



Profitability Meets Responsibility: The Role Of Board Gender Diversity In Shaping Corporate Tax Avoidance Behaviour

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ABSTRACT

The diversity of the board of directors plays a critical role in the tax avoidance behaviour of a firm. However, up to date, there are no consistent findings regarding the effect of female directors on firms' tax avoidance practices. Therefore, this research aims to obtain the latest empirical evidence as to whether board gender diversity plays a moderating role in the effect of profitability on corporate tax avoidance in the financial sector. This research uses secondary data obtained from financial companies' annual and financial reports which are readily available on the IDX website and the company's website from 2021 to 2023 using the panel data regression with moderation approach. The findings of this research analysis show predictor moderation, where board gender diversity acts as a predictor. Furthermore, board gender diversity and profitability are positively correlated to tax avoidance, whereas leverage and firm size do not affect the tax avoidance behaviours of financial companies.

INTRODUCTION

Taxation is the major source of governmental fiscal income and one of the most important costs for businesses and firms (Wang et al., 2020). In 2023, 80% of the Indonesian government income, or equivalent to IDR 2,118 trillion, is contributed by taxes with corporate income tax as the second largest contributor of taxes with a percentage of 21.93% after domestic value-added tax (VAT) with a percentage of 25.49% (Kementerian Keuangan, 2024). Managers can use various tax strategies, either legal or illegal, to minimize tax liabilities since they can affect the financial condition of a company (Menchaoui & Hssouna, 2024). One of them is tax avoidance which is one of the common practices used by companies to minimize taxes by adjusting their tax liabilities and obligations from loopholes in tax laws (Hidayat & Zuhroh, 2023). On a corporate level, corporate tax avoidance is one of the schemes used by companies to preserve cash resources within the organization that would otherwise be transferred to the government in the

form of taxes in which these resources may contribute to higher firm value, and hence shareholder value (Koay & Sapiei, 2024; Wang et al., 2020). Authorities and government officials have acknowledged that tax avoidance practices pressure government income because as corporate tax avoidance gradually reduces government revenues, fewer resources are allocated for public goods and services as well as infrastructures which in turn would pose negative impacts on countries' living standards (Koay & Sapiei, 2024).

One of the financial performances that can explain a firm's tax behaviour is profitability (Alkurdi et al., 2024). Profitability is one of the financial attributes that inspires firms as it measures the ability of a firm to generate profits in a certain period (Tanko, 2023). According to several research studies, more profitable companies are more likely to adopt tax avoidance practices (Gunaasih, 2021; Mariana et al., 2021; Zhang et al., 2022). However, contrary to this, Mocanu et al. (2021); Shubita (2024) concluded that higher corporate profits are less associated with corporate tax avoidance because they are responsible for safeguarding their reputation and are held to higher standards of scrutiny. The board of directors of a company oversees corporate tax avoidance decisions. Furthermore, one of the contemporary topics regarding the board of directors is board gender diversity, specifically the presence of female directors. The diversity of the board, in terms of gender, can bring new perspectives to the firm's decision-making process (Kushandojo & Widianingsih, 2024), including in the subject of taxation because one of the multifarious contributions of female directors is to oversee the firm's adherence to regulations, both financial and non-financial regulations (Alkurdi et al., 2024). Preceding research deduced that the presence of female directors can lower corporate tax avoidance practices (Hidayat & Zuhroh, 2023; Jarboui & Riquen, 2020; Pertiwi et al., 2020), whereas other research declared that board gender diversity does not affect corporate tax avoidance (Hossain, Islam, et al., 2024; Zhang et al., 2022).

This research study is an extension of research from Stanley & Widianingsih (2024). Previous research explored how board gender diversity affects corporate tax avoidance. However, in this paper, because there are inconsistencies in prior research, the researchers further aim to obtain a shred of empirical evidence regarding the role of female directors as a moderator of profitability on corporate tax avoidance. To the best of the researchers' knowledge, this is the very first tax avoidance literature to explore the role of female directors in the relationship between profitability and corporate tax avoidance in Indonesia, in general, and in the financial sector, in particular.

LITERATURE REVIEW

Critical Mass Theory

This study will discuss empirical results based on the perspective of the critical mass theory. Derived from nuclear physics, the phrase 'critical mass' refers to the quantity that is needed to initiate a chain reaction that results in an unalterable reaction (Lefley & Janeček, 2024). The concept of 'critical mass', brought by Granovetter (1978) into the context of social sciences, asserted that a certain threshold of the number of people must be met to decide. On top of that, the critical mass theory is heavily emphasized in corporate governance regarding the presence of female directors in firms in which a critical mass of female directors can efficiently monitor and control upper management's decisions (Shahab et al., 2020). Hossain, Islam, et al. (2024); Toukabri & Jilani (2023) stated that a minority group can have an impact on the decision-making process if the critical mass grows. Furthermore, Hossain, Islam, et al. (2024) mentioned that if the critical mass point is achieved, the decisions and votes of female directors are much more acknowledged and valued by male directors. In the context of social science literature, achieving a 'critical mass' requires at least 30% female representation (Inneh et al., 2024; Tarkovska et al., 2023). In a similar context, Funk et al. (2022) mentioned that many women make up 30% of countries' legislatures which refers to the critical mass point (threshold) stated in the critical

mass theory. Besides, if there are three or more women on the board, they are more likely to be heard such that there will be better collaboration and inclusivity (Konrad et al., 2008).

Previous research by Shahab et al. (2020) revealed that the negative side of CEO power in crashing stock prices is reduced when three female directors are on the board. A critical mass of three female directors can ensure that the voices of these female directors are heard (i.e. to vote against the unscrupulous decisions of CEOs) to avoid stock price crash risk. Additionally, Yarram & Adapa (2021) found that three female directors on the board of directors have a significant positive effect on total CSR and positive CSR and a significant negative effect on negative CSR. This is because female directors can express their communal feelings such that the firm engages in positive CSR activities. Moreover, these female directors can prevent firms from engaging in negative CSR activities that would cause harm to the shareholders. However, one female director on the board would be regarded as a 'token' therefore imitating the 'agentic' behaviour of the male directors such that gender diversity does not affect total CSR, positive CSR, and negative CSR.

Profitability and Corporate Tax Avoidance

Profitability is one of the commonly used financial metrics to measure the effectiveness of business management in overseeing a business's financial resources to generate profits (Rahmayani et al., 2023; Sunarto et al., 2021; Zhang et al., 2022). Companies with high profitability index tend to avoid taxes to reduce the amount of taxes to be paid thus improving firm performance (Gunaasih, 2021; Rakia et al., 2024). Previous research by Gunaasih (2021); Hossain, Ali, et al. (2024); Mariana et al., (2021); Sunarto et al., (2021); Zhang et al., (2022) showed that profitability has a significant positive effect on corporate tax avoidance. Alkurdi et al. (2024) argued that managers make the most of their decision-making power to manipulate business profit. Consequently, this higher number of profits generated by managers will attract external parties such as creditors and shareholders. Moreover, Khelifi et al. (2024) mentioned that firms with higher levels of profitability have more incentives to take part in tax avoidance practices. Based on prior research, the first hypothesis proposed is as follows:

H₁: Profitability has a significant positive effect on corporate tax avoidance.

Board Gender Diversity as a Moderating Variable

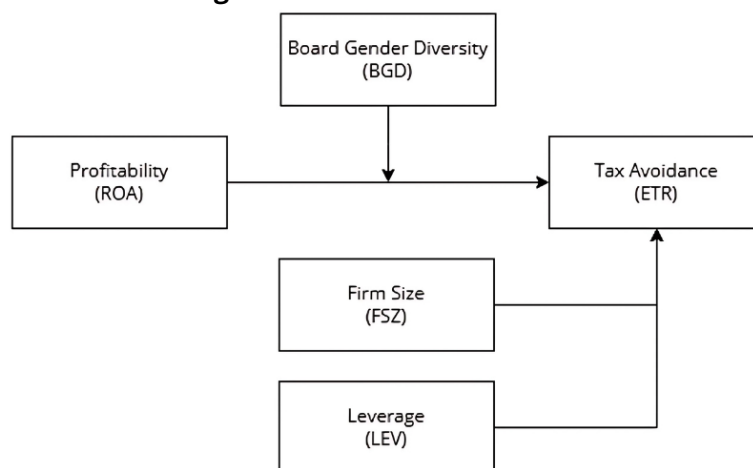
The aspects of the board of directors have attracted substantial attention in the context of tax avoidance literature because the board of directors is a crucial function in all firms since it is responsible for the company's operational activities to achieve its objective (Al Lawati & Hussainey, 2021; Pertiwi et al., 2020). By the same token, since the board of directors monitors business management, various traits, and characteristics of the board should also affect the management as well as tax strategies adopted by the firm (Ahmed et al., 2022). One of the common topics regarding the board of directors is the presence of female directors due to their effective monitoring of managerial performance (Salhi et al., 2020). Likewise, according to Zhang et al. (2022) female directors tend to be risk-averse, have high moral and ethical standards, and have independent thinking. Prior research by Hidayat & Zuhroh (2023) showed a significant negative relationship between female directors and tax avoidance because the company will comply more closely with its tax obligations if the board has female directors. Using a sample of 114 manufacturing companies in Indonesia, Pertiwi et al. (2020) also found that the presence of female directors can minimize tax avoidance activities in a company because the company will become more compliant with relevant tax requirements. Furthermore, research by Alkurdi et al. (2024) exhibited that female directors on the board encourage good governance by increasing the board's effectiveness through attendance of meetings and strengthening monitoring and control measures. This way, the transparency and accountability of companies will be elevated so that there is less need for tax avoidance practices. Based on the discussion above and related previous research, the second hypothesis proposed is as follows:

H₂: Board gender diversity moderates the effect of profitability on corporate tax avoidance.

Control Variables

The control variables included in this research study include firm size and leverage. Research by Hasan et al. (2021); Kalbuana et al. (2023); Toumi et al. (2022) showed that firm size is negatively correlated with corporate tax avoidance. Kalbuana et al. (2023) claimed that larger firms are less likely to engage in tax avoidance practices because they tend to have a greater number of assets. This great number of assets allows the company to generate higher profits thus fulfilling its tax obligations. Regarding leverage, prior research by Shams et al. (2022) revealed that highly leveraged firms tend to be involved in tax avoidance practices. Furthermore, Toumi et al. (2022) stated that firms tend to use interest payments from debts to decrease their taxable income thus reducing the amount of taxes they must pay. Likewise, Boujelben & Medhioub (2024) mentioned that firms with high leverage tend to make use of the benefits of tax deductibility which results in lower tax expenses.

Figure 1. Research Framework



METHODS

Research Model, Population, and Sample

This quantitative research uses the panel data regression approach and secondary data obtained from financial firms' annual and financial reports that are publicly available from the IDX (Indonesian Stock Exchange) website and the companies' websites for the 2021-2023 period. The population of this research study comprises 150 financial companies listed on the IDX portal. Following Stanley & Widianingsih (2024), the sample is chosen based on the following criteria:

1. The financial firm is listed on the IDX portal during the observation period.
2. The financial firm has completed annual and audited financial reports during the observation period.
3. The financial firm records net income and tax expenses.
4. The financial firm has complete financial information needed for variable measurements.

After filtering the data collected, the final research sample, which is displayed in Table 1, consists of 89 financial companies and a total of 223 observations from across 5 distinct industries, which include: banks, insurance, financing and investment services, as well as holding and investment companies. Firms with effective tax rates (ETR) values greater than 1 are considered outliers because they would distort the ETR (Stanley & Widianingsih, 2024). Moreover, values of ETR should only fall between 0 and 1 (Mindzak & Zeng, 2020).

Table 1. Research Sample

Description	Observations
The financial firm is listed on the IDX portal during the observation period.	315
The financial firm has not completed annual and audited financial reports during the observation period.	(6)
The financial firm does not record net income and tax expenses or suffers losses.	(84)
Outliers	(2)
Total Observations	223

This research study adopted the research model of Alkurdi et al. (2024) in which the regression model is divided into 2 major parts, namely Part 1 and Part 2. Part 1 deals with the method used to examine H₁ regarding the effect of profitability on corporate tax avoidance, and part 2 investigates the impact of board gender diversity as a moderator in the profitability-tax avoidance relationship (H₂). The effect of profitability on corporate tax avoidance is shown in Model 1 below:

$$ETR_{it} = \alpha + \beta_1 ROA_{it} + \beta_2 LEV_{it} + \beta_3 FSZ_{it} + \varepsilon_{it} \text{ ----- Model 1}$$

Model 2 below shows the effect of profitability on corporate tax avoidance when moderated by board gender diversity:

$$ETR_{it} = \alpha + \beta_1 ROA_{it} + \beta_2 BGD_{it} + \beta_3 ROA_{it} * BGD_{it} + \beta_4 LEV_{it} + \beta_5 FSZ_{it} + \varepsilon_{it} \text{ ----- Model 2}$$

Variables and Measurements

Table 2 shows the abbreviations and measurements of each variable used in this research paper. Moreover, Figure 1 shows the research framework depicting the relationship between the studied variables.

Best Estimation Model and Classical Assumptions of Panel Data Regression

The regression model estimation method using panel data can be done through three approaches, among others: pooled least squares (PLS), random effect model (REM), and fixed effect model (FEM). To choose the most appropriate model for the research model discussed above, three tests were carried out in this research paper. The first test is the Chow test to choose between the fixed effect model (FEM) and the pooled least squares model (PLS). Next, the Hausman test is to choose between the fixed effect model (FEM) and the random effect model (REM). Lastly, the Breusch and Pagan Lagrangian Multiplier test is used to choose between the pooled least squares (PLS) model and the random effect model (REM).

Since the most appropriate model for this research study is the random effect model (REM), therefore the only classical assumption test needed is the multicollinearity test. The multicollinearity test used in this study is the variance inflation factor (VIF) (Mehmetoglu & Venturini, 2021), in which there are indications of multicollinearity if the value of mean VIF is greater than 10 (Hair et al., 2019). The autocorrelation and the heteroscedasticity tests are not required because the random effect model (REM) is estimated by generalized least squares (GLS) or by maximum likelihood (Das, 2019).

Table 2. Measurement of Variables

Variable	Abbreviation	Measurement	Reference
Dependent Variable			
Tax Avoidance	ETR	Total income tax expense divided by income before tax	(Baker et al., 2023; Dakhli, 2022; Jarboui & Riguen, 2020)
Independent Variable			
Profitability	ROA	Ratio of net income to total assets	(Abdelmoula et al., 2022; Abid & Dammak, 2022; Iazzi et al., 2023)
Moderating Variable			
Board Gender Diversity	BGD	The ratio of the total number of female directors to the total number of board members	(Iazzi et al., 2023; Thai et al., 2025; Utaminingsih et al., 2022)
Control Variables			
Leverage	LEV	Ratio of total liabilities to total equity	(Baker et al., 2023; Chouaibi et al., 2022; Saragih & Ali, 2023)
Firm Size	FSZ	Natural logarithm of total assets	(Alsaadi, 2020; Baker et al., 2023; Saragih & Ali, 2023)
Firm (i)			
Year (t)			

RESULTS

Descriptive Statistics

Table 3. Descriptive Statistics

Variable		Mean	Std. Dev.	Min	Max
Tax Avoidance (ETR)	Overall	0.2305786	0.1469182	0.001388	0.980708
	Between		0.1611581	0.001388	0.927143
	Within		0.0545211	-0.0373981	0.4906009
Profitability (ROA)	Overall	0.029564	0.0504559	-0.003917	0.407052
	Between		0.0534397	0.0002393	0.343301
	Within		0.0193475	-0.13769	0.196818
Board Gender Diversity (BGD)	Overall	0.1797245	0.1883363	0	0.8
	Between		0.180558	0	0.7166667
	Within		0.0474599	0.0463912	0.4019472
Leverage (LEV)	Overall	3.101588	2.770734	0.002486	15.308
	Between		2.624854	0.0031587	13.79183
	Within		0.5844426	-0.0938216	7.673638
Firm Size (FSZ)	Overall	139	359	0.154	2,170
	Between		335	0.160	1,960
	Within		28.3	-997	349

Table 3 shows the descriptive statistics of each variable used in this research study in which there are a total of 223 observations (N = 223) from 87 financial firms (n = 87) such that there is an average number of 2 observations for every financial firm (T-bar = 2.56). ETR, with a mean value of 0.23 and a minimum value of 0.001388, suggests that financial firms tend to avoid taxes given the very small mean value of ETR during the observation period. Financial companies

have an average return on assets (ROA) of 2.96% with a minimum value of -3.73% and a maximum value of 40.71%. BGD with a mean value of 17.98% demonstrates that for every 10 board members, there is only 1 female director. Furthermore, the minimum value of BGD, which is 0, implies that some financial companies do not have any female directors on the board. Leverage has a mean value of 3.10 and a maximum value of 15.31, showing that financial firms are heavily leveraged with debt. Firm size has a mean value of IDR 139 trillion and a standard deviation of IDR 359 trillion meaning that the size of financial firms varies from one another.

Best Estimation Model

Table 4 shows the results of the most appropriate model used for Model 1 and Model 2. For Model 1, since the results from the Chow test showed a significant value of 0.0000, the fixed effect model (FEM) is more appropriate than the pooled least squares (PLS) model. Next, the Hausman test showed an insignificant value of 0.2183 therefore further testing using the Breusch and Pagan Lagrangian Multiplier test is required to choose between the pooled least squares (PLS) model and the random effect model (REM). Because the results from the Breusch and Pagan Lagrangian Multiplier test displayed a significant value of 0.0000 thus the random effect model (REM) is the most appropriate model for Model 1.

For Model 2, the results from the Chow test showed a significant value of 0.0000 therefore the fixed effect model (FEM) is more appropriate. To choose between the fixed effect model (FEM) and the random effect model (REM), the Hausman test is conducted. The results from the Hausman test showed an insignificant value of 0.5767 therefore the random effect model (REM) is more appropriate, and further testing is required to choose between the random effect model (REM) and the pooled least squares (PLS) model. However, since the result from the Breusch and Pagan Lagrangian Multiplier test showed a significant value of 0.0000 hence the random effect model (REM) is also the most appropriate model for Model 2.

Table 4. Best Estimation Model Results

Description	Model 1	Model 2
Chow Test	0.0000	0.0000
Hausman Test	0.2183	0.5767
Breusch and Pagan Lagrangian Multiplier Test	0.0000	0.0000
Result	REM	REM

Key: REM = Random Effect Model

Classical Assumptions Test

Table 5. Multicollinearity Test Results

Variable	Model 1	Model 2
FSZ	3.62	4.74
LEV	2.85	2.86
ROA	1.50	2.19
BGD		2.66
ROA*BGD		2.07
Mean VIF	2.66	2.90

Table 5 shows the results of the multicollinearity test results for Model 1 and Model 2 using the variance inflation factor (VIF). Since the value of mean VIF for Model 1 and Model 2 are 2.66 and 2.90 respectively, there are no indications of multicollinearity for both models.

Panel Data Regression Test

Table 6 shows the results of panel data regression analysis for Model 1. The results showed that ROA has a significant negative effect on ETR ($\beta = -0.542$, p-value = 0.005). In other words, a firm's profitability stimulates corporate tax avoidance. Regarding the controlled variables, FSZ does not affect ETR ($\beta = 0.002$, p-value = 0.812). Likewise, LEV also does not affect ETR ($\beta = -0.000$, p-value = 0.964). Since the value from the F-test shows a significant value of 0.0428, it means that Model 1 is feasible to use. The overall r-squared value for Model 1 is 0.0468 which means that Model 1 can explain corporate tax avoidance by 4.68% whereas the remaining proportion is explained by other variables not included in this study.

Table 6. Panel Data Regression Test Results for Model 1

Description	Coefficient	t-value	p-value
ROA	-0.5416434	-2.79	0.005
FSZ	0.0020032	0.24	0.812
LEV	-0.0002519	-0.04	0.964
Constant	0.19341	0.78	0.438
R-squared		0.0468	
Prob > F		0.0428	

Regarding board gender diversity acting as a moderating variable, Table 7 shows the results of the panel data regression after including board gender diversity in the model. The results show that BGD does not moderate the effect between ROA on ETR ($\beta = 1.278$, p-value = 0.247). Even after including BGD in the model, ROA still has a significant negative effect on ETR ($\beta = -0.812$, p-value = 0.005). Similarly, BGD has a significant effect on ETR ($\beta = -0.223$, p-value = 0.002). This implies that profitability and board gender diversity are key drivers of corporate tax avoidance in financial firms. Since BGD cannot moderate the effect of ROA on ETR, the type of moderating variable is considered predictor moderation. For the controlled variables, FSZ does not affect ETR ($\beta = 0.001$, p-value = 0.932). In the same way, LEV also does not affect ETR ($\beta = 0.001$, p-value = 0.858). The F-test showed a significant value of 0.0031 which means that the model is feasible to use. In addition, the overall R-squared value for Model 2 is 0.0828 which means that Model 2 can explain corporate tax avoidance by 8.28% whereas the remaining proportion is explained by other factors.

Table 7. Panel Data Regression Test Results for Model 2

Description	Coefficient	t-value	p-value
ROA	-0.8124571	-2.87	0.004
FSZ	0.0007034	0.08	0.932
LEV	0.000993	0.18	0.858
BGD	-0.2227534	-3.07	0.002
ROA*BGD	1.277914	1.16	0.247
Constant	0.2722707	1.11	0.269
R-squared		0.0828	
Prob > F		0.0031	

DISCUSSION

Models 1 and 2 showed that profitability, as measured by ROA, has a significant negative effect on ETR therefore H_1 is accepted. This indicates that profitability is positively correlated with corporate tax avoidance, as lower ETR levels indicate higher levels of tax avoidance (Alsaadi,

2020; Baker et al., 2023; Dhawan et al., 2020). This suggests that financial firms seek to profit by lessening their tax expenses, just like non-financial firms. In addition, the regression analysis revealed that board gender diversity (BGD) cannot moderate or mitigate the effect of profitability on corporate tax avoidance; therefore, H_2 is rejected. Nonetheless, contrary to previous research by Hidayat & Zuhroh (2023); Jarboui & Riguen (2020); Pertiwi et al. (2020); Salhi et al. (2020), board gender diversity has a direct and significant positive effect on corporate tax avoidance. Based on the descriptive statistics of the BGD variable in Table 3, the mean value of BGD is roughly 0.1797 or around 17.97%. This indicates that, on an average level, there are only one or two female directors on the board of financial companies observed in this study. Not only that, the minimum value of BGD is zero which implies that there are still a handful of financial firms that do not have any female directors on the board. In line with the critical mass theory, as explained in the earlier section of the paper, the percentage of women on the board is not high enough for female directors to take part in the decision-making of the firm as the mean value of BGD is less than 30%. For this reason, the decision-making of the financial companies' board is dominated and overlooked by male directors. When the board of directors is formed to include a token representation, in this case, a female director, the female director is subjected to performance pressures that cause the female director to imitate the 'agentic' behaviour of the male directors (Yarram & Adapa, 2021). Since male directors are known to be more opportunistic and risk-taking than female directors, they have greater a tendency to prioritize the company's profits rather than acting under the applicable tax laws and regulations. Furthermore, since tax expenses directly affect a firm's profits, male directors who better prioritize profits more than ethical concerns, are more inclined to avoid or make cutbacks on corporate income taxes to increase corporate profits so that potential investors are more intrigued in making investments in the firm.

Regarding the control variables, both firm size and leverage do not have any significant effects on corporate tax avoidance. The results confirm research results from Abdelmoula et al. (2022); Menchaoui & Hssouna (2024); Rashid et al. (2024) in which firm size has an insignificant effect on tax avoidance. This suggests that, regardless of their size, financial firms have a greater tendency to focus more on good corporate governance rather than engaging in corporate tax avoidance practices. Furthermore, since larger firms are more scrutinized (Wang et al., 2020), in this case by the Indonesian Stock Exchange (IDX), they will face greater consequences if they are caught red-handed infringing tax laws and regulations (Stanley & Widianingsih, 2024). Regarding the insignificant effect of leverage, the result in this study is consistent with the research results of Menchaoui & Hssouna (2024). As seen from the descriptive statistics of variables as shown in Table 3, the average value for leverage is approximately 3.10. This means that, on an average level, the financial firms examined in this research study have debt three times greater than their equity, indicating that financial firms operate on debt rather than equity. For instance, financing in the banking sector relies heavily on debt, so banks usually have a small amount of equity compared to their debt (Reiter et al., 2021). This is the case for banks because they typically operate high amounts of debt to loan out huge amounts of money to their clients, which is one of the primary operations of banks and other kinds of financial firms.

CONCLUSION

This research study seeks to obtain a piece of empirical evidence regarding board gender diversity acting as a moderator of profitability on corporate tax avoidance in the financial sector. The results of the study showed that profitability is significantly and positively correlated with corporate tax avoidance. Board gender diversity is not able to moderate the effect of profitability on tax avoidance, however, it has a significant positive effect on corporate tax avoidance. On the contrary, the control variables which comprise leverage and firm size do not show any significant effect on corporate tax avoidance.

This research study has some limitations, which present potential for future research. First, in terms of data availability, some firms do not publish their annual reports for certain years. Furthermore, several firms experienced a loss such that the data was not fitted for use. On that account, it is highly suggested to expand research into other sectors as the financial sector behaves differently. In addition, future research could explore other aspects of corporate governance such as female members on the audit committee on corporate tax avoidance since this research only considers female directors on the board.

SUGGESTIONS

Based on the results of this research study, for academicians, the results provide new insights as to why board gender diversity does not moderate the relationship between profitability and corporate tax avoidance. The results also provide a perception that the mere presence of female directors does not necessarily reduce corporate tax avoidance. Moreover, the government should consider encouraging companies to adopt diverse perspectives on corporate boards aside from having female directors to promote strong governance overall.

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