind at large). As such, the board should mainly be comprised of members from different disciplines including accounting, finance, marketing, information systems, engineering, humanity, legal issues and other related areas that influence the decision-making process (Vo and Phan 2013; Manner 2010; Barker and Mueller 2002; Krishnan et al. (2011)). Since CSR involves not only in financial and/or economic disclosure, but also in environmental and social disclosure (e.g., employee, product, community issues), considering only the financial backgrounds of board members will not be sufficient to improve CSR disclosure. This requires multiple educational backgrounds of board members to have robust discussion on legal, financial, moral, technical knowhow, stakeholder well-being, etc., before making strategic decisions on CSR. In line with the RBV theory, we draw our third hypothesis as follows:

H3 *Ceteris paribus*, there is a positive relationship between educational background diversity and quality of CSR disclosure.

[11] We note that several top business leaders such as Mark Zuckerberg, Bill Gates and Steve Jobs are among the most successful individuals who did not complete their college degree.

[12] These studies on innovation performance are related to the development of the products (i.e., product quality and product safety) that are also a part of CSR activities.

Board Members' Age Diversity

From the lens of RBV theory, age diversity of board members is one of the cornerstones of the "firm's human resources" that stimulate creativity in firms and, hence, improve competitive advantage (Li et al. 2011, p. 250). Ararat et al. (2010) argue that diversity in board members' age will lead to variation in values and perspectives since each generation is unique and special in the sense that their worldview is developed according to different experiences, social, political and economic environments, and events. According to Mahadeo et al. (2012), an elderly group of directors will have more experience, networks and financial resources, while the middle-aged group is in charge of the main executive responsibilities, and a younger group develops its knowledge of the business. For a successful board a mixture of different ages of directors is desirable to disseminate knowledge and experience from the senior group to the younger group of directors that could contribute to robust decision making. Younger directors, being less experienced, are associated with more risk taking and more CSR disclosure, while older directors because of their vast experience are relatively cautious and reluctant to take more risk and CSR disclosure. So, age diversity with representation of different generations can be helpful in balancing the risk taking in decision making on CSR disclosure. In this regard, more interactions between senior and junior directors are obvious through mentoring and exchanging views on new ideas. It is important to note that differences in the ages of board members might lead to either the board efficiency or inefficiency in decision-making processes due to different levels of worldview, experience and upbringing. Empirically, Goergen et al. (2015) demonstrate that huge gap between the age of the chief executive officer (CEO) and chairman is positively related to board effectiveness and firm performance; however, Hafsi and Turgut (2013) show a negative relationship between age diversity and CSR performance. Other studies also report a significantly negative relationship between the average age of board members and CSR disclosure (Roitto 2013; Post et al. 2011). Although previous studies report somewhat mixed findings, following the RBV theory we develop the fourth hypothesis as follows:

H4 *Ceteris paribus*, there is a positive relationship between age diversity and quality of CSR disclosure.

Board Members' Tenure Diversity

Using RBV theory as a backdrop, Barroso et al. (2011) assert that board tenure diversity is an indication of board knowledge about firms to develop board potential and gain competitive advantage. Board tenure refers to the length of time directors hold directorship positions in the organization (Hou and Chin 2012). The previous literature offers mixed views on the diversity of board tenure. On the one hand, long board tenure has an advantage as directors have greater experience with the company's policies and expertise in monitoring the reporting process in the organization (Chan et al. 2013), since the long-tenured board members understand better about the company activities, rules and regulation compared to their counterparts. Longer board tenure is associated with lower levels of misleading information and disclosure (Donoher et al. 2007), is able to build organization-specific unique expertise and the relationships to organizational stakeholders (Johnson et al. 2012), and also is well regarded as the more reputable and knowledgeable of the firm (Liu et al. 2010). However, previous literature also documents that board tenure can negatively influence the firm performance (Azar and Rad 2014). As compared to short-tenured boards, long-tenured boards are unlikely to undertake innovation activities because they tend to be risk averse and have restricted information sources (Chen 2013). Longer service on boards will make directors remain in their comfort zone and tend to repeat the same process. This includes repeating the same format and content of information provided to their stakeholder. Handajani et al. (2014) indicate that a higher tenure of boards is associated with lower CSR. According to Huang (2013), companies with diverse board member tenure perform better than boards with homogeneous tenure. Board tenure diversity might be favorable to increase the firm value since more senior directors may act as mentors to the junior directors (Huang 2013), while the junior directors may express their new ideas to more senior directors. Harjoto et al. (2015), however, report an insignificant relationship between board tenure diversity and CSR "strength," but a significantly negative relationship between board tenure diversity and CSR "concern."[13] Due to the mixed findings in line with the RBV theory we, therefore, develop the following hypothesis:

H5 *Ceteris paribus*, there is a positive relationship between tenure diversity and quality of CSR disclosure.

Board Members' Nationality Diversity

The RBV theory recognizes the presence of international human resources as one of the "most valuable, unique and difficult-to-imitate resources" owned by the firm

[13] Harjoto et al. (2015) measure CSR strength and CSR concern using KLD rating.

(Kaczmarek 2009, p. 21). With an increase in business diversification, firms need dynamic resources to cater for international markets in order to achieve competitive advantage. On the one hand, the appointment of directors with different nationalities is expected to improve the firm's CSR disclosure in the following way. First, transfer knowledge on technology related to CSR (e.g., technology in measuring carbon emission and improving product safety) can be performed since technology development, advancement and innovation differ between countries (Zhang and Dodgson 2007; Dodgson and Kim 1997). Second, the RBV theory considers board experience from a multinational context as a valuable source of individual competence (Estelyi and Nisar 2016); thus, their previous experiences in international markets on CSR issues such as on workplace, product safety, employee relations and fairness are useful inputs to increase the firm's quality of CSR. Third, foreign directors are normally a minority group on the board and are usually critical in defending the right of the minority and various stakeholders in the firm (Estelyi and Nisar 2016).

On the other hand, Hahn and Lasfer (2016) report that the presence of foreign directors may impair the internal governance due to a lower number of board meetings, thus signaling weak monitoring roles by the board. Commenting on the foreign director's costlier expenses on traveling, time and energy, both Knyazeva et al. (2013) and Hahn and Lasfer (2016) argue that although foreign directors have special international expertise, the cost and benefit trade-off of appointing foreign directors compared to local directors has diminished the firm's governance effectiveness, since firms have to bear larger costs when compared to using local directors. Nevertheless, Estelyi and Nisar (2016) find that the presence of foreign directors on the board is positively related to shareholder heterogeneity and the firm's international market operation, hence suggesting that the benefit of foreign directors outweighs its cost. Pelled (1996, p. 615) claims that diversity in terms of demographic backgrounds brings positive effects on the "group performance on cognitive tasks (i.e. 'thinking' tasks that involve generating plans or ideas, solving problems or making decisions)."

Foreign directors on the board play a strong monitoring role to increase strategic decisions in regard to public and social activities and their reporting (Zainal and Zulkifli 2013). The study of Che Ahmad and Osazuwa (2015) on Malaysian firms indicates that board nationalities are positive and significant in influencing CSR disclosure. In Bangladesh, Muttakin et al. (2015) investigate the impact of board nationality diversity of 116 non-financial listed companies and find a positive impact on CSR disclosure. Their result implies that board nationality diversity exposes the director with international knowledge and commits themselves to protect the interests of the society, which in turn may also influence CSR disclosure (Muttakin et al. 2015). However, the presence of different nationalities on boards may also lead to cross-cultural communication problems. In this regard, Barako and Brown (2008) do not find any significant relationship between board nationality diversity and quality of CSR disclosure in the Kenyan banking sector. Therefore, in support of the RBV theory, our next hypothesis is:

H6 *Ceteris paribus*, there is a positive relationship between nationality diversity and quality of CSR disclosure.

Board Members' Ethnicity Diversity

In line with RBV theory, racial or "race ethnicity" diversity in the board can be classified as one of the valuable firm's resources that have potential to achieve a competitive edge (Richard 2000; Fitzsimmons 2013). Fitzsimmons (2013, p. 529) argues that each culture carries its own set of "values, norms, beliefs or behavior" that shape their worldview which, to a certain extent, will influence their moral conduct and strategic decisions. This suggests that each ethnicity carries its own special values and ethical principles. Diverse ethnicity on the board is beneficial to firms in improving CSR disclosure in the sense that it better understands customers' preferences and requirements within the same ethnicity (Morrison 1992 as cited in Richard 2000) and thus is able to offer a different perspective to the firms (Hillman et al. 2002). That is, they understand the needs of the stakeholders and markets where firms are operating (Miller and Triana 2009) and so are better able to grasp the stakeholders' needs from a CSR context such as products safety, community involvement, environment and employee relations. The UK study of Strauss et al. (2008) demonstrates that women and non-whites are positively associated with self-transcendence values. This can also be manifested as the ability to understand and to protect the welfare of all people and the environment, according to Schwartz and Sagiv (1995). Using RBV theory as the base theory, Richard (2000) finds that cultural diversity interacts with the firm's strategy in improving its performance in the banking industry. Miller and Triana (2009) show that a firm's racial diversity increases the firm's performance through product innovation and the firm's reputation as mediator variables. Richard et al. (2013) document that participative strategic decision making moderates the relationship between racial diversity and firm performance.

Shukeri et al. (2012) highlight that ethnic diversity broadens knowledge, ideas and experience through the

range of information resources of different cultural backgrounds among the board members. They further suggest that an organization with a high level of cultural heterogeneity in management would be able to share ideas and reach ultimate decisions based on diverse views and thus will improve the management performance through a common consensus among the multiracial group of the boards. Boards that comprise of diverse members of different ethnicities will provide more reliable information to their shareholders (Ammer and Ahmad-Zaluki 2014). Scholars have observed that many recent corporate scandals in the USA are a function of group-think, whereby homogeneous boards tended to be unquestioning in their oversight because of the social and cultural ties, and the lack of diversity in ethnic backgrounds (Sarra 2012). A study conducted by Zhang (2012) on publicly traded Fortune 500 companies in 2007 finds that ethnicity is positively related to CSR ratings. Using Malaysian firms as a sample, Haniffa and Cooke (2005) and Wan Husin and Abdullah (2009) show that firms with more Malay ethnic directors are associated with greater corporate social disclosure and segmental disclosure, respectively. Using 1500 Standard & Poor firms from 2002 to 2003, Upadhyay and Zeng (2014) report a negative significant impact of board ethnicity on corporate environmental disclosure. Given the mixed findings in the prior literature on the association between ethnicity and CSR disclosure, in line with the RBV theory we outline that:

H7 *Ceteris paribus*, there is a positive relationship between ethnicity diversity and quality of CSR disclosure.

Summary of Hypotheses

Dependent variable: quality of CSR disclosure	Independent variables
H1	Positive relation is predicted with board's gender diversity (GENDER)
H2	Positive relation is predicted with board's educational level diversity (EDULEVEL)
H3	Positive relation is predicted with board's educational background diversity (EDUBGROUND)
H4	Positive relation is predicted with board's age diversity (AGE)
H5	Positive relation is predicted with board's tenure diversity (TENURE)
H6	Positive relation is predicted with board's nationality diversity (NATION)
H7	Positive relation is predicted with board's ethnicity diversity (ETHNIC)

Research Methodology and Data

Data

We focus on non-financial firms listed on the main market of Bursa Malaysia during the year 2009–2013.[14] We also focus on the CSR disclosure quality of Malaysian public limited companies from 2009 to 2013, given that period represents stable economic conditions after the global financial crisis that occurred during 2007–2008.[15] Global financial markets were shaken by the first episodes of financial crisis in summer of 2007 when certain financial institutions in the USA experienced an increase in mortgage loan defaults (or the so-called subprime) and ended in September 2008 after the government allowed Lehman Brothers to overcome the issues (Argandoña 2012). The year 2008 is considered to be the cutoff point of the crisis (Karaibrahimohgu 2010). Taking into consideration that global financial crises can lead to an uncertain business environment, the current study used the year 2009 being an stable economic year and extends up to the year 2013, noting that the Malaysian Code on Corporate Governance (MCCG) was issued in (2012) focusing on strengthening board structure and composition and recognizing the role of directors as active and responsible fiduciaries.

We present the population and sample breakdown according to industry classification shown in Table 1. As of April 10, 2013, there are 762 non-financial listed companies on the main market of Bursa Malaysia. Bursa Malaysia classifies the listed companies into nine sectors (excluding the finance sector), namely plantation, property, consumer products, industrial products, construction, trading and services, technology, infrastructure project and hotels. In order to ensure that all the sectors are represented, we employ stratified random sampling technique in the sample selection process, since it is the most efficient technique across all other probability designs (Sekaran and Bougie 2013). Due to a small number of firms in certain industries, following Darus et al. (2014), we combine some industries that hold similar types of businesses (i.e., properties, infrastructure project and construction are classified under the same group and plantation, technology and hotels are

[14] We exclude financial firms from our sample because those companies operate under tighter regulatory environment and are arguably subject to other disclosure requirement enforcements (Haniffa and Cooke 2005; Said et al. 2009).

[15] Financial crisis is the time that is likely to be characterized by uncertain economic and business environment. Both organizations and each party in the society try to avoid the effect of the crisis through some remedial measures such as cutting costs, laying off workers, postponing investments, reshaping budgets for the following year in a contraction manner and reducing consumption (Karaibrahimohgu 2010).

Table 1 Population and sample

Industries	Population		Proportionate stratified sample	
	No. of companies	Percentage	No of companies	Percentage
Consumer	132	17	34	17
Industrial products	243	32	64	32
Properties/infrastructure/construction	136	18	36	18
Plantation/technology/hotels	73	10	19	10
Trading and services	178	23	47	23
Total	762	100	200	100

classified under the same group). Hence, the final sample constitutes only five sectors, namely (1) consumer product, (2) industrial product, (3) construction/infrastructure project/properties, (4) trading and services and (5) technology/hotel/plantation.

Variables of Interest

Board Diversity Variables

We construct variables for seven characteristics of diversity including gender, educational level, educational background, age, ethnic, tenure and nationality in the firm. We use coefficient of variation for the interval or continuous variables (i.e., age and tenure) (Ali et al. 2014; Fan 2012; Hafsi and Turgut 2013).[16] We employ Blau Index (1977)[17] to measure the categorical variable including gender, educational level, educational background, nationality and ethnicity in corroboration with previous studies in board diversity (Campbell and Mínguez-Vera 2008; Bear et al. 2010; Fodio and Oba 2012; Tibben 2010; Fan 2012).[18]

CSR Disclosure Variable

We rely on the disclosure index that has been used by prior studies including Saleh et al. (2010) and Mohamad et al. (2014). The CSR disclosure index covers important aspects of the CSR framework including (A) employee relations; (B) environment; (C) community involvement; and (D) product that are adopted in the existing literature including Khan et al. (2013). The CSR index comprises 20 items overall as shown in "Appendix," and the maximum score that can be achieved by a company will be 60. The CSR disclosure index for each sample company is derived as the ratio of the score obtained by that company to the maximum possible score attainable (60). Following Saleh et al. (2011, p. 172), the scoring process is assigned into three classifications as follows:

(1) Quantitative specific disclosure classification refers to the greatest weight with assigned value "3". The CSR disclosure will contain financial information. For example:

> In 2013, a total of 86 aspiring students from the tobacco growing community were awarded with higher education starter kits amounting to RM59,200 (Annual report of British American Tobacco (2013, p 85).

(2) Qualitative specific disclosure classification is the next highest weight with assigned value "2". This is a non-quantitative disclosing with particular CSR information. For example:

> We encourage our employees from all levels to participate in the Poka-Yoke Contest which will be carried out every quarter. Poke-Yoke is introduced to the Company as one of the pillars under Zero Defect programme and its objective is to prevent and detect inadvertent errors. The charter of Unisem Poka-Yoke Committee is to support the plant wide Zero Defect programme of the Company and strive to eliminate mistakes in the process by using Poka-Yoke methods (Annual report of Unisem (M) Bhd (2013, p 16)

(3) Qualitative specific disclosure classification refers to the lowest weighted value "1" if the CSR-related description is generic. For example:

> The Group steps forward and serves the community in which it operates and strives to make a

[16] This was computed using standard deviation divided by the mean (i.e., coefficient of variation = σ/μ).

[17] A version of Blau (1997) index was originally proposed by Simpson (1949) as a measure of species diversity in an ecosystem, and it is also known as Herfindahl's (1950) index and Hirschman's (1964) index when applied to the measurement of industrial concentration (Campbell and Mínguez-Vera 2008).

[18] The Blau Index is calculated as follows: $BI = 1 - \Sigma_{i=1}^{n} p_i^2$, where p_i is the proportion of board members in each category and n is the total number of board members. The index indicates the extent of concentration of group members, ranging from high concentration in a single category, with index of 0 indicating complete homogeneity, to extremely low concentration or complete heterogeneity, with an index of 1.

positive contribution to the community particularly in helping the underprivileged and the less fortunate (Annual report of Ekowood International Berhad (2013, p 24).

(4) Companies that failed to disclose any kind of CSR information for the respective items in the disclosure index will be given a score "0".

Our CSR disclosure index measurement approach is comprehensive covering quantitative, qualitative and narrative information rather than just quantitative information. The measurement process incorporates a "content analysis" approach detecting both quantitative and qualitative information relevant to a firm's CSR framework (e.g., employee, environment, community and product). We note that our approach to measurement is superior to the simple dichotomous scoring process (1 = if firms disclose item in the disclosure index; 0 = if firms do not disclose item in the disclosure index) applied in some previous studies (e.g., Khan et al. 2013; Haniffa and Cooke 2002, 2005) in the sense that it goes beyond counting quantitative number of disclosures and allows for subjectivity in the assessment of qualitative plus narrative information disclosed after reading the annual reports (Al-Tuwaijri et al. 2004). The highest score of "3" is given to quantitative information compared to a score of "2" or "1" that are assigned to qualitative plus narrative information, because quantitative information is more objective and informative to the stakeholder as compared to subjective qualitative information (Al-Tuwaijri et al. 2004). We acknowledge that the utilization of disclosure index as a proxy for CSR disclosure mainly suffers from subjectivity issues (Hassan and Marston 2010) and there is an unresolved theoretical debate around the concept of quality itself, and it is difficult to determine a clear and accepted disclosure quality measurement (Hassan 2010; Aburaya 2012). Therefore, we perform a reliability test of our content analysis using the inter-rater reliability (Cohen 1960) of Cohen's "kappa" in line with Dawkins and Ngunjiri (2008). Using a sample of 30 firms, we find that our "content analysis" is highly reliable at the kappa value of 0.8 since the kappa value of 0.8 and above is classified as satisfactorily reliable according to Dominguez (2011).[19]

[19] Cohen's kappa is an index of inter-rater reliability that is commonly used to measure the level of agreement between two sets of dichotomous ratings or scores (Sim and Wright 2005). The kappa value may range anywhere from −1.0 to +1.0, whereby a kappa of 1.0 means that two raters show perfect agreement; a kappa of -1.0 means that they show perfect and consistent disagreement, and a kappa of 0 means that the two raters show a random level of agreement/disagreement (Sim and Wright 2005). A kappa value of 0.8 and above means that the data have a satisfactory level of reliability among the coders (Dominguez 2011). We perform a pilot test to ensure the reliability of the "content analysis" undertaken.

Control Variables

We include several board characteristics, audit committee characteristics and firm characteristics that are found to be related to CSR disclosure, such as board size (BODSIZE) (Zaheer 2013; Ji et al. 2015). A larger number of boards are expected to function effectively on matters related to disclosure as they have more members (Rahman and Bukair 2013). We also control for board independence (BODIND) (Rouf 2011) and board meeting (BODMEET) (Katmon 2012). In respect of audit committee characteristics, we include size (ACSIZE) (Khan et al. 2013), independence (ACIND) (Aburaya 2012) and meeting (ACMEET) (Brick and Chidambaran 2010). Khan et al. (2013) find that a higher audit committee size would be able to improve the quality of CSR disclosure as it can help the board of directors in monitoring the management of the firm. Aburaya (2012) demonstrates that higher audit committee independence will contribute to a higher quality of CSR disclosure.

We also take into account the firm-specific characteristics such as size of the company, leverage, audit quality and firms that are in loss. In line with Simnett et al. (2009), Levy et al. (2010) and Gallo and Christensen (2011), we control for firm size (SIZE) in our model since larger companies are subject to greater pressure in terms of responding to stakeholder demands and they tend to report more on their CSR practices in order to legitimize their activities (Bonsón and Bednárová 2014). Prior studies reveal that audit quality (BIG4) is able to influence the quality of information disclosure (Behbahani et al. 2013; Harandi and Khanagha 2013). We include firm loss (LOSSCO) and leverage (LEV) since Lan et al. (2013) report a significantly positive relationship between leverage and CSR disclosure. In line with Amran and Devi (2008) and Boulouta (2013), we control for industry types since industry plays an important role in understanding the motives of CSR disclosure; hence, the firm's industry might affect CSR disclosure in several ways. For example, certain industries disclose CSR information for promoting their competitive products and creating confidence among their investors, depositors and public (Wan Abdul Rahman et al. 2011), while a few others disclose CSR information because they are exposed to environmental issues (Amran

Footnote 19 continued
According to Malhotra (2010), the sample size for a pilot test usually ranges from 15 to 30 respondents. Therefore, 30 annual reports had been selected with two academicians as evaluators to perform the pilot test. The variables which used "content analysis" are regulatory compliance, corporate image, quality of CG disclosure and quality of CSR disclosure. Explanation was given on the codes prior to the pilot test. The kappa result of the two coders which were pretested achieves the satisfactory level.

and Devi 2008). Year effects are included in the model to control for fixed year effects, similar to Jiao (2010).

Model

We develop the model below in order to test the relationship between board diversity and quality of CSR disclosure.[20] Using "Stata" as our statistical analysis package, we primarily run the pooled OLS regressions in examining the association between board diversity and CSR quality.[21] Then, we run two-stage least square (2SLS) IV regressions to check for the endogeneity bias in our dataset.

$$\begin{aligned} QCSR = {} & \alpha + \beta_1 GENDER + \beta_2 EDULEVEL \\ & + \beta_3 EDUBGROUND + \beta_4 AGE + \beta_5 TENURE \\ & + \beta_6 NATION + \beta_7 ETHNIC + \beta_8 BODSIZE \\ & + \beta_9 BODIND + \beta_{10} BODMEET + \beta_{11} ACSIZE \\ & + \beta_{12} ACIND + \beta_{13} ACMEET + \beta_{14} SIZE \\ & + \beta_{15} BIG4 + \beta_{16} LEV + \beta_{17} LOSSCO \\ & + \beta_{18} YEAR\ DUMMIES \\ & + \beta_{19} INDUSTRY\ DUMMIES + \end{aligned}$$

where QCSR = Quality of CSR disclosure, measured using index scoring of CSR; GENDER = Board gender diversity measure using percentage of female directors on the board; EDULEVEL = Board educational level diversity measure using the Blau Index data on the proportion of board of directors in each category of educational level such as PhD, master degree, undergraduate degree, diploma and others; EDUBGROUND = Board educational background measured using the Blau Index on the proportion of board of directors in each category of educational background such as accountancy, banking and finance, engineering, architecture, art, science, business management, economics, law and others; AGE = Board age diversity measure using the Blau Index the coefficient of variation in age of the board members; TENURE = - Board tenure diversity measured using the Blau Index the coefficient of variation in tenure (years of services) of the board members; NATION = Board nationality diversity measured using the Blau Index the percentage of foreign directors on the board; ETHNIC = Board ethnicity diversity measured using the Blau Index the percentage of different ethnic backgrounds such as Malay, Chinese, Indian and others; BODSIZE = Board size measured using the number of directors; BODIND = Independent board of directors measured using ratio of independent directors to total directors; BODMEET = Board meeting measured using the number of board meetings held during the period; ACSIZE = Size of audit committee measured using number of the audit committee; ACIND = Independent audit committee measured using the number of independent audit committee members divided by the total number of audit committee members; ACMEET = Frequency of audit committee meetings measured using the number of audit committee meetings during the period; BIG4 = Audit quality measured using a dummy variable: represented by "1" if the annual report is audited by a BIG4 auditor and "0" if audited by an auditor other than a BIG4 auditor; SIZE = Firm' size using natural log of market capitalization; LEV = Leverage measured using total debt divided by total equity; LOSSCO = Loss company measured using a dummy variable: "1" indicates the company with negative earnings, while "0" with positive earnings.

Findings and Discussions

Descriptive Analysis

Table 2 presents the descriptive analysis. The mean for the quality of CSR disclosure is 0.2196 and ranges from 0.1667 to 0.8167. This is slightly higher compared to the previous research in quality of CSR disclosure such as Adnan et al. (2011) who found the mean of quality of CSR disclosure in Malaysian annual reports is 0.1143 in 2008/2009. In our 2009–2013 data period, the mean for board gender diversity is 0.08 and ranges from 0.00 to 0.40. This is slightly higher than Fan (2012) who reported that the mean for board gender diversity was 0.07 in 2002 and 2003, respectively, and Catalyst (2011) who reported that women's representation on boards was 0.068. This indicates gender-led reform for boards in Malaysian firms has been progressing in the last 5 years, *albeit* very slowly, to attain the mandatory 30% women's representation by the end of 2016. With respect to board educational level diversity, the average value is 0.5620 with a minimum value of 0.00 and a maximum value of 0.90, indicating that there are companies with homogeneous board educational level diversity, while some companies have 90% heterogeneous board educational level. Similarly, the mean of board educational background shows a high value of 0.72 ranging from 0.29 to 0.91. The mean for board age

[20] We handle for outliers by winsorizing all of the continuous data at the top and bottom 1% following Upadhyay and Zeng (2014). We have checked the normality and linearity using skewness and kurtosis test, and we find that overall the results are within the normality range except for certain cases. We note that heteroscedasticity is not a serious problem, given that our white test shows a significant p value ($Chi^2 = 136.08$, $p = 0.000$). Nevertheless, we have taken preventive action to control for heteroscedasticity in the model by using "robust" command in Stata.

[21] We acknowledge that our data are of panel data type; hence, panel data analysis such as fixed effects and random effects might be more suitable. We, however, rely on OLS regression because we realize that corporate governance data are subject to the "stickiness" issue, where the variation of governance practice over panel data is none or very minimal (Brown et al. 2011).

Table 2 Descriptive statistics variables

	Mean	SD	Min	Max	25%	50%	75%
QCSR	0.2196	0.1714	0.1667	0.8167	0.1000	0.1667	0.2667
GENDER	0.0840	0.1097	0.0000	0.4000	0.0000	0.000	0.1429
EDULEVEL	0.5634	0.1618	0.0000	0.9000	0.4700	0.6000	0.6600
EDUBGROUND	0.7200	0.1163	0.2900	0.9100	0.6600	0.7400	0.8100
AGE	0.1589	0.0455	0.0842	0.2493	0.1226	0.1554	0.1969
TENURE	0.5931	0.3470	0.000	1.6900	0.3500	0.5500	0.7600
NATION	0.0700	0.1440	0.000	0.6000	0.0000	0.0000	0.0800
ETHNIC	0.3757	0.1938	0.000	0.8300	0.2500	0.4100	0.5100
BODSIZE	7.475	1.8206	4.00	13.00	6.00	7.00	9.00
BODIND	0.4462	0.1236	0.2500	0.8000	0.3300	0.4300	0.5000
BODMEET	5.503	1.9570	3.000	14.000	4.000	5.000	6.000
ACSIZE	3.247	0.529	2.00	5.00	3.00	3.00	3.00
ACIND	0.8870	0.1465	0.67	1.000	0.7500	1.0000	1.0000
ACMEET	4.9620	0.9238	4.0000	9.0000	4.0000	5.0000	5.0000
BIG4	0.62	0.4856	0.000	1.000	0.000	1.000	1.0000
SIZE	18.938	1.8208	15.000	25.000	18.000	19.000	20.000
SIZE (RM)	1,400,000,000	5,440,000,000	2,909,023	59,400,000,000	48,400,000	126,000,000	398,000,000
LEV	0.3813	0.2122	0.0001	1.0000	0.2135	0.3703	0.5143
LOSSCO	0.1950	0.3964	0.0000	1.0000	1.0000	1.0000	1.0000

QCSR Quality of CSR disclosure, measured using index scoring of CSR; *GENDER* Board gender diversity measured using percentage of female director on the board; *EDULEVEL* Board educational level diversity measured using the Blau Index on the proportion of board of directors in each category of educational level such as PhD, master degree, undergraduate degree, diploma and others; *EDUBGROUND* Board educational background measured using the Blau Index on the proportion of board of directors in each category of educational background such as accountancy, banking and finance, engineering, architecture, art, science, business management, economics, law and others; *AGE* Board age diversity measured using the Blau Index the coefficient of variation in age of the board members; *TENURE* Board tenure diversity measured using the Blau Index the coefficient of variation in tenure (years of services) of the board members; *NATION* Board nationality diversity measured using the Blau Index the percentage of foreign directors on the board; *ETHNIC* Board ethnicity diversity measured using the Blau Index the percentage of different ethnic backgrounds such as Malay, Chinese, Indian and others; *BODSIZE* Board size measured using the number of directors; *BODIND* Independent board of director measured using ratio of independent director to total directors; *BODMEET* Board meeting measured using the number of board meetings held during the period; *ACSIZE* Size of audit committee measured using number of audit committee; *ACIND* Independent audit committee measured using the number of independent audit committee members divided by the total number of audit committee members; *ACMEET* Frequency of audit committee meeting measured using the number of audit committee meetings during the period; *BIG4* Audit quality measured using a dummy variable: represented by "1" if the annual report is audited by a BIG4 auditor and "0" if audited by an auditor other than a BIG4 auditor; *SIZE* Firm' size using natural log of market capitalization; *LEV* Leverage measured using total debt divided by total equity; *LOSSCO* Loss company measured using a dummy variable: "1" indicates the company with negative earnings, while "0" with positive earnings

diversity in this study is 0.1593 with a minimum value of 0.0842 and a maximum value of 0.2493. This is lower compared to the finding of Ibrahim and Hanefah (2014) where the mean value for board age diversity in Jordan is 0.137. The average for board ethnicity is 0.3757 with a maximum 0.83 and a minimum 0.00. The average for board tenure diversity is 0.5931 which is slightly lower when compared to the average in Fan (2012) showing 0.6268 in 2002 and 0.600 in 2003. In respect of nationality, the mean for board nationality diversity is 0.07 which ranges from 0.00 to 0.60. This is lower than 0.100 as reported by Ibrahim and Hanefah (2014).

As presented in Table 2, the mean for board size was 7.475 with a minimum of 4 directors and a maximum of 13 directors which is consistent with Marn and Romuald (2012) having a mean value of board size 7.6 in Malaysia. With regard to board independence, the mean and maximum values of 0.446 and 0.80 are in line with the findings of Latif et al. (2013) reported as 0.44 and 0.80, respectively. The maximum frequency of board meetings of 14 is considered lower than the frequency of board meetings of 24 in the study of Johl et al. (2015) for the banking and financial sector. As shown in Table 2, the average size of audit committee is 3.24 which is comparable with the average of 3.51 in Mohamad Nor et al. (2010). This is in accordance with the requirement by Section 344A (2) of Bursa Malaysia Listing Requirement that audit committees must have a minimum of 3 members and the majority of them must be non-executive directors. In terms of independent audit committee, the current study shows a mean

of 0.887 which is within the minimum range of 0.67 and a maximum range of 1.00. This is similar to the findings of Apadore and Mohd Noor (2013) showing a mean of 0.86 with the minimum range of 0.40 and a maximum range of 1.00. The mean for audit committee meetings of 4.962 is also consistent with 4.93 in Apadore and Mohd Noor (2013). The more often they meet to find out the course effect, the better it could be, as stated in the Bursa Malaysia Governance Guide (2009); the frequency of audit committee meeting is at least four times in a year (Apadore and Mohd Noor 2013). Company size shows a mean value of RM1,400,000,000 with a range from RM29,100,000 to RM5,940,000,000 (in Malaysian Ringgit). The mean for leverage (0.3813) is higher as compared to the mean 0.297 found in Azar and Rad (2014) in Malaysia. The average audit quality (BIG4 auditors) is 0.62, consistent with Yunos et al. (2012), signifying that the majority of the companies have been audited by the BIG4 auditors. Regarding loss companies, the mean is 0.195 which indicated that on average, 19.5% of the companies in this study have negative earnings.

Pairwise Correlation

We perform pairwise correlation in Table 3 to observe the direction of relationship between variables and to check whether there is a multicollinearity problem. According to Gujarati (1995), a multicollinearity problem exists when the coefficient value is greater than 0.80. We note that all the coefficient values fell below 0.90 where the highest coefficient is 0.60 which is between the quality of CSR disclosure and the size of the company. Thus, we conclude that multicollinearity is not an issue in our study.

Multivariate Regression Analyses

We present our OLS regression results on board diversity and quality of CSR disclosure along with control variables in Table 4 (e.g., Model 1, Model 2 and Model 3). Model 1 reports the OLS regression between board characteristics, audit committee characteristics and firm characteristics on the quality of CSR disclosure. In respect of board characteristics, our results demonstrate that BODIND (coef = 0.14, $p < 0.01$) and BODMEET (coef = 0.01, $p < 0.01$) have a positive association with the quality of CSR disclosure, while BODSIZE shows an insignificantly positive result. For audit committee characteristics, our results exhibit a positive association for a number of audit committees that an increase in ACSIZE (coef = 0.04, $p < 0.01$) improves the quality of CSR as they are able to assist the management in providing more quality information, while ACMEET and ACIND do not have an influence on CSR. As for firm characteristics, there are significantly positive effects of LEV (coef = 0.08, $p < 0.01$), BIG4 (coef = 0.04, $p < 0.01$) and SIZE (coef = 0.05, $p < 0.01$) on CSR disclosure. The *R*-squared in Model 1 is 0.441, which suggests that 44.1% of quality of CSR disclosure can be explained by the variables that we included in Model 1.

In Model 2 shown in Table 4, we add the board diversity variables of interest in the regression. We find that EDULEVEL (coef = 0.06, $p < 0.05$) and TENURE (coef = 0.04, $p < 0.01$) are significantly positively related to the quality of CSR disclosure. Thus, our H2 and H5 are supported, suggesting that diverse educational level and heterogeneous board tenure contribute to the quality of CSR disclosure. This is in line with the findings of Valls et al. (2016) reporting a positive association between board educational diversity and team performance. Our result on board tenure is also in line with Rao and Tilt (2016b) claiming that a mix of longer- and shorter-tenured directors improves the decision on CSR issues. Our result supports the RBV theory of the firm where the diversity in educational level (EDULEVEL) is a valuable resource and tenure (TENURE) a competitive advantage to the corporation including the information to be provided to the stakeholders.

Our results also demonstrate that AGE (coef = − 0.29, $p < 0.01$) and NATION (coef = − 0.04, $p < 0.01$) are negatively related to the quality of CSR disclosure. So, our H4 and H6 are not supported with the expectation of RBV theory. These findings indicate that the presence of boards with diverse age and nationality will reduce the quality of CSR. Consistent with our finding, Hafsi and Turgut (2013) report an inverse relationship between age diversity (AGE) and CSR performance, indicating that the more diverse is the age of the board, the lower the quality of CSR disclosure. The difference in age factor may bring complexity in providing the information to the stakeholders. This is not surprising given that from the traditional Malaysian culture, the older tend to undermine or less appreciate the opinion of the people with younger age.[22] In line with this view, Goldman (2016) claims that younger managers who attended board meeting complaint that elder board members never give them an opportunity to express their own view; hence, younger managers feel that board meeting as a boring and time-wasting activity. In respect of nationality

[22] In Malaysia, there is an old proverb that has been widely used by the older generation to defend their action and decision—"the older eat the salt earlier than the younger." This proverb means that in many aspects of life the older generations always know better than the younger generations, so the older generations are supposed to be better qualified in decision making. The idea, opinion, suggestion and recommendation from the younger generation are often undermined by the older generation and usually viewed as less matured and less valuable due to lack of the experience of the young generation.

Table 3 Pairwise correlation

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	QCSR	1.000								
2.	GENDER	0.05	1.000							
		(0.15)								
3.	EDULEVEL	0.12	−0.04	1.000						
		(0.00)	(0.25)							
4.	EDUBGROUND	0.12	0.01	0.23	1.000					
		(0.00)	(0.75)	**(0.00)**						
5.	ETHNIC	0.04	−0.02	0.02	0.120	1.000				
		(0.26)	(0.60)	(0.49)	**(0.00)**					
6.	AGE	−0.13	0.19	0.01	0.06	0.01	1.000			
		(0.00)	**(0.00)**	(0.76)	(0.08)	(0.75)				
7.	TENURE	0.29	−0.02	0.07	0.20	0.09	0.01	1.000		
		(0.00)	(0.52)	**(0.03)**	**(0.00)**	**(0.00)**	(0.86)			
8.	NATION	−0.01	−0.02	−0.15	−0.13	0.38	−0.11	0.07	1.000	
		(0.70)	(0.43)	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.03)**		
9	BODSIZE	0.266	0.11	0.05	0.11	0.05	0.02	0.11	0.05	1.000
		(0.00)	**(0.00)**	(0.10)	**(0.00)**	(0.12)	(0.53)	**(0.00)**	(0.08)	
10.	BODIND	0.01	−0.06	−0.01	0.10	0.05	−0.11	0.22	−0.01	−0.40
		(0.76)	(0.07)	(0.74)	**(0.00)**	(0.12)	**(0.00)**	**(0.00)**	(0.75)	**(0.00)**
11.	BODMEET	0.29	0.01	0.02	0.13	−0.07	−0.10	0.28	−0.08	0.15
		(0.00)	(0.66)	(0.61)	**(0.00)**	(0.03)	**(0.00)**	**(0.00)**	**(0.01)**	**(0.00)**
12.	ACIND	−0.13	0.05	−0.13	−0.03	−0.04	−0.06	−0.04	−0.08	−0.03
		(0.00)	(0.12)	**(0.00)**	(0.34)	(0.17)	(0.05)	(0.24)	**(0.01)**	(0.24)
13.	ACMEET	0.14	0.08	−0.02	0.11	−0.05	−0.06	0.15	−0.09	0.09
		(0.00)	**(0.02)**	(0.44)	**(0.00)**	(0.13)	**(0.07)**	**(0.00)**	**(0.00)**	**(0.00)**
14.	ACSIZE	0.28	0.02	0.08	0.11	0.04	−0.03	0.23	0.07	0.28
		(0.00)	(0.47)	(0.11)	**(0.00)**	(0.21)	(0.27)	**(0.00)**	**(0.04)**	**(0.00)**
15.	LEV	0.03	−0.07	−0.00	−0.02	−0.03	−0.02	0.10	−0.10	0.05
		(0.37)	**(0.03)**	(0.88)	(0.46)	(0.42)	(0.54)	**(0.00)**	**(0.00)**	**(0.10)**
16.	BIG4	0.29	−0.01	0.01	0.04	0.03	−0.02	0.10	0.20	0.11
		(0.00)	(0.66)	(0.68)	(0.16)	(0.42)	(0.54)	**(0.00)**	**(0.00)**	**(0.00)**
17.	SIZE	0.60	0.09	0.04	0.12	0.12	−0.08	0.29	0.16	0.42
		(0.00)	**(0.00)**	(0.21)	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**
18.	LOSSCO	−0.17	−0.13	−0.02	−0.02	−0.00	0.03	0.04	−0.02	−0.17
		(0.00)	**(0.00)**	(0.57)	(0.48)	(0.89)	**(0.00)**	(0.20)	(0.61)	**(0.00)**

		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1.	QCSR									
2.	GENDER									
3.	EDULEVEL									
4.	EDUBGROUND									
5.	ETHNIC									
6.	AGE									
7.	TENURE									
8.	NATION									
9	BODSIZE									
10.	BODIND	1.000								

Table 3 continued

		(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
11.	BODMEET	0.07	1.000							
		(0.03)								
12.	ACIND	0.30	−0.07	1.000						
		(0.00)	**(0.03)**							
13.	ACMEET	0.11	0.49	0.01	1.000					
		(0.00)	**(0.00)**	(0.84)						
14.	ACSIZE	0.07	0.21	−0.23	0.16	1.000				
		(0.03)	**(0.00)**	**(0.00)**	**(0.00)**					
15.	LEV	−0.09	0.13	0.07	−0.05	−0.02	1.000			
		(0.789)	**(0.00)**	**(0.04)**	(0.12)	(0.60)				
16.	BIG4	−0.10	0.14	−0.13	0.06	0.12	−0.08	1.000		
		(0.00)	**(0.00)**	**(0.00)**	(0.52)	**(0.00)**	**(0.01)**			
17.	SIZE	−0.15	0.24	−0.16	0.15	0.20	−0.132	0.35	1.000	
		(0.00)	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**	**(0.00)**		
18.	LOSSCO	0.09	−0.01	0.02	−0.04	−0.06	0.19	−0.08	−0.31	1.000
		(0.00)	(0.74)	(0.51)	(0.18)	**(0.07)**	**(0.00)**	**(0.01)**	**(0.00)**	

QCSR Quality of CSR disclosure, measured using index scoring of CSR; *GENDER* Board gender diversity measured using percentage of female director on the board; *EDULEVEL* Board educational level diversity measured using the Blau Index on the proportion of board of directors in each category of educational level such as PhD, master degree, undergraduate degree, diploma and others; *EDUBGROUND* Board educational background measured using the Blau Index on the proportion of board of directors in each category of educational background such as accountancy, banking and finance, engineering, architecture, art, science, business management, economics, law and others; AGE = Board age diversity measured using the Blau Index the coefficient of variation in age of the board members; *TENURE* Board tenure diversity measured using the Blau Index the coefficient of variation in tenure (years of services) of the board members; *NATION* Board nationality diversity measured using the Blau Index the percentage of foreign directors on the board; *ETHNIC* Board ethnicity diversity measured using the Blau Index the percentage of different ethnic backgrounds such as Malay, Chinese, Indian and others; *BODSIZE* Board size measured using the number of directors; *BODIND* Independent board of director measured using ratio of independent director to total directors; *BODMEET* Board meeting measured using the number of board meetings held during the period; *ACSIZE* Size of audit committee measured using number of audit committee; *ACIND* Independent audit committee measured using the number of independent audit committee members divided by the total number of audit committee members; *ACMEET* Frequency of audit committee meeting measured using the number of audit committee meetings during the period; *BIG4* Audit quality measured using a dummy variable: represented by "1" if the annual report is audited by a BIG4 auditor and "0" if audited by an auditor other than a BIG4 auditor; *SIZE* Firm' size using natural log of market capitalization; *LEV* Leverage measured using total debt divided by total equity; *LOSSCO* Loss company measured using a dummy variable: "1" indicates the company with negative earnings, while "0" with positive earnings

Figure in parentheses is significant level, while the non-parentheses figure is the coefficient of correlation

Bold figure represents the significant value <0.10, <0.05 and <0.01, respectively

(NATION), our result contradicts Che Ahmad and Osazuwa (2015) and Muttakin et al. (2015) revealing a positive association between NATION and CSR. However, Elsakit and Worthington (2014) suggest that foreign directors can have a negative influence on CSR disclosure since the existence of foreign nationality functions as a protector to the shareholder interest and might downplay the importance of social disclosure. It can be argued that communication between different nationalities[23] is not very effective and discussion often less fruitful than expected due to the language barrier and cultural factor (Miletkov et al. 2014).[24]

[23] The highest nationality in our sample in 2013 is Singapore (45 directors), followed by Taiwan (16) and British (14). We argue that *kiasu* principle (being afraid to lose out or over-competitiveness) and low corruption level in Singapore, punctuality and low level of corruption in Britain and low corruption level in Taiwan, etc., are in contrast to Malaysian sociopolitical environment where corruption is

Footnote 23 continued
high (Transparency International, 2015), frequent lateness is tolerated in the society, and *kiasu* has not been embedded in Malaysian life. While the presence of more board members from different nationality, particularly from high transparency country, is one of the firm's assets that are expected to build firm strength in transparency, nevertheless Ferreira (2010) highlights that communication breakdown and conflict among board members from different demographics might impair board members' relationships.

[24] Malaysia is an Asian country with Eastern value system, which is different from the Western value system (for details, see Hofstede 1980, 1984, 1991, 2001; Schwartz 1994, 1999, 2004).

Table 4 OLS regressions on board diversity and CSR disclosure

	Predicted sign	Model 1 Pooled OLS Coef (*t*-stat)	Model 2 Pooled OLS Coef (*t*-stat)	Model 3 Robust Coef (*t*-stat)	Model 4 Large Coef (*t*-stat)	Model 5 Small Coef (*t*-stat)	Model 6 Diversity Alternative Coef (*t*-stat)	Model 7 BOD-Ch Alternative Coef (*t*-stat)	Model 8 AC–Ch Alternative Coef (*t*-stat)
Board diversity									
GENDER	+		0.02	**0.06***	−0.03	−0.03	−0.01	0.02	0.03
			(0.56)	**(1.84)**	(−0.42)	(−0.73)	(−0.73)	(0.58)	(0.72)
EDULEVEL	+		**0.06*****	**0.05****	0.05	**0.09*****	**−0.02*****	**0.06****	**0.05***
			(2.37)	**(2.07)**	(1.40)	**(3.32)**	**(−2.93)**	**(2.31)**	**(1.96)**
EDUBGROUND	+		0.00	0.01	−0.02	**−0.06***	0.04	0.02	0.00
			(0.07)	0.19	(−0.23)	**(−1.69)**	(1.18)	(0.06)	(0.04)
AGE	+		**−0.29*****	**−0.40*****	**−0.27***	**−0.30*****	**−0.00*****	**−0.32*****	**−0.27*****
			(−3.16)	**(−4.67)**	**(−1.72)**	**(−3.29)**	**(−2.74)**	**(−3.55)**	**(−2.84)**
TENURE	+		**0.04*****	**0.05*****	**0.03***	0.01	0.03	**0.04*****	**0.04*****
			(3.01)	**(4.07)**	**(1.73)**	(0.54)	(1.62)	**(3.57)**	**(3.02)**
NATION	+		**−0.16*****	**−0.21*****	**−0.11****	**−0.13*****	**−0.05*****	**−0.16*****	**−0.16*****
			(−4.71)	**(−7.16)**	**(−2.24)**	**(−3.41)**	**(−3.83)**	**(−4.73)**	**(−4.51)**
ETHNIC	+		0.00	−0.00	**−0.07***	**0.04***	−0.01	0.00	0.00
			(0.23)	−0.08	**(−1.76)**	**(1.88)**	(−0.20)	(0.20)	(0.20)
Control variables									
ACSIZE	+	**0.04*****	**0.03*****	**0.03****	**0.04****	0.01	**0.03*****	**0.03*****	**0.02***
		(3.38)	**(3.12)**	**(3.16)**	**(2.48)**	(0.93)	**(3.27)**	**(3.48)**	**(1.70)**
ACIND	+	−0.04	−0.03	0.02	**−0.17*****	0.04	−0.04	−0.02	−0.02
		(−1.04)	(−1.03)	(0.56)	**(−2.96)**	(1.08)	(−1.13)	(−0.65)	(−1.55)
ACMEET	+	−0.00	−0.01	−0.01	−0.01	−0.01	−0.01	−0.00	**−0.03*****
		(−1.05)	(−1.22)	(−1.33)	(−0.16)	(−1.10)	(1.36)	(−0.89)	**(−3.10)**
BODSIZE	+	0.00	0.00	0.00	0.00	−0.00	0.02	0.00	0.00
		(0.52)	(0.50)	(0.33)	(0.79)	(−0.70)	(1.02)	(0.26)	(1.10)
BODIND	+	**0.14*****	**0.11*****	0.59	**0.31*****	0.02	**−0.02*****	0.12	**0.13*****
		(3.46)	**(2.65)**	(1.55)	**(4.17)**	(0.92)	**(−2.93)**	(1.14)	**(3.14)**
BODMEET	+	**0.01*****	**0.00*****	**0.01****	0.01	0.01	**0.01****	**0.03*****	**0.01*****
		(3.09)	**(2.28)**	**(2.23)**	(1.37)	(1.32)	**(2.47)**	**(2.77)**	**(2.73)**
LEV	+	**0.08*****	**0.07*****	**0.06*****	**0.12*****	0.00	**0.07*****	**0.08*****	**0.07*****
		(3.98)	**(3.69)**	**(3.03)**	**(4.05)**	(0.12)	**(3.56)**	**(3.84)**	**(3.62)**
BIG4	+	**0.04*****	**0.04*****	**0.03*****	**0.06*****	**0.03*****	**0.04*****	**0.04*****	**0.04*****
		(4.40)	**(5.30)**	**(3.82)**	**(3.7)**	**(3.71)**	**(4.93)**	**(5.39)**	**(5.36)**
SIZE	+	**0.05*****	**0.05*****	**0.04*****	**0.06*****	**0.02*****	**0.05*****	**0.08*****	**0.05*****
		(15.93)	**(15.28)**	**(15.61)**	**(12.06)**	**(3.31)**	**(16.91)**	**(15.47)**	**(15.15)**
LOSSCO	±	−0.01	−0.01	0.00	−0.01	**−0.02****	−0.01	−0.01	−0.01
		(−0.89)	(−0.92)	(0.22)	(−0.51)	**(−2.00)**	(−0.69)	(0.408)	(−0.82)
_CONS		**−0.96*****	**−0.90*****	**−0.76*****	**−1.36*****	**−0.26****	**−0.95*****	**−0.84*****	**−0.85*****
		(−13.13)	**(−10.77)**	**(−11.06)**	**(−9.52)**	**(−2.12)**	**(−12.60)**	**(−9.47)**	**(−12.39)**
Year dummy		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Industry dummy		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
N		1000	1000	1000	509	491	1000	1000	1000

Table 4 continued

	Predicted sign	Model 1 Pooled OLS Coef (*t*-stat)	Model 2 Pooled OLS Coef (*t*-stat)	Model 3 Robust Coef (*t*-stat)	Model 4 Large Coef (*t*-stat)	Model 5 Small Coef (*t*-stat)	Model 6 Diversity Alternative Coef (*t*-stat)	Model 7 BOD-Ch Alternative Coef (*t*-stat)	Model 8 AC–Ch Alternative Coef (*t*-stat)
F/Wald Chi^2		32.95	30.78	30.11	25.81	2.89	28.61	30.86	32.19
Prob > *F*		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
R-squared		0.4411	0.4674	0.4360	0.5164	0.1275	0.4620	0.4646	0.4681

QCSR Quality of CSR disclosure, measured using index scoring of CSR; *GENDER* Board gender diversity measured using percentage of female director on the board; *EDULEVEL* Board educational level diversity measured using the Blau Index on the proportion of board of directors in each category of educational level such as PhD, master degree, undergraduate degree, diploma and others; *EDUBGROUND* Board educational background measured using the Blau Index on the proportion of board of directors in each category of educational background such as accountancy, banking and finance, engineering, architecture, art, science, business management, economics, law and others; *AGE* Board age diversity measured using the Blau Index the coefficient of variation in age of the board members; *TENURE* Board tenure diversity measured using the Blau Index the coefficient of variation in tenure (years of services) of the board members; *NATION* Board nationality diversity measured using the Blau Index the percentage of foreign directors on the board; *ETHNIC* Board ethnicity diversity measured using the Blau Index the percentage of different ethnic backgrounds such as Malay, Chinese, Indian and others; *BODSIZE* Board size measured using the number of directors; *BODIND* Independent board of director measured using ratio of independent director to total directors; *BODMEET* Board meeting measured using the number of board meetings held during the period; ACSIZE = Size of audit committee measured using number of audit committee; *ACIND* Independent audit committee measured using the number of independent audit committee members divided by the total number of audit committee members; *ACMEET* Frequency of audit committee meeting measured using the number of audit committee meetings during the period; *BIG4* Audit quality measured using a dummy variable: represented by "1" if the annual report is audited by a BIG4 auditor and "0" if audited by an auditor other than a BIG4 auditor; *SIZE* Firm' size using natural log of market capitalization; *LEV* Leverage measured using total debt divided by total equity; *LOSSCO* Loss company measured using a dummy variable: "1" indicates the company with negative earnings, while "0" with positive earnings

***, ** and * indicate that the variable is significant at 0.01, 0.05 and 0.10, respectively

Again, Model 2 shown in Table 4 also reports that other diversity variables such as GENDER, EDUBGROUND and ETHNIC are insignificant. Leaving gender diversity apart, we argue that certain diversity characteristics (i.e., ethnicity and educational background) that might have worked well in the Western setting may not necessarily be compatible with the unique Eastern jurisdictions, such as Malaysia. The results for board and audit committees and firm characteristics remain the same as reported in Model 1. The *R*-squared in Model 2 is 0.4674 and thus indicates that 46.74% of quality of CSR disclosure can be explained by the variables in the model, which is an increase from 44.11% in Model 1.

In Model 3 shown in Table 4, we also rerun the Model 2 regression using robust regression estimation and present the results. Using robust regression, our main variables reveal similar findings to our main baseline result in Model 2. We, therefore, conclude that our findings are robust across alternative regression estimation. In addition, unlike Model 2, our results in Model 3 show that GENDER appears to have a significantly positive relationship (coef = 0.06, $p < 0.10$) with CSR. Therefore, our H1 is now supported, which indicates that gender diversity has a positive effect on the quality of CSR disclosure. This finding is consistent with Harjoto et al. (2015) reporting a positive association between gender diversity and CSR disclosure. Gender diversity improves the firms monitoring role which contributes to the improvement in quality of CSR disclosure. Thus, our result provides supporting evidence on the enforcement of gender quotas in corporate boards in Malaysia and creates a new path for women's progression to hold the directorship position.

Discussion on Multivariate Regression Findings

Our findings demonstrate that an increase in board diversity of educational level, tenure and gender is associated with an increase in the quality of CSR disclosure, unlike other diversity variables in our model. In the light of the emerging market, Malaysia, our results are consistent with the RBV theory in the sense that diversities of GENDER, EDULEVEL and TENURE of the board of directors are a firm's valuable assets and that they are rare, hard to imitate and not easy to substitute, contributing to achieving competitive advantage through quality CSR disclosure. Since Malaysian companies operate in a unitary board structure with a multiethnic environment, our results suggest that firms should plan to diversify their board composition according to gender, educational level and tenure. In respect of gender diversity, our results provide supportive evidence for the enforcement of at least 30% female director quota in Malaysian listed firms starting from 2016, thus suggesting that the presence of mixed genders in the board increases board effectiveness in key decision

making, particularly related to disclosure decision on CSR. Similarly, educational level diversity and heterogeneous board tenure can increase innovation activities, creativity and expertise in monitoring, which in turn lead to effective decision making on CSR disclosure. From an emerging market context of Malaysia with weak regulations and less ethical business customs, board diversity aspects (GENDER, EDULEVEL and TENURE) appear distinct and non-imitable resources in sustaining competitive advantage over the benefits of high CSR quality. These resources play a vital role in designing and implementing a firm's strategic direction on CSR which could be superior to other competitors.

Our study also demonstrates that age diversity (AGE) and nationality diversity (NATION) are negatively related to CSR, thus suggesting that a firm's capability on age diversity and nationality diversity is not suitable in emerging markets in improving CSR quality, which might be a result of poor management intervention (Bowman and Ambrosini 2001 and 2003) and weak governance in their institutional environment. This is not surprising given that the elder might not welcome the opinion from the younger generation. Therefore, age differences may create barriers to decision-making processes on the board; thus, consensus is hard to achieve. In respect of nationality, while Estelyi and Nisar (2016) report that diverse board nationality in the UK improved organizational outcomes, our study suggests that nationality diversity does not necessarily work similarly in the emerging economy. Given that emerging markets have relatively lower resources (compared to firms in developed economies) to engage international directors, studies such as Hahn and Lasfer (2016) find that the cost of appointing foreign directors outweighs its benefit and diminishes the monitoring roles of internal governance structure.

This also appears a distinct deviation from the expectation of RBV theory, as the theory suggests for relevant capabilities to the firms to increase board effectiveness in making strategic decisions. By putting the developing country into perspective, our result implies that nationality and age diversity impaired CSR quality, where their effectiveness largely depends on the firm's efficiencies (Bowman and Ambrosini 2003) as well as institutional environments where firms are operating. We argue that besides the poor management, the negativities of the institutional contexts in developing countries, historical backgrounds, socioeconomic and cultural factors also contribute to the deterioration of the value of capabilities owned by the firms—especially nationality diversity and age diversity in our context. In developed countries, multinational and multicultural environment has been developed over a period of decades through their traditional skilled immigration system. In contrast, in most developing countries like Malaysia, immigration was shaped by force during colonization of the British.[25] Therefore, the composition of mixed society as well as social acceptance of working with multinationals are much pronounced in developed economies than in emerging economies. As such, board members of different nationalities do not work together in an effective way in an emerging economy as documented in this study.

Our results also demonstrate that not all of the diversity types are influential in improving the quality of CSR disclosure. The findings also exhibit that ethnicity (ETHNIC) and educational background (EDUBGROUND) are insignificant in influencing CSR quality. Naguib and Smucker (2009, p. 99) argue that "racial and ethnic tension" is not uncommon in developing countries, such as Malaysia, with a long history of colonization. So, ethnicity might be insignificant due to government rules on the placement of Malays in the corporate boards which subsequently shows very little difference between each firm on ethnicity diversity.[26] In respect of various educational backgrounds, although differences in individual attitude and intelligence might be beneficial in providing relevant skills and monitoring the firm's disclosure affairs (Westphal and Milton 2000), that is not the case in improving CSR disclosure in Malaysia. Unintended consequences of diversity such as communication breakdown and conflict might interfere in the board (Ferreira 2010); thus, not all of the diversity dimensions are helpful in enhancing the quality of CSR in Malaysia.

Additional Multivariate Regression Analyses

In Table 4, we run several additional tests using reduced sample and alternative measures for board diversity, board characteristics and audit committee characteristics. First, we split the sample between large and small firms based on median size value of the sample and run the baseline regression in order to understand the impact of board diversity on CSR from the firm size perspective. We present the results in Model 4 (for large firms) and Model 5 (for small firms), respectively. While we note some variations in findings between Model 4 and Model 5, the results are qualitatively similar to the baseline results in Model 2

[25] During colonization phase of the British, they bring Chinese and Indian from China and India to fulfill the job in mining and rubber estate, respectively. The Malay is recognized as the son of soil and given certain privilege compared to Chinese and Indian. This increases the dissatisfaction between ethnics in Malaysia, and this is something very common among countries that have been colonized in the past. Malaysia has been colonized for more than 400 years by Portuguese, Japan, Denmark and British. While the resources of the country have been taken away by other countries and this might create a sentiment among the Malaysian, the foreigner is viewed as the robber of the country.

[26] We thank the reviewer for highlighting this point.

and Model 3. In Model 4 shown in Table 4, we find consistent findings for board diversity variables AGE, TENURE and NATION to baseline results. In addition, ETHNIC shows a negative effect on CSR. This suggests that TENURE diversity improves CSR in large firms, while the increase in other diversities related to ETHNIC, AGE and NATION significantly reduce CSR in large firms. Similarly, Model 5 shown in Table 4 delivers consistent findings for board diversity variables EDULEVEL, AGE and NATION to baseline findings. Unlike Model 4, Model 5 shows a positive effect of ETHNIC on CSR. This indicates some support for H7, given that the opposite direction is evident and the extent of ethnic diversity is relatively high in large firms and small ones. Further, unlike other models and contrary to our expectation, in Model 5 EDUBGROUND is significantly negatively related to CSR disclosure.

Second, as part of the sensitivity analysis in Table 4, we also perform OLS regressions on the full sample using alternative measures for board diversity (Model 6), board characteristics (Model 7) and audit committee characteristics (Model 8). We provide evidence that the findings in Models 6, 7 and 8 are mostly similar to the baseline results in Model 2 and Model 3. Thus, our main diversity results remain unchanged, suggesting that our findings are robust and are not affected by the alternative proxies for diversity, board characteristics and audit committee characteristics.[27]

Further, conceptually it is plausible that different aspects of board diversity may or may not be interlinked in affecting CSR disclosure. As such, we expect a possible complementarity or substitutive relationship between board diversity variables and CSR. To make our discussion more relevant, as an additional analysis, we therefore rerun the regressions by including the interaction terms of significant diversity variables in our baseline results shown in Table 4 (Model 2 and Model 3).

We have identified GENDER, EDULEVEL, TENURE, AGE and NATION as diversity variables subject to interaction. We rely on GENDER as our core diversity variable, given that in the existing literature gender diversity has received a lot more attention as compared to other attributes of board diversity in the Malaysian context, gender becomes the main diversity interest of the regulator where 30% female quota has been made compulsory by 2016. Therefore, we create four interaction terms with gender, such as GENDER*EDULEVEL, GENDER*TENURE, GENDER*AGE and GENDER*NATION. We add these interaction terms to our Table 4 (e.g., Model 2, Model 3, Model 4 and Model 5) and present the results of the regression with the interaction terms in Table 5 (in Model 1, Model 2, Model 3 and Model 4, respectively). Following Oh et al. (2016), we consider that there is a "complementary relationship" between respected diversity variables on CSR when the interaction term shows a significant positive association, while a "substitutive relationship" in the case the interaction term shows a significant negative relationship.

In Model 1 shown in Table 5, our pooled OLS regression reports that there are positive relationships between GENDER*EDULEVEL (coef = 0.35, t-stat = 1.74) and GENDER*NATION (coef = 0.82; t-stat = 2.16) in influencing CSR at $p < 0.1$ and $p < 0.05$, respectively. Our findings indicate that there is a complementary relationship between GENDER and EDULEVEL in improving the quality of CSR disclosure in Malaysia. This suggests that if firms have diverse GENDER in the board, the existence of diverse EDULEVEL in the board will improve the quality of CSR disclosure. When we compare our Model 1 shown in Table 5 with our baseline result in Table 4 Model 2 (Model 3), we can see that the coefficient of GENDER is 0.02 (0.06), while the coefficient for EDULEVEL is 0.06 (0.05). We note that the interaction between GENDER and EDULEVEL has increased the coefficient to 0.82, thus signaling the synergy between both variables in improving CSR disclosure. Moreover, our results also exhibit that there is a complementary effect between GENDER and

[27] In Model 6 shown in Table 4, we use alternative measurement for diversity variables. In this instance, GENDER was measured using dummy variable with value "1" for firms with at least one female director and "0" otherwise (Abdullah 2014); EDULEVEL is measured using the proportion of directors having other than academic degree to total number of directors [academic degree is selected as benchmark for educational level, following Amran and Che Ahmad (2011)]; AGE is measured using standard deviation of director ages (Dagsson and Larsson 2011); ETHNIC is measured using the proportion of directors excluding majority of race/ethnic to total number of directors (Shukeri et al. 2012); TENURE is measured using the proportion of directors serving as board of director less than 3 years to total number of directors (the proportion of serving as measurement diversity is following educational level diversity and ethnic diversity, while the average of 3 years is following Harjoto et al. (2015); NATION is measured using a dummy variable with value "1" for the existence of foreign directors and "0" otherwise (Rasmini et al. 2014). In Model 7 shown in Table 4, alternative measurement for BODSIZE is taken using a dummy variable with value "1" as high BODSIZE, while "0" as low BODSIZE; BODMEET is measured using a dummy with value "1" for high frequency of board meeting, while "0" for low frequency of board meeting; BODIND is valued "1" if the percentage of independent directors (excluding chairman) is more than 50%, "0" otherwise (Katmon 2012). In Model 8 shown in Table 4, the alternative measurement for audit committee characteristics is taken consistent with the alternative measurement of BODSIZE, BODMEET and BODIND. Therefore, ACSIZE is measured by a dummy variable with value "1" as high ACSIZE, while "0" as low ACSIZE. ACMEET is valued as "1" for high frequency of ACMEET, while "0" for low frequency of ACMEET. ACIND is measured using a dummy variable with value "1" if the percentage of ACIND is more than 50%, "0" otherwise.

Table 5 OLS regressions on board diversity and CSR disclosure (with interaction terms)

	Predicted sign	Model 1 Pooled OLS Coef (*t*-stat)	Model 2 Robust Coef (*t*-stat)	Model 3 Large Coef (*t*-stat)	Model 4 Small Coef (*t*-stat)
Interaction variables					
GENDER * EDULEVEL	±	**0.35***	0.29	**0.93****	0.29
		(1.74)	(1.28)	**(2.43)**	((1.32)
GENDER * TENURE	±	−0.67	0.16	−0.04	**−0.20***
		(−0.75)	(0.16)	(−0.23)	**(−1.66)**
GENDER * AGE	±	−0.99	**−1.70****	1.24	**−2.78*****
		(−1.26)	**(−2.16)**	(0.83)	**(3.21)**
GENDER * NATION	±	**0.82****	**0.73****	**1.34*****	0.41
		(2.16)	**(2.22)**	**(2.64)**	(1.05)
Board diversity					
GENDER	+	0.00	0.17	**−0.83****	**0.42****
		(0.00)	(0.80)	**(−2.20)**	**(2.05)**
EDULEVEL	+	0.35	0.03	−0.16	**0.07****
		(1.17)	(0.95)	(−0.33)	**(2.46)**
EDUBGROUND	+	0.03	0.13	−0.02	−0.05
		(0.10)	0.38	(−0.32)	(1.37)
AGE	+	**−0.22***	**−0.27*****	−0.37	−0.15
		(−1.97)	**(−2.61)**	(−1.56)	(−1.45)
TENURE	+	**0.04*****	**0.05*****	0.03	0.16
		(2.68)	**(3.17)**	(1.14)	(0.87)
NATION	+	**−0.22*****	**−0.27*****	**−0.21*****	**−0.15*****
		(−4.92)	**(−3.17)**	**(−3.02)**	**(−3.88)**
ETHNIC	+	0.03	−0.03	**−0.07***	0.03
		(0.16)	(−0.17)	**(−1.71)**	(1.32)
Control variables					
ACSIZE	+	**0.03*****	**0.02*****	**0.04****	0.00
		(3.04)	**(3.09)**	**(2.45)**	(0.97)
ACIND	+	−0.39	0.01	**−0.17*****	0.03
		(−1.15)	(0.30)	**(−3.03)**	(0.01)
ACMEET	+	−0.07	−0.01	−0.01	0.00
		(−1.22)	(−1.55)	(−1.06)	(0.01)
BODSIZE	+	0.02	0.02	0.03	0.00
		(0.53)	(0.49)	(0.71)	(0.80)
BODIND	+	**0.11*****	**0.06***	**0.32*****	0.05
		(2.69)	**(1.73)**	**(4.34)**	(1.26)
BODMEET	+	**0.01****	**0.05****	0.00	0.01
		(2.17)	**(2.12)**	(1.10)	(1.40)
LEV	+	**0.07*****	**0.06*****	**0.12*****	0.01
		(3.72)	**(2.99)**	**(4.71)**	(0.36)
BIG4	+	**0.01*****	**0.03*****	**0.05*****	**0.03*****
		(4.97)	**(3.50)**	**(3.33)**	**(3.43)**
SIZE	+	**0.05*****	**0.04*****	**0.07*****	**0.01*****
		(14.76)	**(15.01)**	**(11.88)**	**(3.16)**
LOSSCO	±	−0.01	0.01	−0.14	**−0.02****
		(−0.99)	(0.10)	(−0.69)	**(−2.22)**

Table 5 continued

	Predicted sign	Model 1 Pooled OLS Coef (*t*-stat)	Model 2 Robust Coef (*t*-stat)	Model 3 Large Coef (*t*-stat)	Model 4 Small Coef (*t*-stat)
_CONS		**−0.90***** **(−10.54)**	**−0.74***** **(−10.63)**	**−1.32***** **(−8.90)**	**−0.28**** **(−2.24)**
Year dummy		Yes	Yes	Yes	Yes
Industry dummy		Yes	Yes	Yes	Yes
N		1000	1000	509	491
F/Wald Chi^2		28.97	26.64	25.26	4.70
Prob > *F*		0.00	0.00	0.00	0.00
R-squared		0.4723	0.4434	0.5253	0.2119

QCSR Quality of CSR disclosure, measured using index scoring of CSR; *GENDER* Board gender diversity measured using percentage of female director on the board; *EDULEVEL* Board educational level diversity measured using the Blau Index on the proportion of board of directors in each category of educational level such as PhD, master degree, undergraduate degree, diploma and others; *EDUBGROUND* Board educational background measured using the Blau Index on the proportion of board of directors in each category of educational background such as accountancy, banking and finance, engineering, architecture, art, science, business management, economics, law and others; *AGE* Board age diversity measured using the Blau Index the coefficient of variation in age of the board members; *TENURE* Board tenure diversity measured using the Blau Index the coefficient of variation in tenure (years of services) of the board members; *NATION* Board nationality diversity measured using the Blau Index the percentage of foreign directors on the board; *ETHNIC* Board ethnicity diversity measured using the Blau Index the percentage of different ethnic backgrounds such as Malay, Chinese, Indian and others; *BODSIZE* Board size measured using the number of directors; *BODIND* Independent board of director measured using ratio of independent director to total directors; *BODMEET* Board meeting measured using the number of board meetings held during the period; *ACSIZE* Size of audit committee measured using number of audit committee; *ACIND* Independent audit committee measured using the number of independent audit committee members divided by the total number of audit committee members; *ACMEET* Frequency of audit committee meeting measured using the number of audit committee meetings during the period; *BIG4* Audit quality measured using a dummy variable: represented by "1" if the annual report is audited by a BIG4 auditor and "0" if audited by an auditor other than a BIG4 auditor; *SIZE* Firm' size using natural log of market capitalization; *LEV* Leverage measured using total debt divided by total equity; *LOSSCO* Loss company measured using a dummy variable: "1" indicates the company with negative earnings, while "0" with positive earnings

***, ** and * indicate that the variable is significant at 0.01, 0.05 and 0.10, respectively

NATION in enhancing the quality of CSR. Our results suggest if firms have diverse GENDER in the board, the appointment of diverse NATION in the board will enhance the quality of CSR disclosure. In other words, the synergies from both GENDER and NATION are beneficial to increase the firm's CSR reporting.

In Model 2 shown in Table 5, when we use robust regression as our estimation, we find that GENDER*AGE are substitutes to each other (coef = −1.70, *t*-stat = −2.16) in influencing CSR at $p < 0.05$. The substitutive relationship indicates that firms may need to trade-off between different aspects of board diversity. Our result suggests that if firms have diverse GENDER, the existence of diverse AGE in the board will reduce the quality of CSR disclosure. This might happen due to the complex and unproductive communication between different age levels of directors with different gender. This is normal within the Malaysian context, because the older generation tend to undermine the opinion or suggestion from the younger generation. Again, similar to our finding in Model 1 shown in Table 5, we also report a complementary relationship between GENDER*NATION on CSR at $p < 0.05$ (coef = 0.73, *t*-stat = 2.22).

We then split our sample into large and small firms in Table 5, and we tabulate our results for Model 3 and Model 4, respectively. In Model 3 shown in Table 5, using large firms, we demonstrate a complementary relationship for GENDER * EDULEVEL at $p < 0.05$ (coef = 0.93, *t*-stat = 2.43) and GENDER*NATION at $p < 0.01$ (coef = 1.34, *t*-stat = 2.64) as they show significantly positive association with CSR disclosure, which are similar to the findings in Model 1. Our results suggest that in large firms diversity implementation appears to be less costly compared to the small firms. Since large firms are always under scrutiny by governments and the public, diverse GENDER, EDULEVEL and NATION are needed at their best interest to improve the quality of CSR disclosure. Again, in Model 4 shown in Table 5 for small firms, a substitutive relationship is identified on GENDER*TENURE as well as on GENDER * AGE at $p < 0.1$ (coef = −0.20, *t*-stat = −1.66) and $p < 0.01$ (coef = −2.78, *t*-stat = 3.21), respectively, in influencing

CSR. Such substitutive relationships indicate that small firms are more prone to trade-offs between different aspects of board diversity. This suggests that in small firms with diverse GENDER the appointment of diverse TENURE and diverse AGE will reduce CSR. Since engaging diverse TENURE and diverse AGE directors is costly for small firms while they already have diverse GENDER, it is not wise for small firms to appoint diverse TENURE and diverse AGE directors at the expense of CSR activities and disclosure.

Instrumental Variable (IV) Regression Analyses with Two-Stage Least Square Regression (2SLS) Estimator

Prior literature highlights that the relationship between board diversity and corporate disclosure might experience an endogeneity problem (Jia and Zhang 2012; Upadhyay and Zeng 2014; Ben-Amar et al. 2015) that potentially occurs due to omitted variables or simultaneity. Thus, consistent with Sundaramurthy et al. (2012) and Katmon and Farooque (2017), we perform Durbin and Wu–Hausman tests (Durbin 1954; Wu 1973; Hausman 1978) to detect the presence of endogeneity. Our Durbin and Wu–Hausman tests reported below denote that out of seven (7) board diversity variables, three (3) variables: EDULEVEL (Durbin = 10.38, p value = 0.00; Wu–Hausman = 10.34, F-test = 0.00), AGE (Durbin = 18.92, p value = 0.00; Wu–Hausman = 18.83, F-test = 0.00) and TENURE (Durbin = 11.54, p value = 0.00; Wu–Hausman = 11.57, F-test = 0.00), are subject to endogeneity bias.

Durbin and Wu–Hausman tests for endogeneity

	GENDER	EDULEVEL	EDUBGROUND	AGE	ETHNIC	TENURE	NATION
Durbin	1.58	**10.38*** **	0.73	**18.92*** **	0.49	**11.54*** **	1.28
p value	0.21	**0.00**	0.39	**0.00**	0.48	**0.00**	0.25
Wu–Hausman F	1.55	**10.34*** **	0.74	**18.83*** **	0.48	**11.57*** **	1.30
p value	0.21	**0.00**	0.39	**0.00**	0.48	**0.00**	0.25

In order to resolve the endogeneity bias for EDULEVEL, AGE and TENURE, we run instrumental variables (IV) regression with 2SLS estimator consistent with the prior literature (Liu et al. 2014; Low et al. 2015). The 2SLS allows for consistent estimation of simultaneous equations with endogenous predictors and is one of the most potent and versatile tools available in regard to endogeneity (Antonakis et al. 2014). According to French and Popovici (2011), IV estimation is a powerful tool and able to generate consistent estimates in the presence of endogeneity if employed correctly. Our OLS regression findings are to be considered as robust if we find similar results in the 2SLS. We, therefore, use 1-year-lagged data as instrumental variables (IV) in our 2SLS regressions, in line with Bear et al. (2010), Gyapong et al. (2016) and Sila et al. (2015). Lagged data on educational level, age and tenure are valid to be instrumental variables under the assumption that board members must be in their roles for some time to have an impact on CSR (Bear et al. 2010). In the first stage of regression, we treat the endogenous variable as a dependent variable, while other variables and IV (i.e., the lagged data of the endogenous variable) as independent variables. After that, we generate the "fitted value" of the endogenous variable. In the second-stage regression, we replace our endogenous variable with its fitted value that was derived from the first-stage regression.

We tabulate our 2SLS regression results in Table 6. Models 1, 2 and 3 present the 2SLS regressions (first stage and second stage) for EDULEVEL, AGE and TENURE, respectively. In the Model 1 first-stage regression, our instrumental variable Lag EDULEVEL is strongly correlated with current period educational level (EDULEVEL). In the Model 1 second stage, when we replace EDULEVEL with its fitted value derived from the first-stage regression, our EDULEVEL demonstrates a significantly positive relation with CSR at $p < 0.01$. This finding is similar to our OLS result in Table 4 Models 2 and 3. In respect of endogenous variables AGE and TENURE in Model 2 and Model 3 shown in Table 6, we follow similar approach as in Model 1 and find that both AGE and TENURE are significant at $p < 0.01$ and $p < 0.01$, respectively, with CSR. In addition to these findings in Models 1, 2 and 3 second-stage regressions, we also observe consistent findings for other board diversity variables as reported in our baseline result in Table 4 Model 2. We, therefore, conclude that our main baseline OLS results in Table 4 Model 2 are robust across the endogeneity issue since our 2SLS regressions demonstrate similar findings to our OLS results.

We acknowledge that a strong and valid instrumental variable is important to cater for the endogeneity issue in our analysis. We, therefore, perform several post-estimation tests to analyze the strength of our instrumental variables. First, we check the F-statistics for the first-stage

Table 6 Two-stage least square (2SLS) regressions for board diversity and CSR disclosure

	Model 1		Model 2		Model 3	
	Diversity—educational level First stage Coef (*t*-statistic)	CSR disclosure Second stage Coef (*t*-statistic)	Diversity—age First stage Coef (*t*-statistic)	CSR disclosure Second stage Coef (*t*-statistic)	Diversity—tenure First stage Coef (*t*-statistic)	CSR disclosure Second stage Coef (*t*-statistic)
Board diversity						
GENDER	−0.01	0.02	0.00	0.02	−0.10	0.02
	(−0.45)	(0.52)	(0.20)	(0.38)	(−1.40)	(0.58)
EDULEVEL/fitted value		**0.09***** **(2.84)**	0.00 (0.68)	**0.06**** **(2.15)**	0.00 (0.00)	**0.06**** **(2.14)**
EDUBGROUND	**0.10***** **(3.01)**	−0.02 (−0.58)	−0.00 (−0.05)	−0.14 (−0.33)	0.11 (1.59)	−0.02 (−0.55)
AGE/fitted value	0.01 (0.14)	**−0.36***** **(−3.61)**		**−0.31***** **(−2.39)**	**0.55***** **(2.86)**	**−0.38***** **(−3.83)**
TENURE/fitted value	−0.01 (−0.89)	**0.03**** **(2.42)**	**0.01*** **(1.92)**	**0.03**** **(2.29)**		**0.07***** **(3.35)**
NATION	−0.04 (−1.34)	**−0.14***** **(−3.90)**	−0.00 (−0.60)	**−0.15***** **(−3.96)**	0.03 (0.48)	**−0.15***** **(−4.17)**
ETHNIC	0.01 (0.34)	0.01 (0.23)	−0.00 (−0.76)	0.01 (0.24)	−0.22 (−0.45)	0.00 (0.23)
Control variables						
BODSIZE	0.00 (1.51)	0.03 (1.03)	0.00 (0.42)	0.00 (1.05)	0.00 (0.26)	0.00 (1.02)
BODIND	−0.03 (−0.71)	**0.13***** **(2.82)**	−0.01 (−0.87)	**0.14**** **(2.86)**	**0.17*** **(1.76)**	**0.11**** **(2.27)**
BODMEET	−0.00 (−0.34)	0.00 (1.39)	−0.00 (−0.33)	0.00 (1.43)	**0.01**** **(2.13)**	0.00 (1.07)
ACSIZE	0.00 (0.78)	**0.03***** **(2.85)**	−0.00 (−0.91)	**0.03***** **(2.88)**	0.02 (1.31)	**0.03***** **(2.70)**
ACIND	0.02 (1.03)	−0.06 (−1.49)	−0.00 (−0.89)	−0.06 (−1.59)	0.09 (1.43)	−0.06 (−1.58)
ACMEET	−0.00 (−0.06)	−0.00 (−0.46)	0.00 (0.88)	−0.00 (−0.54)	0.00 (0.09)	−0.03 (−1.05)
LEVERAGE	−0.01 (−0.73)	**0.08***** **(3.43)**	−0.00 (−0.28)	**0.08***** **(3.42)**	−0.01 (−0.19)	**0.07***** **(3.37)**
BIG4	−0.00 (−0.93)	**0.05***** **(5.11)**	0.00 (0.48)	**0.05***** **(5.13)**	0.00 (0.02)	**0.05***** **(5.21)**
SIZE	0.00 (0.05)	**0.05***** **(13.42)**	**−0.00*** **(−1.74)**	**0.05***** **(13.47)**	**0.02***** **(2.71)**	**0.05***** **(12.55)**
LOSSCO	**0.02*** **(1.90)**	−0.01 (−1.17)	0.00 (0.22)	−0.12 (−1.22)	0.03 (1.28)	−0.02 (−1.46)
Lag EDULEVEL (IV)	**0.85***** **(27.73)**					
Lag AGE (IV)			**0.83***** **(32.93)**			
Lag TENURE (IV)					**0.69***** **(20.01)**	
_CONS	−0.03 −0.51	**−0.90**** **−10.74****	**0.06***** **3.19**	**−0.90***** **−9.26**	**−0.61***** **−4.00**	**−0.84***** **−8.63**

Table 6 continued

	Model 1		Model 2		Model 3	
	Diversity—educational level First stage Coef (*t*-statistic)	CSR disclosure Second stage Coef (*t*-statistic)	Diversity—age First stage Coef (*t*-statistic)	CSR disclosure Second stage Coef (*t*-statistic)	Diversity—tenure First stage Coef (*t*-statistic)	CSR disclosure Second stage Coef (*t*-statistic)
Industry dummies	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Year dummies	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
N	800	800	800	800	800	800
Wald Chi^2/F	71.84	645.50	87.48	630.60	41.96	651.13
PROB > *F*	0.000	0.00	0.00	0.00	0.00	0.00
R-squared	0.7224	0.4710	0.7215	0.4717	0.6135	0.4687

QCSR Quality of CSR disclosure, measured using index scoring of CSR; *GENDER* Board gender diversity measured using percentage of female director on the board; *EDULEVEL* Board educational level diversity measured using the Blau Index on the proportion of board of directors in each category of educational level such as PhD, master degree, undergraduate degree, diploma and others; *EDUBGROUND* Board educational background measured using the Blau Index on the proportion of board of directors in each category of educational background such as accountancy, banking and finance, engineering, architecture, art, science, business management, economics, law and others; *AGE* Board age diversity measured using the Blau Index the coefficient of variation in age of the board members; *TENURE* Board tenure diversity measured using Blau Index the coefficient of variation in tenure (years of services) of the board members; *NATION* Board nationality diversity measured using the Blau Index the percentage of foreign directors on the board; *ETHNIC* Board ethnicity diversity measured using the Blau Index the percentage of different ethnic backgrounds such as Malay, Chinese, Indian and others; *BODSIZE* Board size measured using the number of directors; *BODIND* Independent board of director measured using ratio of independent director to total directors; *BODMEET* Board meeting measured using the number of board meetings held during the period; *ACSIZE* Size of audit committee measured using number of audit committee; *ACIND* Independent audit committee measured using the number of independent audit committee members divided by the total number of audit committee members; *ACMEET* Frequency of audit committee meeting measured using the number of audit committee meetings during the period; *BIG4* Audit quality measured using a dummy variable: represented by "1" if the annual report is audited by BIG4 auditor and "0" if audited by an auditor other than a BIG4 auditor; *SIZE* Firm' size using natural log of market capitalization; *LEV* Leverage measured using total debt divided by total equity; *LOSSCO* Loss company measured using a dummy variable: "1" indicates the company with negative earnings, while "0" with positive earnings; *Lag EDULEVEL (IV)* 1-year-lagged data on EDULEVEL (instrumental variable); *Lag AGE (IV)* 1-year-lagged data on AGE (instrumental variable); *Lag TENURE (IV)* 1-year-lagged data on TENURE (instrumental variable)

***, ** and * indicate that the variable is significant at 0.01, 0.05 and 0.10, respectively

regressions. The *F*-statistics for Model 1, Model 2 and Model 3 are 71.81, 87.48 and 41.96, respectively, which are higher than the cutoff point of 10 suggested by Staiger and Stock (1997). Secondly, we also check the *t*-statistics for each of our instrumental variables. We find that the *t*-statistics for each instrumental variable are 27.23 in Model 1, 32.93 in Model 2 and 20.01 in Model 3, which are higher than the cutoff point of 3 suggested by Adkins and Hill (2008). Thus, we conclude that our IVs are valid, reliable and sufficiently strong to mitigate the endogeneity bias in our 2SLS regressions.

Conclusion

Our study empirically examines the association between board diversity and CSR disclosure. Using 200 listed firms in Bursa Malaysia for the years 2009–2013, our OLS and 2SLS regressions demonstrate that educational level diversity, tenure diversity and gender diversity have positive explanatory power in influencing the quality of CSR disclosure. These findings underline the importance of knowledge and experience of the board as well as the placement of females on the board in improving a firm's quality of CSR. It suggests that gender, knowledge and experience of the board members are valuable in improving a firms' quality of CSR, compared to other diversity variables in our model. In the light of our findings, we suggest that the board composition should reflect the variety of educational level with mixed board tenure as well as gender diversity. Our results support RBV theory of the firm which recognizes the potential of having a heterogeneous board in improving board function. In addition, our results also exhibit that age diversity and nationality diversity are negatively related to CSR disclosure, indicating that the presence of boards with diverse age and diverse nationality will reduce the quality of CSR. Our results also demonstrate that not all of the diversity types are influential in

improving the quality of CSR disclosure in the emerging market of Malaysia. The findings also exhibit that educational background and ethnicity are insignificant in influencing the firm's quality of CSR. When we include the interaction terms as variables in our regression models, our results demonstrate that there is a complementary relationship between gender and educational level as well as between gender and nationality in influencing CSR disclosure. Our results also exhibit that there is a substitutive relationship of age and tenure with gender in influencing CSR. Our main baseline results are robust after we consider endogeneity factors using 2SLS.

Our study fills the void in the literature by providing the evidence of comprehensive board diversity and CSR relationships from Malaysia, unlike other studies such as Hoang et al. (2016), Abdullah and Ismail (2013) and Haniffa and Cooke (2002 and 2005). We respond to the call by Rao and Tilt (2016a) that studies on ethnicity, educational qualification and functional backgrounds diversity on CSR are extremely limited. We contribute to the theoretical literature by refining the impact of diversity on CSR from the focus of RBV theory in emerging economy settings. Our study exhibits that board educational level, board tenure and board gender diversity are in line with our prediction that they are valuable resources within an RBV theory framework which contributes to a firm's competitive advantage. Our study also demonstrates that a firm's capability on nationality diversity and age diversity, however, is not suitable in emerging markets in improving CSR quality. This is dissimilar to their peers in developed markets equipped with traditional skilled immigration systems and mixed societies of different age groups. This suggests that nationality diversity and age diversity capabilities are impaired in emerging markets which might be a result of poor management intervention (Bowman and Ambrosini 2001, 2003) and weak governance in their institutional settings.

Our evidence provides useful insight to the policy makers in setting regulations with respect to board diversity in Malaysia and other emerging economies in the Asian region. We, therefore, would like to suggest to the policy makers to focus on the gender, educational level and tenure diversity of the board in setting the board diversity framework in Malaysia. These findings will also be useful as guidance for listed firms in Malaysia in setting criteria for the appointment of new directors. It may be the case that there is a small talent pool of female directors with preexisting experience as an executive or director and appropriate educational level that presents a challenge to companies in sourcing and retaining talent at corporate board level. Companies should identify the people who can support their strategy with relevant experience and prepare them for director positions.

We acknowledge that our results should be interpreted with care in the light of several issues. First and foremost, our sample (i.e., 200 firms per year; 1000 firm-year observations) might be considered as small although it is among the highest in research on quality of CSR disclosure. Second, similar to previous studies in this area, our diversity characteristics and internal governance characteristics are plagued with "stickiness" issue that makes the data time consistent and do not vary over time. Hence, panel data analysis such as fixed effects or random effects might be inappropriate, so we relied on pooled and robust OLS and 2SLS approaches. Third, we acknowledge that finding a perfect instrumental variable (IV) for our 2SLS regression is difficult in corporate governance research. Although the utilization of lagged data as instrumental variables might be subject to argument and debate, however, we have taken necessary action in conducting various post-estimation tests on our instrumental variables to confirm their validity and robustness. Fourth, we note that our paper has a quantitative emphasis, especially when we assigned subjectively a score of "3" for CSR disclosure index although subjectivity issues in quantitative scoring processes are not uncommon in disclosure quality studies. Referring to Clarkson et al. (2008), we admit that quantitative information is subject to argument in the sense that it might interfere in CSR performance and implementation. Despite all the above limitations, we argue that our study is relevant and timely in the Malaysian context, where the agenda of board diversity is of increasing public interest. Our findings will be useful for the policy makers and regulators in Malaysia in setting the board diversity characteristics that suit with Malaysian context particularly and Asian region broadly. We recommend future studies to focus on the complementary or substitutive impact of each of the board diversity characteristics on CSR, since the board diversity implementation is generally very costly to firms.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval This article does not contain any studies with human participants or animals performed by any of the authors.

Appendix: Corporate Social Responsibility Disclosure Index

Company name and year

	3 (quantitative)	2 (non-quantitative but specific)	1 (common qualitative)	0 (not disclose)
(A) Employee relation				
1. Employee health and safety				
2. Training and education				
3. Employees benefits				
4. Employees profile				
5. Share option for employees				
6. Health and safety award				
(B) Community involvement				
1. Cash donation program				
2. Charity program				
3. Scholarship program				
4. Sponsor for sport activities				
5. Supporting national pride				
6. Public project				
(C) Product				
1. Product development				
2. Product safety				
3. Product quality				
4. Customer services				
(D) Environment				
1. Pollution control				
2. Prevention or reparation program				
3. Conservation and recycled materials				
4. Award in environment program				
Sub total				
Grand total				

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