

Print ISSN: 2288-4637 / Online ISSN 2288-4645  
doi:10.13106/jafeb.2021.vol8.no6.0201

# The Influence of Directors' Diversity and Corporate Sustainability Practices on Firm Performance: Evidence from Malaysia

Mohammad Shahansha MOLLA<sup>1</sup>, Mohammad Tariq HASAN<sup>2</sup>, Mahadi Hasan MIRAZ<sup>3</sup>,  
Mohammad Tahlil AZIM<sup>4</sup>, Md. Kaium HOSSAIN<sup>5</sup>

Received: February 20, 2021 Revised: April 20, 2021 Accepted: May 02, 2021

## Abstract

This study aims to examine the relationship between directors' diversity (DIRDIV) and financial performance (FP) with a particular focus on the moderating effect of corporate sustainability practices (CSP). The study analyzes a sample of 104 firms listed on the Bursa Malaysia for the period from 2015 to 2017. Directors' diversity is measured by the Blau index, and Tobin's Q is used as a proxy of FP of the firms while the content analysis method is adopted to measure CSP. The study also employs three control variables, namely, board size, firm size, and leverage. Panel corrected standard errors (PCSE) estimator model has been used to test the hypotheses by STATA software. It is found that directors' diversity in terms of independent and non-independent directors significantly and positively affect the financial performance of the firms. Furthermore, this study reveals that CSP significantly moderates the relationship between directors' diversity and financial performance. This study suggests that the government and regulatory bodies should put more emphasis on diversifying the board and follow up the mandatory CSP to enhance financial performance of the firms, which is likely to ensure their long-term survival and to reduce the risk of collapse in the future.

**Keywords:** Directors' Diversity, Financial Performance, Corporate Sustainability Practices, Malaysia

**JEL Classification Code:** M1, M4, M48, Q56

## 1. Introduction

Globally, corporate governance (CG) remains a focal issue due to financial scandals, crises and collapses of

giant corporations. The most recent scandals of Wells Fargo and Equifax are the examples of long-time scandals linking with the renowned public corporations in the USA (Bhagat & Bolton, 2019). After each and every financial scandal and crisis, the policymakers and regulatory bodies frown at and raise questions regarding the effectiveness of CG mechanisms of the corporations. In general, CG refers to the system for directing and controlling an organization (Cadbury, 1992). The recent global financial crisis that has shaken many economies and led to recession, has explicitly highlighted the critical role of CG in the business world. In recent past, the financial crises of 1997 and 2008 have badly affected the Asian economy in general and Malaysian economy, in particular. Poor CG practices in the region have been identified as the main reason and contributing factor to the crises (Bhagat & Bolton, 2019; Kato, Li, & Skinner, 2017). Evidently, many Malaysian firms, such as, Renong Berhad, Transmile Group Berhad and United Engineers (Malaysia) Berhad shut down due to lack of proper CG practices. Collapses of such corporations negatively affected public confidence on the disclosure of corporate performance in their annual reports (Lins, Servaes, & Tamayo, 2017a).

<sup>1</sup>First Author. Associate Professor and Head, Department of Business Administration, Leading University, Sylhet, Bangladesh.  
Email: shahansha06@yahoo.com

<sup>2</sup>Corresponding Author. Assistant Professor, School of Business and Economics (SoBE), United International University (UIU), Dhaka, Bangladesh [Postal Address: United International University, United City, Madani Avenue, Badda, Dhaka-1212, Bangladesh]  
Email: tariq2060@gmail.com

<sup>3</sup>Ph.D. Candidate, School of Technology Management and Logistics, Universiti Utara Malaysia, Sintok, Malaysia.  
Email: mahadimiraz1@gmail.com

<sup>4</sup>Professor, Department of Business Administration, King Abdulaziz University, Jeddah, Saudi Arabia. Email: tahlilazim@yahoo.com

<sup>5</sup>Assistant Professor, School of Business and Economics (SoBE), United International University (UIU), Dhaka, Bangladesh.  
Email: mdkaiumh2626@gmail.com

© Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

This kind of incidents create demand for more regulation and laws to restrain and regulate corporate activities globally (Bhagat & Bolton, 2019). Dias et al. (2016) revealed that during financial crisis, the financial performance (FP) of firms usually deteriorates. A firm's FP is extensively recognized as an indicator of management's performance. It reflects the management's effectiveness and efficiency in utilizing the firm's resources (Miles & Van Clieaf, 2017). Thus, firms are mostly concerned with their FP to ensure their long-term survival (Odalo, Achoki, & Njuguna, 2016). Moreover, strong FP gives a greater ability to the firm to undertake higher financial risks in capital budgeting (Gómez-Bezares, Przychodzen, & Przychodzen, 2017). In addition, Laallam, Alom, and Mohamad (2017) identified weak CG practices as the cause of poor FP among Malaysian firms. The current market scenario shows that the FP of listed firms in Bursa Malaysia is more volatile and declining (Schaltegger & Burritt, 2017). Due to corporate financial scandals coupled with financial crisis, there is much concern for improving board effectiveness in the corporate sectors globally (Fidasoski, Simeonovski, & Mateska, 2014; Hasan, Rahman, Sumi, Chowdhury, & Miraz, 2020; Reguera-Alvarado, de Fuentes, & Laffarga, 2017). In this perspective, directors' diversity (DIRDIV) has been considered as one of the important tools to increase the board effectiveness (Kılıç & Kuzey, 2016). Directors' diversity refers to the diversity of board members in terms of expertise and socio-biographic characteristics (Abdullah, 2014; Fidasoski et al., 2014).

The agency theory also argues that DIRDIV enhances the independence of the board (Jensen & Meckling, 1976). This increases the strength of monitoring and decision-making, which ultimately reduces the agency cost and increase the firm's financial performance (Hasan & Rahman, 2017, 2019; Hasan et al., 2020; Kamardin, Latif, Mohd, & Adam, 2014; Ramly, Chan, Mustapha, & Sapiei, 2017). According to the MCCG (2000), it is stipulated that independent directors can bring a wider range of activities to the firm. Moreover, if the BOD is comprised of more independent directors along with the non-independent directors, it is more likely to consider the interest of investors as well as other stakeholders while taking any decision. Studies related to DIRDIV and firms' FP reveal that they are either positively (Ararat, Aksu, & Tansel Cetin, 2015; Post & Byron, 2015; Terjesen, Couto, & Francisco, 2016) or negatively (Abdullah, 2014; Mahadeo, Soobaroyen, & Hanuman, 2012) correlated. Thus, the link between the two variables is not conclusive till date (Abdullah, 2014; Adams, Haan, Terjesen, & Ees, 2015; Roberson, Holmes, & Perry, 2017). Furthermore, a good number of studies concerning DIRDIV and FP of firms reported an insignificant direct relationship between the two (Galbreath, 2018). In fact, little is known about why and when the DIRDIV would influence FP of firms (Roberson et al., 2017). So, it is plausible to carry out further study on

the link between DIRDIV and FP issue in a more holistic way (Hassan, Marimuthu, & Johl, 2015b). As the relationships between DIRDIV and FP have showed mixed results, Roberson et al. (2017), Post and Byron (2015) and Umans (2013) believe that the concerned parties might be benefited from the investigation of critical influences of an interaction variable on that relationship.

Furthermore, Roberson et al. (2017) and Post and Byron (2015) perceive that the variation of the results between DIRDIV and FP must be due to other strategic or contextual factors that are not considered in the previous studies. Accordingly, it is assumed that corporate sustainability practices (CSP) of the firm are one of the possible factors that cause the inconclusive result between the DIRDIV and the FP of firms. The stakeholder theory (Freeman, 1984) also supports the notion that, when a firm is engaged in sustainability activities, the diversified board is able to make better decisions leading to better FP of the firm. However, so far, the researchers have not paid enough attention to the role of CSP as a moderator between DIRDIV and FP of firms. Research in the areas of DIRDIV and CSP are often treated separately with less attention paid to the interaction of both the variables (Fernández-Gago, Cabeza-García, & Nieto, 2016). Therefore, this study attempts to fill the research gap by examining the moderating role of CSP on the relationship between DIRDIV and FP of firms in Malaysia.

## 2. Literature Review and Hypothesis Development

### 2.1. Directors' Diversity and Financial Performance

Usually, the independent director of a firm is not an executive of that firm (Zhang, 2012). According to the MCCG (2000), it is stipulated that independent directors in BOD can bring a broader range of activities to the firm. Moreover, if the board has more independent directors, it considers the interest of all the stakeholders while taking any decision. Adams and Ferreira (2007) stated that the main responsibility of BOD is to formulate strategic decisions for the firm. In this regard, presence of independent directors is helpful in making better strategic choices. Fama and Jensen (1983) also argued that independent non-executive directors can monitor the executive management effectively to ensure the proper utilization of shareholders' investment and rate of return. Furthermore, Terjesen et al. (2016) states, globally it has been accepted by the researchers, academicians and policy makers that independent directors in the board ensure transparency, effective monitoring and supervision over the top level management of a firm which enhances the FP of the firms.

The resource dependence theory argues that independent directors bring more resources, knowledge, information and justice in the board (Pfeffer & Salancik, 2003). Moreover, independent directors are fairer to disclose and report the company's activities in their annual report compared to the non-independent directors of BOD. For ensuring better CG practices in the firm, it is essential to appoint independent directors in the board, because they are more conscious about the interests of the stockholders and other stakeholders of the firm (Hasan, Molla, & Khan, 2019; Hasan & Rahman, 2020; Jahid, Rashid, Hossain, Haryono, & Jatmiko, 2020). According to Monks and Minow (2004) both independent and non-independent directors have same duties and responsibilities such as, work for the best interest of shareholders, ensure the best practices of CG, carefully make the strategic decisions, ensure the proper utilization of resources of the firm. A large literature analyzed the effect of independent directors on FP and found inconclusive results. Several studies reveal that (Florackis & Ozkan, 2009; Hasan et al., 2019; Kim & Lim, 2010; Pombo & Gutiérrez, 2011; Tulung & Ramdani, 2018) the percentage of independent directors positively influences firms' FP. On the contrary, Arosa, Iturralde, and Maseda (2010), Bhagat and Black (2001) find that the existence of independent directors in the board does not increase the value of the firm. Moreover, Kang, Cheng, and Gray (2007) find mixed results between the two variables. Further, the agency theory also postulates that presence of independent directors in the board increases the independence of the board leading to better monitoring and decision making (Jensen & Meckling, 1976). The following hypothesis is therefore posited.

*H1: Directors' diversity positively influences the financial performance of firms.*

## **2.2. Impact of Corporate Sustainability Practices (CSP) on the Association between Directors' Diversity and the Financial Performance of Firms**

CSP is the alternative concept of corporate social responsibility (CSR) or sustainable development (Christofi, Christofi, & Sisaye, 2012; Masum, Hasan, Miraz, Tuhin, & Chowdhury, 2020; Teanpitthayamas, Suttipun, & Lakkanwanit, 2021). Before the 1990s, the term 'sustainability' was used to mean the ability of a firm to increase its profit gradually. Later, the term 'CSP' incorporates three aspects of business activities namely, economic, social, and environmental (Adams, Thornton, & Sepehri, 2012). Many firms who are credited due to their contribution to the technological and economic developments have been criticized for creating environmental and social problems, like water

pollution, air pollution, CO2 emission, waste, production of unhygienic product, and unhealthy environment of the workers (Hussainey & Walker, 2009). To resolve these issues, it is essential for the firms to practice CSP in all sectors (Abd-Mutalib, Jamil, & Wan-Hussin, 2014).

Moreover, the stakeholder theory argues that firms should make a mutual association with its stakeholders by improving the moral, ethical and social standards (e.g., through demonstrating robust CSP) (Freeman, 2004; Jensen, 2001). As diversified directors of the firms are in a position to take care of the stakeholders' interest over the profit motive of the firm, they are more likely to ensure higher CSP. Therefore, the DIRDIV may affect the FP of firms more with the support of their CSP as a means of responding to stakeholder needs and interests (Lins, Servaes, & Tamayo, 2017b; Rivera, Muñoz, & Moneva, 2017). Hence, whether CSP moderates the relationship between DIRDIV and firms' FP needs an empirical study. Thus, the following hypothesis is proposed:

*H2: CSP moderates the relationship between directors' diversity and financial performance of firms.*

## **3. Research Framework**

The research framework constructed for this study is portrayed in Figure 1. The framework comprises directors' diversity as explanatory variable, financial performance of the firm is the outcome variable whereas board size, firm size and leverage are the control variables.

## **4. Materials and Method**

### **4.1. Population and Sample Selection**

All listed firms in Bursa Malaysia main market constitute the population of this study. Among the 805 publicly-listed firms in Bursa Malaysia, this study has narrowed down to top 104 firms on the basis of market capitalization for the years 2015 to 2017 and the total number of firm-year observations are 312. This study has taken all the listed non-financial firms whose market capitalization is more than RM2 billion and above for its target sample. As these firms are obligated to disclose the sustainability report according to Bursa Malaysia Sustainability guide-2015 in their annual report from the year ended 2016. Along with the requirement of Bursa Malaysia Sustainability Reporting Guide-2015, there are some other reasons for selecting the large firms. As the large firms are more visible, they carry out more activities and they have more impact on the society (Hackston & Milne, 1996). Moreover, large firms do believe to get more information which encourage them to do more sustainability practices (Aerts, Cormier, Gordon, & Magnan,

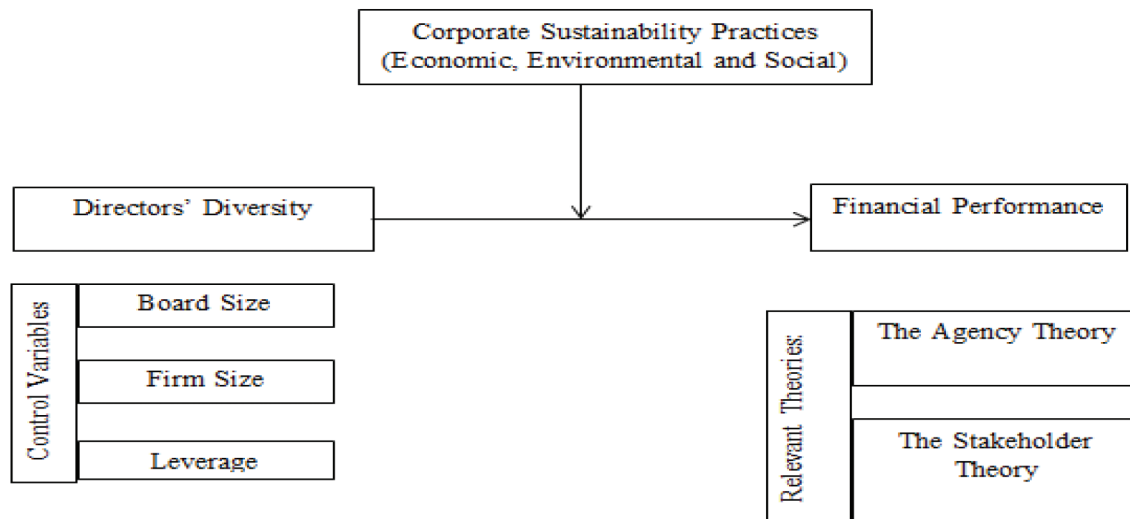


Figure 1: The Research Framework

2006; Buniamin, 2010). The years 2015, 2016 and 2017 are chosen because they provide most recent data regarding DIRDIV, CSP and FP of the firms.

#### 4.2. Measurement of the Variables and Data Collection Procedure

This study has measured financial performance using Tobin’s Q. According to Feldman and Montgomery (2015), Tobin’s Q represents not only the evaluation by investors’ evaluation in terms of share price, but also reflects the future prospects of the firm. The value of Tobin’s  $Q > 1$  means the firm is worth more than its book value. On the contrary, Tobin’s  $Q < 1$  means that the market is expecting the firm to rescind shareholders’ wealth in long run (Terjesen et al., 2016). Tobin’s Q is measured by the summation of the market value of equity and book value of total debts divided by the book value of total assets (Conyon & He, 2017; Gordini & Rancati, 2017; Machmuddah, Sari, & Utomo, 2020; Utami & Hasan, 2021). The present study employs Blau’s heterogeneity index (Blau, 1977) on the basis of proportion of non-executive independent directors and remaining directors (non-independent directors) to measure the directors’ diversity. The Blau’s heterogeneity index is an appropriate measure of heterogeneity (Miller & del Carmen Triana, 2009). It is also the most favorable measure to capture diversification within a group of individual in an organization (Harrison & Klein, 2007). For avoiding biasness of the results, this study uses board size, firm size and leverage as control variables. Board size is measured by the number of board members in the BOD of a

firm (Hasan et al., 2019; Tran, Lam, & Luu, 2020). Natural log of total assets is used to measure the firm size (Hasan et al., 2019; Hasan & Rahman, 2020; Jizi, 2017; Odalo et al., 2016). Ratio of total debt to total assets of a firm is applied to measure the leverage of the firm (Chen, Ma, Shi, Tu, & Xu, 2020; Jizi, 2017).

The data has been collected from the audited annual reports of the selected firms as they are most accessible and acceptable sources of information in Malaysia (Sadou, Alom, & Laluddin, 2017). The information of proxies of FP of firms such as Tobin’s Q and other control variable information namely leverage and firm size have been collected from the financial database, namely, Thomson Reuters Data Stream. The data of the moderating variable, CSP has been collected from the annual reports of the selected firms by content analysis. Amran (2012) reveals that most of the Malaysian firms use the annual report to disclose their sustainability information. Moreover, Deegan and Rankin (1996) find that annual reports are more reliable than any other sources of sustainability information. The content analysis method has been widely used for collecting the CSP data by many previous studies (Jahid et al., 2020; Saleh, Zulkifli, & Muhamad, 2011; Uadiale & Fagbemi, 2012; Uwuigbe & Egbide, 2012; Zahari, Esa, Rajadurai, Azizan, & Muhamad Tamyez, 2020).

#### 4.3. Model Specification

To investigate the effects of directors’ diversity on financial performance the following analytical model is specified, with variable code names and descriptions.

$$TQ_{it} = \alpha + \beta_1 DIRDIV_{it} + \beta_2 BRDSIZE_{it} + \beta_3 FRMSIZE_{it} + \beta_4 LEVRGE_{it} + \varepsilon_{it} \quad (1)$$

The hierarchical moderated multiple regression model is developed following Baron and Kenny (1986) and Hair, Black, Babin, and Anderson (2010) to examine the moderation effect of CSP according to the hypothesis of this study.

$$TQ_{it} = \alpha + \beta_1 DIRDIV_{it} + \beta_2 BRDSIZE_{it} + \beta_3 FRMSIZE_{it} + \beta_4 LEVRGE_{it} + \beta_5 CSP_{it} + \varepsilon_{it} \quad (2)$$

$$TQ_{it} = \alpha + \beta_1 DIRDIV_{it} + \beta_2 BRDSIZE_{it} + \beta_3 FRMSIZE_{it} + \beta_4 LEVRGE_{it} + \beta_5 CSP_{it} + \beta_6 DIRDIV \times CSP_{it} + \varepsilon_{it} \quad (3)$$

Where,

- TQ = Tobin's *Q* (Market based financial performance measure of firm)
- DIRDIV = Independent-Non independent directors' diversity (measured by Blau Index)
- CSP = Corporate sustainability practices (measured by content analysis)
- BRDSIZE = Board size (measured by the total number of directors in the board of a firm)
- FRMSIZE = Firm size (measured by natural log of total assets of a firm)
- LEVRGE = Leverage (measured by total debt divided by total assets of a firm)
- DIRDIV × CSP = Interaction terms
- i* = Observation and *t* = Year of observation

## 5. Results

### 5.1. Descriptive Analysis

Table 1 shows the descriptive statistics of the dependent variable, the independent variables, the control variables and the moderating variable used in the study. The dependent variable is TQ while the independent variable is DIRDIV,

CSP is the moderating variable and BRDSIZE, FRMSIZE, and LEVRGE are the control variables. Firm performance, as measured by TQ, varies from as low as 0.21 to a maximum of 13.87 with an average of 1.90. The mean score is similar to those reported by Abdullah and Ismail (2013); Hassan, Marimuthu, and Johl (2015a). The mean score, minimum and maximum value of Directors' diversity are 0.4660, 0.0 and 0.5 respectively. Based on the Blau index (Blau, 1977) the range of minimum to maximum is 0.00 to 0.50 for the DIRDIV of a firm as in this study there are two categories of directors in the board are considered. The study finds a higher level of DIRDIV in the BODs in Malaysia. The mean score, minimum and maximum value of board size are 9.0577, 5 and 17 respectively. The results find that the minimum number of directors is 5 and maximum 17.

The mean score, minimum and maximum value of firm size are 6.7798, 5.2769 and 8.1590 respectively. The mean score, minimum and maximum value of leverage are 0.2538, 0.00 and 0.6851 respectively. It reveals that some firms have no debt and other has 68.51% debt of their total assets. The mean score, minimum and maximum value of CSP are 164.9583, 0.00 and 1098 respectively. It indicates that some firms have no CSP and some have high level of CSP disclosed in their annual reports.

### 5.2. Test of Multicollinearity

Multicollinearity is the issue of having high correlation among independent variables, which could inflate the regression results (Pallant, 2007). This study presents correlation matrix in Table 2, which represent correlation among the variables of the study. From Table 2, this study documented highest correlation between TQ and FRMSIZE, which is 51.58%, and significant at 1% level whereas lowest correlation exist between DIRDIV and FRMSIZE, which is 0.18% and insignificant. Most of the variables in this study have lower level of correlation. Hair, Black, Babin, Anderson, and Tatham (2006) and Tabachnick, Fidell, and Ullman (2007) recognize the problem of multicollinearity if the correlation between variables is more than 0.9. Since

**Table 1:** Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
TQ	312	1.897137	2.026713	0.210847	13.86997
DIRRDIV	312	0.465955	0.04402	0	0.5
BRDSIZE	312	9.057692	2.116359	5	17
FRMSIZE	312	6.779786	0.561178	5.276889	8.158992
LEVRGE	312	0.253784	0.166328	0	0.685059
CSP	312	164.9583	157.7669	0	1098

**Table 2:** Correlation Matrix

Variables	TQ	DIRDIV	BRDSIZE	FRMSIZE	LEVRGE	CSP
TQ	1					
DIRDIV	0.0963*	1				
BRDSIZE	-0.2105***	-0.1519***	1			
FRMSIZE	-0.5158***	-0.0018	0.3001***	1		
LEVRGE	-0.2604***	-0.0253	0.2537***	0.4536***	1	
CSP	0.0133	-0.0057	0.1319**	0.1908***	-0.1058*	1

Correlation is significant at the 0.01 level\*\*\*, 0.05 level\*\* and 0.1\* level

**Table 3:** VIF and Tolerance Value

Variable	VIF	Tolerance Value
DIRDIV	1.03	0.9747
BRDSIZE	1.16	0.8594
FRMSIZE	1.41	0.7116
LEVRGE	1.36	0.7363
CSP	1.10	0.9051
Mean VIF	1.21	

the highest value is less than 0.9, there is no evidence of multicollinearity problem among variables in the model.

In addition to correlation matrix, this study also considers VIF and tolerance value to examine the issue of multicollinearity further, which is presented in Table 3. Hair et al. (2006) note that multicollinearity problems exist when VIF values are above 10 (or Tolerance value is less than 0.10). As shown in Table 3, there appeared to be no evidence of multicollinearity problem in the model as all variables' VIF are less than 10 and tolerance value is more than 0.10.

### 5.3. Test of Heteroscedasticity and Autocorrelation

In multiple regression model, for analyzing the panel data, heteroscedasticity problem is a major concern as it can invalidate the efficiency of statistical results (Brooks, 2014; Hair et al., 2010). It is argued that ignoring the presence of heteroscedasticity can result in inefficient coefficient estimations and biased standard errors (Baltagi, 2008). To detect heteroscedasticity, the formal statistical test Breusch and Pagan (1979) has been used in this study. According to Brooks (2014) the null hypothesis of the Breusch-Pagan test is homoscedasticity; if  $p$ -value  $< 0.05$ , it is a case of heteroscedasticity. From Table 4, test reports the value of Chi<sup>2</sup> statistics is 144.44 and the corresponding  $p$ -value  $< 0.05$ . As the null hypothesis is rejected, the heteroscedasticity problem is found in the model.

**Table 4:** Results of Heteroscedasticity and Autocorrelation Tests

Breusch-Pagan / Cook-Weisberg Test for Heteroscedasticity	Wooldridge Test for Autocorrelation in Panel Data
H0: Constant variance	H0: no first-order autocorrelation
Variables: Fitted values of TQ	$F(1, 103) = 1.991$
chi2(1) = 144.44	Prob > F = 0.1612
Prob > chi <sup>2</sup> = 0.0000	

Autocorrelation is the issue of error components being correlated across time due to high similarities. The regression model assumes that the error term of units is not correlated and not influenced by other units. Although this is a violation of the ordinary assumption, it is a common issue in panel or time-series analysis (Wooldridge, 2010). Gujarati and Porter (2009) suggested that the Wooldridge test is most suitable for serial correlation and to detect first-order autocorrelation in panel data. Further, test for autocorrelation in panel data is used to detect serial or first-order autocorrelation. The result of the test presented in Table 4 shows that this model is found to be not significant at  $p > 0.05$ . The result failed to reject the null hypothesis and concluded that the data for TQ model have no first-order autocorrelations. However, this can only be accurate if the panel data is free from cross-sectional dependence as explained by Petersen (2009).

### 5.4. Cross Sectional Dependence and Hausman Test

Cross-sectional dependence is also known as contemporaneous correlation, refers to correlation of the residuals across entities. Pesaran's test is the appropriate test to explore whether the data has cross-sectional dependence problem. It is the most appropriate test for the panel data

that has large cross-sectional units and small time-series (Hoyos & Sarafidis, 2006). The test is applied to the model and confirmed the existing of cross-sectional dependence in the model, which is presented in the Table 5.

Accordingly, the presence of the problem has to be corrected. According to Gujarati and Porter (2009), the Hausman test is employed to decide whether fixed or random effects model is suitable for this study. Based on the Table 5, the Hausman test shows that random effect model is more appropriate to analyze the panel data for this study.

### 5.5. Regression Analysis

From the diagnostic tests, this study finds that random effect model is more appropriate to run the multiple regressions of this study. However, the potential econometric problems of heteroscedasticity, and cross sectional dependence are found in the data. Random effects models with heteroscedasticity cannot be efficiently estimated with OLS. To solve the above issues, this study can use a feasible

generalized least square (FGLS, or xtgls command in Stata) to correct the standard error (Wooldridge, 2010). However, Beck and Katz (1995) suggested that for cross sectional time-series data, researchers should use OLS with heteroscedastic panels corrected standard errors (OLS-PCSE, or xtpcse command in Stata), because the standard errors of the estimated coefficients based on FGLS may underestimate the true sampling variability. Their Monte-Carlo analysis shows that OLS-PCSE performs better than FGLS in estimating the standard errors (Moundigbaye, Messemer, Parks, & Reed, 2019; Nithithanatchinnapat & Joshi, 2019). Moreover, the FGLS estimator is more appropriate for panels with  $T > N$  and PCSE is more suitable for the panel with  $T < N$  (Miao, Gu, Zhang, Zhen, & Wang, 2019). Another advantage of this technique is that it allows for disturbances that are heteroscedastic and contemporaneously corrected across panels (Reed & Webb, 2010). The PCSE estimate is robust not only to unit heteroscedasticity, but also robust against possible contemporaneous correlation across the units (Bailey & Katz, 2011; Hasan et al., 2019). Thus, this study assumes that PCSE is the most suitable estimator for analyzing the panel data for this study. The results of the multiple regressions of DIRDIV and FP and the moderating role of CSP on the relationship between the above two variables are presented in the table 6. The results of Model 1 shows that there is a positive and significant relationship between directors' diversity and financial performance, which suggests that if the BOD is comprised of the same proportion of both independent and non-independent directors, it increases the financial performance of firms. The result supports the hypothesis H1. The findings of this study are consistent with the study of Duchin, Matsusaka, and Ozbas (2010), Kweh, Ahmad, Ting, Zhang, and Hassan (2019), Mahadeo et al. (2012), but inconsistent with the results of Zabri, Ahmad, and Wah (2016). To measure the

**Table 5:** Results of Cross Sectional Dependence and Hausman Tests

Cross Sectional Dependence Test	Hausman Test
Pesaran's test of cross sectional independence = 5.866, Pr = 0.0000	H0: difference in coefficients not systematic
Average absolute value of the off-diagonal elements = 0.706	$\chi^2(5) = (b - B)'[(V_b - V_B)^{-1}]$ $(b - B) = 2.73$
	Prob > $\chi^2 = 0.7420$

**Table 6:** Results of Regression Model Using Panel Corrected Standard Errors (PCSE) Estimator

VARIABLES	Model 1	Model 2	Model 3
DIRDIV	4.058*** (1.259)	4.025*** (1.219)	5.446*** (1.669)
BRDSIZE	-0.0416*** (0.00678)	-0.0552*** (0.00606)	-0.0562*** (0.00699)
FRMSIZE	-1.776*** (0.107)	-1.896*** (0.113)	-1.900*** (0.113)
LEVRGE	-0.294 (0.370)	0.0921 (0.380)	0.0426 (0.370)
CSP		0.00157*** (0.000346)	0.00149*** (0.000338)
DIRDIV * CSP			-0.0359*** (0.00920)
Constant	12.50*** (0.954)	13.10*** (0.987)	12.50*** (1.103)
Observations	312	312	312
R-squared	0.278	0.291	0.306

Standard errors in parentheses. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

**Table 7:** Results of Regression Model Using Driscoll and Kraay's Standard Errors Estimator

VARIABLES	Model 1	Model 2	Model 3
DIRDIV	4.058*** (0.754)	4.025*** (0.574)	5.446*** (1.037)
BRDSIZE	-0.0416*** (0.00250)	-0.0552*** (0.00366)	-0.0562*** (0.00506)
FRMSIZE	-1.776*** (0.0973)	-1.896*** (0.0963)	-1.900*** (0.0943)
LEVRGE	-0.294 (0.232)	0.0921 (0.220)	0.0426 (0.229)
CSP		0.00157*** (0.000292)	0.00149*** (0.000283)
DIRDIV * CSP			-0.0359*** (0.00123)
Constant	12.50*** (0.555)	13.10*** (0.598)	12.50*** (0.662)
Observations	312	312	312
R-squared	0.278	0.291	0.306

Standard errors in parentheses. \*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$ .

moderating impact of CSP on the relationship between directors' diversity and financial performance of firms the hierarchical moderated multiple regression model has been used. This regression model is more appropriate to evaluate the effect of a moderating variable in a study (Han, Yoon, Suh, Li, & Chae, 2019; Li, Sharp, Bergh, & Vandenberg, 2019; Ruiz-Jiménez, del Mar Fuentes-Fuentes, & Ruiz-Arroyo, 2016; Tran & Pham, 2019). The hierarchical regression result in the Table 6 shows that the interaction term DIRDIV \* CSP is found to have negative and statistically significant impact on TQ. Hence, the results in Model 3 indicate that CSP negatively and significantly moderates the relationship between DIRDIV and FP of firms in Malaysia. The result supports the hypothesis H2.

## 5.6. Robustness Check

This study also conducted additional analysis to ensure the sensitivity and robustness of the main results reported earlier. The diagnostic tests confirmed the problems of heteroscedasticity and cross-sectional dependence are found in the study model. Therefore, this study corrected the issues by employing Driscoll and Kraay's standard errors (xtsec command in STATA) estimator based on Hoechle (2007), which is also robust to heteroscedasticity and cross-sectional dependence in panel data (Table 7). After analyzing the robustness tests it has been found that the results are almost similar between the XTPCSE and XTSCC estimations. Therefore, it can be said that the estimation of the study model is robust and free from misappropriation, which lead to a reliable conclusion.

## 6. Conclusion

This study has examined and analyzed the relationship between directors' diversity and financial performance of

firms in Malaysia. It also investigates the moderating effect of corporate sustainability practices on the relationship between the above two variables. The motivation for studying the corporate governance mechanisms originates from the inconclusive findings of the relationship between directors' diversity and financial performance of the firms. After analysis of the data, it is found that CSP has a strong effect to moderate the relationship between board diversity and financial performance of the firms in Malaysia. Hopefully, it would provide contributing evidence to explain the mechanisms behind the link between directors' diversity and financial performance. The findings have policy implications that the government and the regulatory bodies should put more emphasis on diversifying the board and following up the mandatory corporate sustainability practices to enhance financial performance of the firms in Malaysia and to ensure their long term survival as well as to reduce the risk of collapse in the future. Although this study makes a definite empirical contribution to the existing literature, there are some limitations that need to be taken into account for further research. Firstly, this study has focused only one characteristic, namely, directors' diversity of BOD for their impact on financial performance of the firms. While the other characteristics of BOD, like political connection, multi directorship, CEO duality, etc., are also important factors that might be considered in future research. Secondly, in this study, the Tobin's Q, a market-based financial measure has been used as a proxy of the financial performance of firms. Future studies may consider the book value measure like ROA, ROE and some other proxies for measuring the financial performance of the firms.

## References

- Abd-Mutalib, H., Jamil, C. Z. M., & Wan-Hussin, W. N. (2014). The availability, extent and quality of sustainability reporting



- by Malaysian listed firms: Subsequent to mandatory disclosure. *Asian Journal of Finance & Accounting*, 6(2), 239–260.
- Abdullah, S. N. (2014). The causes of gender diversity in Malaysian large firms. *Journal of Management & Governance*, 18(4), 1137–1159.
- Abdullah, S. N., & Ismail, K. N. I. K. (2013). Gender, ethnic and age diversity of the boards of large Malaysian firms and performance. *Jurnal Pengurusan*, 38, 27–40.
- Adams, M., Thornton, B., & Sepehri, M. (2012). The impact of the pursuit of sustainability on the financial performance of the firm. *Journal of Sustainability and Green Business*, 1, 1–14.
- Adams, R. B., & Ferreira, D. (2007). A theory of friendly boards. *The Journal of Finance*, 62(1), 217–250.
- Adams, R. B., Haan, J., Terjesen, S., & Ees, H. (2015). Board diversity: Moving the field forward. *Corporate Governance: An International Review*, 23(2), 77–82.
- Aerts, W., Cormier, D., Gordon, I. M., & Magnan, M. (2006). Performance disclosure on the web: An exploration of the impact of managers' perceptions of stakeholder concerns. *The International Journal of Digital Accounting Research*, 6(12), 159–194.
- Amran, A. (2012). Exploring online sustainability disclosure among Malaysian company. *Procedia-Social and Behavioral Sciences*, 65, 761–767.
- Ararat, M., Aksu, M., & Tansel Cetin, A. (2015). How board diversity affects firm performance in emerging markets: Evidence on channels in controlled firms. *Corporate Governance: An International Review*, 23(2), 83–103.
- Arosa, B., Iturralde, T., & Maseda, A. (2010). Outsiders on the board of directors and firm performance: Evidence from Spanish non-listed family firms. *Journal of Family Business Strategy*, 1(4), 236–245.
- Bailey, D., & Katz, J. N. (2011). Implementing panel corrected standard errors in R: The PCSE package. *Journal of Statistical Software*, 42(CS1), 1–11.
- Baltagi, B. (2008). *Econometric analysis of panel data* (4 ed.). Hoboken, NJ: John Wiley & Sons.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Beck, N., & Katz, J. N. (1995). What to do (and not to do) with time-series cross-section data. *American Political Science Review*, 89(3), 634–647.
- Bhagat, S., & Black, B. (2001). The non-correlation between board independence and long-term firm performance. *Journal of Corporation Law* 27, 231–274.
- Bhagat, S., & Bolton, B. (2019). Corporate governance and firm performance: The sequel. *Journal of Corporate Finance*, 58, 142–168.
- Blau, P. M. (1977). *Inequality and heterogeneity: A primitive theory of social structure* (Vol. 7). New York, NY: Free Press.
- Breusch, T. S., & Pagan, A. R. (1979). A simple test for heteroscedasticity and random coefficient variation. *Econometrica: Journal of the Econometric Society*, 47(5), 1287–1294.
- Brooks, C. (2014). *Introductory econometrics for finance* (2 Ed.). Cambridge: Cambridge University Press.
- Buniamin, S. (2010). The quantity and quality of environmental reporting in annual report of public listed companies in Malaysia. *Issues in Social and Environmental Accounting*, 4(2), 115–135.
- Cadbury, A. (1992). *Report of the committee on the financial aspects of corporate governance* (Vol. 1). London: Gee.
- Chen, X., Ma, Z., Shi, J., Tu, B., & Xu, S. (2020). Corporate social responsibility and unsecured debt: evidence from China. *Journal of Asian Finance, Economics and Business*, 7(11), 1–11. <https://doi.org/10.13106/jafeb.2020.vol7.no11.001>
- Christofi, A., Christofi, P., & Sisaye, S. (2012). Corporate sustainability: Historical development and reporting practices. *Management Research Review*, 35(2), 157–172.
- Conyon, M. J., & He, L. (2017). Firm performance and boardroom gender diversity: A quantile regression approach. *Journal of Business Research*, 79, 198–211.
- Deegan, C., & Rankin, M. (1996). Do Australian companies report environmental news objectively? An analysis of environmental disclosures by firms prosecuted successfully by the Environmental Protection Authority. *Accounting, Auditing & Accountability Journal*, 9(2), 50–67.
- Dias, A., Dias, A., Rodrigues, L. L., Rodrigues, L. L., Craig, R., & Craig, R. (2016). Global financial crisis and corporate social responsibility disclosure. *Social Responsibility Journal*, 12(4), 654–671.
- Duchin, R., Matsusaka, J. G., & Ozbas, O. (2010). When are outside directors effective? *Journal of Financial Economics*, 96(2), 195–214.
- Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law and Economics*, 26(2), 301–325.
- Feldman, E. R., & Montgomery, C. A. (2015). Are incentives without expertise sufficient? Evidence from Fortune 500 firms. *Strategic Management Journal*, 36(1), 113–122.
- Fernández-Gago, R., Cabeza-García, L., & Nieto, M. (2016). Corporate social responsibility, board of directors, and firm performance: An analysis of their relationships. *Review of Managerial Science*, 10(1), 85–104.
- Fidanoski, F., Simeonovski, K., & Mateska, V. (2014). The impact of board diversity on corporate performance: New evidence from southeast europe. In: K. John, A. K. Makhija & S. P. Ferris (Eds.), *Corporate governance in the US and global settings* (Vol. 17, pp. 81–123). Bingley: Emerald Group Publishing Limited.
- Florackis, C., & Ozkan, A. (2009). Managerial incentives and corporate leverage: evidence from the United Kingdom. *Accounting & Finance*, 49(3), 531–553.

- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Marshfield MA: Pitman Publishing.
- Freeman, R. E. (2004). The stakeholder approach revisited. *Zeitschrift für Wirtschafts-und Unternehmensethik*, 5(3), 228–241.
- Galbreath, J. (2018). Is board gender diversity linked to financial performance? The mediating mechanism of CSR. *Business & Society*, 57(5), 863–889.
- Gómez-Bezares, F., Przychodzen, W., & Przychodzen, J. (2017). Bridging the gap: How sustainable development can help companies create shareholder value and improve financial performance. *Business Ethics: A European Review*, 26(1), 1–17.
- Gordini, N., & Rancati, E. (2017). Gender diversity in the Italian boardroom and firm financial performance. *Management Research Review*, 40(1), 75–94.
- Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics*. New York: McGraw-Hill/Irwin.
- Hackston, D., & Milne, M. J. (1996). Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing & Accountability Journal*, 9(1), 77–108.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: Global edition*. Upper Saddle River, NJ: Pearson Higher Education
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* *Journal of Abnormal Psychology*, 87, 49–74.
- Han, S. H., Yoon, D. Y., Suh, B., Li, B., & Chae, C. (2019). Organizational support on knowledge sharing: A moderated mediation model of job characteristics and organizational citizenship behavior. *Journal of Knowledge Management*, 23(4), 687–704.
- Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review*, 32(4), 1199–1228.
- Hasan, M. T., Molla, M. S., & Khan, F. (2019). Effect of board and audit committee characteristics on profitability: Evidence from pharmaceutical and chemical industries in Bangladesh. *Finance & Economics Review*, 1(1), 64–76.
- Hasan, M. T., & Rahman, A. A. (2017). IFRS Adoption and earnings management: A review and justification of earnings management model for developing countries. *Elk Asia Pacific Journal of Finance and Risk Management*, 8(3), 43–60.
- Hasan, M. T., & Rahman, A. A. (2019). Conceptual framework for IFRS adoption, audit quality and earnings management: The case of Bangladesh. *International Business and Accounting Research Journal*, 3(1), 58–66.
- Hasan, M. T., & Rahman, A. A. (2020). The Role of Corporate Governance on the Relationship Between IFRS Adoption and Earnings Management: Evidence From Bangladesh. *International Journal of Financial Research*, 11(4).
- Hasan, M. T., Rahman, A. A., Sumi, F. R., Chowdhury, Y., & Miraz, M. H. (2020). The moderating role of audit quality on the relationship between IFRS adoption and earnings management: Evidence from Bangladesh. *International Journal of Mechanical and Production Engineering Research and Development*, 10(3), 9141–9154. <https://doi.org/10.24247/ijmperdjun2020868>
- Hassan, R., Marimuthu, M., & Johl, S. K. (2015a). *Demographic diversity and firm value: A review on large companies using panel data approach*. Paper presented at the 2015 International Symposium on Technology Management and Emerging Technologies (ISTMET).
- Hassan, R., Marimuthu, M., & Johl, S. K. (2015b). Diversity, corporate governance and implication on firm financial performance. *Global Business and Management Research*, 7(2), 28–36.
- Hoyos, R. E. D., & Sarafidis, V. (2006). Testing for cross-sectional dependence in panel-data models. *The Stata Journal*, 6(4), 482–496.
- Hussainey, K., & Walker, M. (2009). The effects of voluntary disclosure and dividend propensity on prices leading earnings. *Accounting and Business Research*, 39(1), 37–55.
- Jahid, M. A., Rashid, M. H. U., Hossain, S. Z., Haryono, S., & Jatmiko, B. (2020). Impact of corporate governance mechanisms on corporate social responsibility disclosure of publicly-listed banks in Bangladesh. *The Journal of Asian Finance, Economics, and Business*, 7(6), 61–71. <https://doi.org/10.13106/jafeb.2020.vol7.no6.061>
- Jensen, M. C. (2001). Value maximization, stakeholder theory, and the corporate objective function. *Journal of Applied Corporate Finance*, 14(3), 8–21.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Jizi, M. (2017). The influence of board composition on sustainable development disclosure. *Business Strategy and the Environment*, 26(5), 640–655.
- Kamardin, H., Latif, R. A., Mohd, K. N. T., & Adam, N. C. (2014). Multiple directorships and the monitoring role of the board of directors: Evidence from Malaysia. *Jurnal Pengurusan*, 42, 51–62.
- Kang, H., Cheng, M., & Gray, S. J. (2007). Corporate governance and board composition: Diversity and independence of Australian boards. *Corporate Governance: An International Review*, 15(2), 194–207.
- Kato, K., Li, M., & Skinner, D. J. (2017). Is Japan really a “buy”? The corporate governance, cash holdings and economic performance of Japanese companies. *Journal of Business Finance & Accounting*, 44(3–4), 480–523.
- Kılıç, M., & Kuzey, C. (2016). The effect of board gender diversity on firm performance: Evidence from Turkey. *Gender in Management: An International Journal*, 31(7), 434–455.
- Kim, H., & Lim, C. (2010). Diversity, outside directors and firm valuation: Korean evidence. *Journal of Business Research*, 63(3), 284–291.

- Kweh, Q. L., Ahmad, N., Ting, I. W. K., Zhang, C., & Hassan, H. (2019). Board gender diversity, board independence and firm performance in Malaysia. *Institutions and Economics*, 11(1), 1–20.
- Laallam, A., Alom, F., & Mohamad, A. (2017). The effects of corporate governance attributes and code amendments on the performance of Malaysian trading and services firms. *International Journal of Economics and Business Research*, 13(1), 72–94.
- Li, M., Sharp, B. M., Bergh, D. D., & Vandenberg, R. (2019). Statistical and methodological myths and urban legends in strategic management research: The case of moderation analysis. *European Management Review*, 16(1), 209–220.
- Lins, K. V., Servaes, H., & Tamayo, A. (2017a). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *The Journal of Finance* 72(4), 1785–1824.
- Lins, K. V., Servaes, H., & Tamayo, A. (2017b). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *The Journal of Finance*, (Forthcoming).
- Machmuddah, Z., Sari, D. W., & Utomo, S. D. (2020). Corporate social responsibility, profitability and firm value: Evidence from Indonesia. *The Journal of Asian Finance, Economics, and Business*, 7(9), 631–638. <https://doi.org/10.13106/jafeb.2020.vol7.no9.631>
- Mahadeo, J. D., Soobaroyen, T., & Hanuman, V. O. (2012). Board composition and financial performance: Uncovering the effects of diversity in an emerging economy. *Journal of Business Ethics*, 105(3), 375–388.
- Masum, M. H., Hasan, M. T., Miraz, M. H., Tuhin, M. K. W., & Chowdhury, Y. (2020). Factors affecting the sustainability reporting: Evidence from Bangladesh. *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)*, 10(03).
- MCCG. (2000). Malaysian Code on Corporate Governance . Finance Committee on Corporate Governance Retrieved April 08, 2017, from Securities Commission [http://www.ecgi.org/codes/documents/mccg\\_mar2000.pdf](http://www.ecgi.org/codes/documents/mccg_mar2000.pdf)
- Miao, L., Gu, H., Zhang, X., Zhen, W., & Wang, M. (2019). Factors causing regional differences in China's residential CO<sub>2</sub> emissions—evidence from provincial data. *Journal of Cleaner Production*, 224, 852–863.
- Miles, S. J., & Van Clieaf, M. (2017). Strategic fit: Key to growing enterprise value through organizational capital. *Business Horizons*, 60(1), 55–65.
- Miller, T., & del Carmen Triana, M. (2009). Demographic diversity in the boardroom: Mediators of the board diversity–firm performance relationship. *Journal of Management Studies*, 46(5), 755–786.
- Monks, R., & Minow, N. (2004). *Corporate governance* (3<sup>rd</sup> ed.). Malden, MA: Blackwell Publishing.
- Moundigbaye, M., Messemer, C., Parks, R. W., & Reed, W. R. (2019). Bootstrap methods for inference in the Parks model. Economics Discussion Papers.
- Nithitanatchinnapat, B., & Joshi, K. (2019). A global view of what fixes information technology skills shortage: Panel data analyses of countries' human and technology resources. *Journal of Global Business Insights*, 4(1), 59–77.
- Odalo, S. K., Achoki, G., & Njuguna, A. (2016). Relating company size and financial performance in agricultural firms listed in the Nairobi securities exchange in Kenya. *International Journal of Economics and Finance*, 8(9), 34–40.
- Pallant, J. (2007). *SPSS survival manual: A step-by-step guide to data analysis with SPSS*. New York, NY: McGraw-Hill. Google Scholar.
- Petersen, M. A. (2009). Estimating standard errors in finance panel data sets: Comparing approaches. *The Review of Financial Studies*, 22(1), 435–480.
- Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford, California: Stanford University Press.
- Pombo, C., & Gutiérrez, L. H. (2011). Outside directors, board interlocks and firm performance: Empirical evidence from Colombian business groups. *Journal of Economics and Business*, 63(4), 251–277.
- Post, C., & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal*, 58(5), 1546–1571.
- Ramly, Z., Chan, S.-G., Mustapha, M. Z., & Sapiei, N. S. (2017). Women on boards and bank efficiency in ASEAN-5: The moderating role of the independent directors. *Review of Managerial Science*, 11(1), 225–250.
- Reed, W. R., & Webb, R. (2010). The PCSE estimator is good—just not as good as you think. *Journal of Time Series Econometrics*, 2(1), 1–29.
- Reguera-Alvarado, N., de Fuentes, P., & Laffarga, J. (2017). Does board gender diversity influence financial performance? Evidence from Spain. *Journal of Business Ethics*, 141(2), 337–350.
- Rivera, J. M., Muñoz, M. J., & Moneva, J. M. (2017). Revisiting the relationship between corporate stakeholder commitment and social and financial performance. *Sustainable Development*, 25(6), 482–494.
- Roberson, Q., Holmes, O., & Perry, J. L. (2017). Transforming research on diversity and firm performance: A dynamic capabilities perspective. *Academy of Management Annals*, 11(1), 189–216.
- Ruiz-Jiménez, J. M., del Mar Fuentes-Fuentes, M., & Ruiz-Arroyo, M. (2016). Knowledge combination capability and innovation: The effects of gender diversity on top management teams in technology-based firms. *Journal of Business Ethics*, 135(3), 503–515.
- Sadou, A., Alom, F., & Laluddin, H. (2017). Corporate social responsibility disclosures in Malaysia: Evidence from large companies. *Social Responsibility Journal*, 13(1), 177–202.
- Saleh, M., Zulkifli, N., & Muhamad, R. (2011). Looking for evidence of the relationship between corporate social responsibility and

- corporate financial performance in an emerging market. *Asia-Pacific Journal of Business Administration*, 3(2), 165-190.
- Schaltegger, S., & Burritt, R. (2017). *Contemporary environmental accounting: issues, concepts and practice*. London, UK: Routledge.
- Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2007). *Using multivariate statistics* (Vol. 5). Boston, MA: Pearson.
- Teanpitthayamas, A., Suttipun, M., & Lakkanwanit, P. (2021). Corporate Social Responsibility (CSR) Practices and Firm Performance: Empirical Evidence from Hotel Industry in Thailand. *Journal of Asian Finance, Economics and Business*, 8(4), 777–786. <https://doi.org/10.13106/jafeb.2021.vol8.no4.0777>
- Terjesen, S., Couto, E. B., & Francisco, P. M. (2016). Does the presence of independent and female directors impact firm performance? A multi-country study of board diversity. *Journal of Management & Governance*, 20(3), 447–483.
- Tran, H. Q., & Pham, N. T. B. (2019). Organizational learning as a moderator of the effect of employee participation on academic results: an empirical study in Vietnam. *The Learning Organization*, 26(2), 146–159.
- Tran, Q. T., Lam, T. T., & Luu, C. D. (2020). Effect of corporate governance on corporate social responsibility disclosure: empirical evidence from Vietnamese commercial banks. *Journal of Asian Finance, Economics and Business*, 7(11), 327–333.
- Tulung, J. E., & Ramdani, D. (2018). Independence, size and performance of the board: An emerging market research. *Corporate Ownership & Control*, 15(2), 201–208.
- Uadiale, O. M., & Fagbemi, T. O. (2012). Corporate social responsibility and financial performance in developing economies: The Nigerian experience. *Journal of Economics and Sustainable Development*, 3(4), 44–54.
- Umans, T. (2013). Top management team’s cultural diversity and firm performance: The mediating role of ambidextrous orientation. *Corporate Ownership & Control*, 11(1), 882–891.
- Utami, E. S., & Hasan, M. (2021). The Role of Corporate Social Responsibility on the Relationship between Financial Performance and Company Value. *Journal of Asian Finance, Economics and Business*, 8(3), 1249–1256.
- Uwuigbe, U., & Egbide, B.-C. (2012). Corporate social responsibility disclosures in Nigeria: A study of listed financial and non-financial firms. *Journal of Management and Sustainability*, 2(1), 160–169.
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*. Cambridge, MA: MIT press.
- Zabri, S. M., Ahmad, K., & Wah, K. K. (2016). Corporate governance practices and firm performance: Evidence from top 100 public listed companies in Malaysia. *Procedia Economics and Finance*, 35, 287–296.
- Zahari, A. R., Esa, E., Rajadurai, J., Azizan, N. A., & Muhamad Tamyez, P. F. (2020). The effect of corporate social responsibility practices on brand equity: An examination of Malaysia’s top 100 brands. *The Journal of Asian Finance, Economics, and Business*, 7(2), 271–280.
- Zhang, L. (2012). Board demographic diversity, independence, and corporate social performance. *Corporate Governance: The International Journal of Business in Society*, 12(5), 686–700.