

# The Role of Board Gender Diversity and Environmental, Social, and Governance (ESG) Performance on Tax Avoidance

Vina Maulina and Siti Nuryanah\*

Faculty of Economics and Business,  
Universitas Indonesia, Depok/Jawa Barat, Indonesia

## ABSTRACT

This study examined the characteristics of board gender diversity (BGD) and Environmental, Social, and Governance (ESG) performance on aggressive corporate tax strategy. Filling the tax avoidance research gap, this study analysed the role of ESG performance both as a total score and each of the ESG pillars. This study used the dynamic panel and GMM models to analyse a panel data set of Indonesian companies from 2017 – 2021. The findings showed that the environmental score had a negative relationship with tax avoidance. This study also found that gender diversity strengthened the negative relationship between environmental performance and corporate tax avoidance. This result was robust, as confirmed by the sensitivity test results. The findings of the study contribute to the tax avoidance literature by examining the current ESG performance initiative and support the Liberal Feminism Theory. The results also provide practical implications of gender diversity on boards as well as ESG activities, especially in Indonesia.

**Keywords:** Tax Aggressiveness, SDGs, Governance, Feminism, Sustainability

---

### ARTICLE INFO

#### Article History:

Received: 4 December 2023

Accepted: 17 January 2025

Available online: 1 August 2025

---

\* Corresponding Author: Siti Nuryanah; Department of Accounting, Faculty of Economics and Business, Universitas Indonesia, Kampus UI Depok 16424; Email: siti.nuryanah@ui.ac.id; Tel: +62217272425.

## INTRODUCTION

Tax avoidance concern is significantly increasing in the latest research literature (Jiang et al., 2021; Bauer et al., 2022) because in the business operations of the company, one of the many efforts made to increase the profitability is to reduce the tax burden. The tax avoidance strategy is considered an impetus for the company to reduce its tax burden (Chen et al., 2010). Despite the effort of companies to minimise tax costs, taxes are compulsory and coercive contributions paid to the state under applicable laws, although the benefits are not directly felt by taxpayers (Suandy, 2016). In fact, taxes are the main source of a country's revenue, as many countries still rely on taxes. Hanlon and Heitzman (2010) defined corporate tax avoidance as an action that reduces a firm's tax relative to pretax accounting income. In this case, the company legally and safely carries out tax avoidance efforts by not violating the existing tax regulations because the company takes advantage of the existing weaknesses in tax regulations as a way and technique of tax avoidance (Napitupulu et al., 2019).

Tax payments make up a large part of the costs in business operations. Therefore, it is important for the boards and internal tax divisions of the company to legally reduce tax payments and obtain tax benefits using the tools at their disposal to reduce tax liabilities (McKeown et al., 2019). The board in the context of this study referred to the board of directors (managing board) because the board of directors is directly related to the management of the company, especially in establishing policies, systems, and procedures for tax management in the company (Elgood, 2008).

Several previous studies have investigated how corporate governance practices, especially board structure, affect tax avoidance (Hoseini et al., 2018; Riguen et al., 2021; Govindan et al., 2021; Salhi et al., 2020; Abd-Elmageed & Megeid, 2020). Board gender diversity (BGD) was argued to be the key to corporate governance mechanisms that influenced decisions on tax strategy (Vacca et al., 2020). The literature generally documented that BGD was negatively related to tax avoidance (Chen et al., 2019; Reguera et al., 2017; Agyemang-Mintah & Schadewitz, 2019; Suleiman & Abubakar, 2021). Female directors can benefit companies through decision-making and policies that can reduce tax avoidance because they are perceived as having higher ethics and being more careful in decision-making, less likely

to engage in risky matters, and having better morals (Pertiwi & Prihandini, 2021).

Despite reasonable actions for directors to manage profit by reducing the tax burden, the current massive campaign on Sustainable Development Goals (SDGs) and Environmental, Social, and Governance (ESG) initiatives necessitate companies to highly consider ethics in business. ESG activities require a company's economic goals related to its social responsibility (Gillan et al., 2021), therefore combining social and environmental aspects into the company's business operations and interactions with stakeholders (Zumente et al., 2021). In the context of the Stakeholder Theory (ST), ESG is considered the right course of action, in which socially responsible companies consider the economic, social, environmental, and other external effects of corporate decisions. The public views aggressive tax avoidance practices as detrimental to society, and these practices are widely perceived as a form of irresponsible corporate activity and unethical actions. Therefore, a socially responsible company is more likely not to practice tax avoidance by manipulating profits. In particular, tax avoidance practices can generate negative sentiments, such as the loss of corporate management personnel, political pressure, potential fines, and consumer boycotts (Hanlon & Slemrod, 2009; Chen et al., 2019). Therefore, a company with a larger ESG score does not participate in aggressive tax avoidance, which might put them at public risk (Hanlon & Slemrod, 2009).

Many studies have examined the effect of corporate governance on tax avoidance in the context of a one-tier board and developed countries (Hoseini et al., 2018; Riguen et al., 2021). Only a few studies, however, have a two-tier board structure or emerging market background, and the findings are still not conclusive (Pertiwi & Prihandini, 2021; Prasetyo, 2019; Widuri et al., 2020). Therefore, this study aimed to investigate the effect of BGD and ESG performance on tax avoidance in the emerging market context and examine more factors that were previously overlooked, such as the current ESG initiatives, to gain new insights into the relationship between BGD and tax avoidance. Specifically, this study explored the moderation effect of ESG in examining the impact of BGD, i.e., female directors who are considered to have higher ethics and tend to avoid risks, on corporate tax avoidance.

This study contributes to the existing literature in several ways: First, the effects on each of the ESG pillars were analysed exclusively in this paper since many previous studies examined ESG combined scores (Alareeni & Hamdan, 2020; Shakil, 2021; Liu & Hamori, 2020). Second, this study focused on Indonesia as one of the emerging markets due to its historical tax reforms despite the successful claim on the reform, statistics such as a relatively lower tax-to-GDP ratio compared to the neighboring countries and increasing trend in tax disputes shows otherwise (Suandy, 2016). Finally, this study contributes to provide an integrated framework that combines ESG and tax avoidance research, which have traditionally been studied separately. By examining the interaction between ESG performance and tax avoidance, this study highlights the role of non-financial performance indicators in shaping financial decisions. This integration offers a more holistic understanding of corporate behavior, bridging the gap between ethical conduct and financial strategy.

The paper is organised as follows. In the next section, this research discusses the theoretical framework, prior studies and hypothesis development. It is followed by sections on research design and analysis. In the final section, this paper presents the conclusions and implications of this research.

## **LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **Board Gender Diversity (BGD) and Tax Avoidance**

The Agency Theory (AT) postulates that the existence of women on the company's board of directors is more effective and resilient in monitoring decision making (Riguen et al., 2020). Gender diversity can improve managerial monitoring, and in terms of reducing agency issues, it is considered to lead to better decisions (Lanis et al., 2019; Yahya, 2021). Based on the AT, many previous studies have shown a negative relationship between gender diversity on the board and tax avoidance (Pertiwi, 2021). For example, Richardson et al. (2016) argued that the presence of women on the board established and maintained ethical standards, aided in stricter monitoring of financial and tax strategies, arrangements and transactions,

and facilitated effective oversight and communication. They argued that tax avoidance was significantly reduced by the presence of women in the council. Similarly, Chen et al. (2019) examined the effect of BGD on tax avoidance and found that BGD was negatively correlated with tax avoidance. This suggests that companies with diverse board genders tend to be cautious when it comes to recognizing potential reputational risks associated with aggressive corporate tax strategies.

Similar to the presence of women on monitoring boards, their presence on the management board of the company can also reduce the selfish and opportunistic behavior of managers and expose their false intentions, such as avoiding the payment of taxes, to maximize the interests of the owner of the company (Hoseini et al., 2018). Proponents of the AT argue that female directors can act as mechanisms for the supervision and control of the activities of the board (Riguen et al., 2020; Jiang et al., 2021; Zaid et al., 2020), as they provide better oversight of financial performance (Reguera et al., 2017; Schadewitz, 2017). As a result, women's participation will assist in reducing tax avoidance in the company. Overall, because female directors are more high-risk evasive and provide effective monitoring, a larger proportion of female directors is a useful oversight tool that can significantly control risks to reduce tax avoidance measures. Based on this argument, this study hypothesized a negative relationship between BGD and corporate tax avoidance.

**H<sub>1</sub>:** BGD is negatively related to tax avoidance.

### **Moderating Effect of Environmental, Social and Governance (ESG)**

The ST argues that the presence of women in leading companies can provide more innovative thinking and increase transparency. This can trigger companies to make changes that are motivated by outsiders. According to this Theory, the board of directors occupies a central position to balance interests and conflicts in various circumstances facing the company. The presence of women is considered to strengthen the company's commitment to stakeholders by showing the company's appreciation for gender equality issues, especially on the board of directors. Therefore, the presence of women has a good influence and is attractive to stakeholders in assessing the quality of the company.

In line with this, the company's CEO and board maximize stakeholder value (Rose, 2007), especially when the percentage of women is very high. The integration of minority groups in the board, such as the presence of women, can show the company's commitment to stakeholders (Francoeur et al., 2008). These previous studies confirmed that the presence of women on the board of directors is attractive not only to shareholders but also to other stakeholders. Based on the ST, gender diversity is argued to deliver social performance. In this way, the incorporation of female directors within the company's board can make corporate tax avoidance smaller and support the company's involvement in ESG performance.

Most of the previous tax avoidance research was associated with gender diversity and corporate social responsibility or sustainability performance. The presence of women on the company's board of directors was found to decrease the level of tax avoidance (Hoseini et al., 2018; Jarboui et al., 2020; Dakhli, 2021). In addition, previous studies have found that sustainability performance plays an important role in corporate tax avoidance. Corporate social responsibility appears to partially mediate the relationship between women on the board of directors and corporate tax avoidance. In the context of Indonesia, however, previous studies found different findings from the literature above. Prasetyo (2019) examined how the influence of diversity on boards of directors on prospect theory as well as women who tend to avoid risk (risk averse) and found that gender diversity has no effect on tax avoidance. Widuri et al. (2020) found different results that showed a positive influence of gender diversity on tax avoidance through the mediation of sustainability performance.

Based on the discussion above, this study proposed the following hypothesis.

**H<sub>2</sub>:** ESG strengthens the negative relationship between BGD and corporate tax avoidance.

### **Moderating Effect of Each Pillar of Environmental, Social and Governance (ESG)**

This study also explored each pillar of the environmental, social and governance as a moderator of the influence of BGD and tax avoidance.

Previous literature has found that BGD influenced ESG (Nguyen et al., 2021; Govindan et al., 2021). In other words, in accordance with the ST gender diversity on the board allows companies to better consider the interests of stakeholders and shareholders so that they tend to avoid risks such as making decisions related to tax avoidance. Various studies have also reported that the impact of gender diversity may differ across the three dimensions of ESG (Reyes et al., 2018; Alazzani et al., 2017). The environmental pillar shows how the company uses good management practices to avoid environmental risks and will therefore create long-term shareholder value. It concerns several areas such as energy consumption, total water consumption, greenhouse gas emissions and waste emission reduction. The social pillar is monitored with several indicators, including human rights, labor and employment issues, supplier relations, community initiatives, training and development, and human rights. The pillars of corporate governance include best management practices, vision and strategy, board functions, and board structure (Dakhli, 2021).

Dakhli (2021) found that BGD had a positive and significant effect on the social pillar of ESG and had a significant effect on the governance and environmental pillars. The plausible explanation is that the high presence of women in companies is a type of social dimension of ESG (Jarboui et al., 2020). This confirmed the results of Mouakhar et al. (2020) and Orazalin and Baydauletov (2020) who argued that female board members are expected to influence the social dimension of ESG by reducing tax avoidance. Because of their relational abilities, women on the council are more likely to meet the needs of their broader stakeholder group (Salhi et al., 2019). Companies with more female on the board of directors enjoy better social reputations (Endrikat et al., 2021; Velte, 2019; Liu et al., 2020) and take better decisions (Yarram & Adapa, 2021; Orazalin & Baydauletov, 2020). Related to this explanation, the third hypothesis in this study was as follows:

**H<sub>3</sub>:** Each pillar of E, S, and G strengthens the negative relationship between BGD and corporate tax avoidance.

## METHODOLOGY

This study was a quantitative study using a sample of all companies listed on the Indonesia Stock Exchange (IDX) during 2017-2021 by excluding companies in the financial, mining, property, real estate, construction, and building and shipping sectors because they had different tax regulations. This research also excluded companies experiencing losses. A total of 128 observations were used in this study, as depicted in Table 1. All data were collected from the Refinitiv Eikon database.

**Table 1: Sampling Criteria**

Criteria	Total companies
Listed companies in IDX having ESG score	38
Excluding companies in finance, mining, construction, and properties which have special tax regulation	(11)
Total companies	27
Total observations 2017 - 2021	135
Excluding periods experiencing losses	(7)
Total final observations 2017 - 2021	128

The first model of this study referred to the research of Riguen et al. (2020), testing the effect of BGD on tax avoidance with ESG as the moderating variable. The second model in this study aimed to test the effect of BGD moderated by the individual variables E, S, and G on tax avoidance. This model referred to the modified research of Sahar et al. (2022). Examining each pillar exclusively was important because previous studies had reported that the impact of gender diversity may differ across the three dimensions of ESG (Reyes-Bastidas & Briano-Turrent, 2018; Alazzani et al., 2017).

$$CETR_{it} = \beta_0 + \beta_1 BGD_{it} + \beta_2 E_{it} + \beta_3 S_{it} + \beta_4 G_{it} + \beta_5 E^*BGD_{it} + \beta_6 S^*BGD_{it} + \beta_7 G^*BGD_{it} + \beta_8 ROA_{it} + \beta_9 Size_{it} + \beta_{10} Lev_{it} + \varepsilon_{it} \dots \dots \dots (2)$$

where:

*CETR*=Corporate tax avoidance; *BGD*=Gender diversity on the company's board of directors; *ESG Score*=Environmental, social, and governance score of the company; *E Score*=Environmental Performance of the company; *S Score*=Social performance of the company; *G Score*=Corporate governance performance; *ROA*=Profitability of the company; *LEV*=The level of leverage of the company; *SIZE*=Company size. Table 2 below describes the variable measurements used.

**Table 2: Variable Measurement Summary**

Variables	Measurement
<b>Dependent</b>	
Tax Avoidance	$CETR = \frac{\text{Current tax expense}}{\text{Pre tax income}} \times (-1)^*$ *multiplied by (-1) for easier interpretation.
<b>Independent</b>	
Board Gender Diversity	$BGD = \frac{\sum \text{Women on BOD}}{\sum \text{board size}}$ BOD: Baord of Directors. In Indonesian two-tier governance context, BOD is a board of management.
<b>Moderating</b>	
ESG Performance	ESG Score
<b>Control</b>	
ROA	$ROA = \frac{\text{Pretax Income}}{\text{Total Asset}}$
Size	Log total asset
Leverage	$Lev = \frac{\text{Total debt}}{\text{Total equity}}$

This study used a GMM model to test the Hypotheses 1 and 2. To examine Hypothesis 3, instead of using a GMM model, this study used a dynamic panel model due to limited number of observations. The models examined the effect of BGD on tax avoidance, as well as analysed how ESG moderated the relationship between BGD and tax avoidance. The study also added control variables to the research model to control the influence of outside factors on the relationship between independent variables, moderation variables, and dependent variable.

## EMPIRICAL RESULTS

### Descriptive Statistics

**Table 3: Descriptive Statistics**

Variables	Mean	Min	Max	SD
CETR	-0.271	-1.059	-0.020	0.124
BGD	9.419	0	42.857	12.130
ESG Score	46.922	8.162	85.311	20.164
E Score	39.231	0	84.968	25.459
S Score	52.407	6.884	95.884	24.988
G Score	45.652	8.461	91.063	21.640
SIZE	31.340	29.206	33.537	0.923
LEV	0.432	0	2.783	0.517
ROA	0.141	0.006	0.597	0.113

Notes: CETR: Tax Avoidance; ESG: Environmental, Social, and Governance; BGD: Boards Gender Diversity; Size: Firms Size; Lev: Firm Leverage; ROA: Return on Asset.

Table 3 shows descriptive statistics of all variables used in this study. The average tax avoidance (CETR) was 0.271. The minimum value of CETR was -1.059, and the maximum value is -0.02. The descriptive statistics showed that on average, when compared to the statutory tax rate of 22%, companies in Indonesia tended to not conduct tax avoidance, with an average CETR of 27.1%, which was above the statutory tax rate.

The average percentage of female directors to the company's total directors was 9.419 %. The minimum BGD value was 0, and the maximum value was 42.857%. This showed that on average, only around 9% of the total directors were female. This showed that companies very rarely had female directors. The study found that gender was not a great issue in director recruitment. The average result of the company's ESG score was 46.922 suggesting that the achievement of ESG was still quite low in companies in Indonesia, with only approximately 47 out of a perfect ESG score of 100. The lowest achievement with a score of 8.162 was PT Indah Kiat Pulp & Paper Tbk (IKPP) while the highest achievement of ESG with a score of 85.311 was PT Vale Indonesia Tbk (INCO). Interestingly, both companies had direct and significant impact on environment since IKPP was

a manufacturer of pulp, papers and tissues and INCO was a mining company. In addition to the very wide gap in ESG scores, the standard deviation of 20.164 suggested a diverse ESG practice even among companies which had a direct impact on the earth such as IKPP and INCO.

The average scores of each pillar of ESG were 39.231, 52.407, and 45.652 respectively. The average score showed that Indonesian companies valued more social activities, compared to governance and environmental activities. The minimum E score was 0 suggesting that there was a company that did not have any environmental performance. Overall, the single E score which was the lowest amongst each pillar of ESG confirmed further the above finding related to the wide gap ESG practice amongst companies especially in companies which had a direct impact on the environment. Indeed, many Indonesian companies still did not care about environmental issues.

## Correlation Analysis

Table 4: Correlation Table (ESG Score)

	CETR	BGD	ESG score	ROA	LEV	Size	VIFs
CETR	1.000						
BGD	0.039	1.000					1.17
ESG score	-0.289	-0.082	1.000				1.06
ROA	0.208	0.016	0.133	1.000			2.23
LEV	-0.322	-0.049	0.028	-0.276	1.000		1.03
SIZE	-0.134	-0.068	-0.021	-0.467	0.278	1.000	1.15

Notes: CETR: Tax Avoidance; ESG: Environmental, Social, and Governance; BGD: Boards Gender Diversity; Size: Firms Size; Lev: Firm Leverage; ROA: Return on Asset.

**Table 5: Correlation Table (E, S, and G Score)**

	CETR	BGD	E score	S score	G score	ROA	LEV	Size	VIF
CETR	1.000								
BGD	0.039	1.000							1.17
E score	-0.297	-0.227	1.000						2.58
S score	-0.212	-0.188	0.757	1.000					2.64
G score	-0.179	0.187	0.453	0.553	1.000				1.61
ROA	0.208	0.016	0.052	0.134	0.096	1.000			2.23
LEV	-0.322	-0.049	0.055	0.017	0.004	-0.276	1.000		1.03
SIZE	-0.134	-0.068	0.226	-0.081	-0.071	-0.467	0.278	1.000	1.15

Notes: CETR: Tax Avoidance; ESG: Environmental, Social, and Governance; BGD: Boards Gender Diversity; Size: Firms Size; Lev: Firm Leverage; ROA: Return on Asset.

Tables 4 and 5 show the correlation between variables in this study. Following the rule of thumb, correlation with values of 0.80 or more in absolute values led to the presence of multicollinearity between variables. This study showed the highest correlation coefficient of 0.757 through the relationship between the S score and the E score. In addition, the study showed a weak *variance inflation factor* (VIF) of less than 10 with a range from 1.03 to 2.58. Therefore, it confirmed the absence of a multicollinearity problem in this study.

## Hypotheses Test Results

**Table 6: Result of Dynamic GMM Model**

Variables	Predictions	Coef.	Std. error	Sig.	Conclusion
Cons		-0.9245	0.456	0.043	
L1.		-0.027	0.119	0.824	Not significant
BGD	-	-0.001	0.005	0.845	Not significant
ESG	-	-0.003	0.001	0.030**	Significant
BGD*ESG	-	0.000	0.000	0.486	Not significant
ROA	+/-	0.233	0.125	0.063*	Significant
LEV	+/-	-0.139	0.031	0.000***	Significant
SIZE	+/-	0.025	0.140	0.068*	Significant

Variables	Predictions	Coef.	Std. error	Sig.	Conclusion
				Prob > Chi-2	0.000
				N	93

Notes: CETR: Tax Avoidance; ESG: Environmental, Social, and Governance; BGD: Boards Gender Diversity; Size: Firms Size; Lev: Firm Leverage; ROA: Return on Asset.  
 Sig.\*\*\*= 1%, \*\* = 5%, \*= 10%.

Based on GMM model, as shown in Table 6 BGD was not statistically significant to tax avoidance, hence this study was not able to address the first hypothesis. The results suggested that in the Indonesian context, gender diversity in the board of directors was not an important factor for tax decision making; women were less influential in having a say in the issue of corporate tax avoidance. The findings of this study confirmed the previous Indonesian study i.e. Prasetyo (2019) and Italian study i.e. Vacca et al. (2020) that could not find a significant relationship between gender diversity and tax avoidance. Therefore, this study cannot support previous studies (Chen et al., 2019; Reguera et al., 2017; Agyemang-Mintah & Schadewitz, 2019; Suleiman & Abubakar, 2021) which found the significant influence of female directors in reducing tax avoidance practice. This study cannot find the postulate of the AT and the Liberal Feminism Theory which suggest that women can play important role in reducing agency problems. The insignificant result of board gender diversity can be also explained by the small portion of women in Indonesian companies which was only 10% in board of directors. The insignificance of women in boards confirmed the failure commitment of the country to the representation of women in decision making in all sectors from politics to business<sup>1</sup>. As argued by Chen et al. (2019) and Adams and Ferreira (2009), the role of gender diversity in tax avoidance may be limited due to differences in backgrounds and experiences that are not directly related to tax policy. Hence, cultural and social factors also affect the effectiveness of gender diversity at the council level.

Regarding the effect of ESG on the issues of tax avoidance, as shown in Table 6 ESG was statistically significant to tax avoidance. However, ESG did not play a moderating effect in the relationship between board gender diversity and tax avoidance. While this study could not address the second hypothesis, the finding suggests in the Indonesian case, that ESG

<sup>1</sup> In politics, the Indonesian regulation requires a minimum of 30% of women represented in the legislative body but until now it has not been achieved.

performance indeed can minimise tax avoidance practice, supporting Hanlon and Slemrod (2009) who argued that a company with a larger ESG score does not participate in aggressive tax avoidance.

**Table 7: Results of Dynamic Panel Data Model**

Variables	Predictions	Coef.	Std. Error	Sig.	Conclusion
Cons		-0.961	0.592	0.105	
BGD	-	0.055	0.300	0.855	Not significant
E Score	-	-0.002	0.000	0.003***	Significant
S Score	-	0.001	0.000	0.158	Not significant
G Score	-	-0.000	0.000	0.716	Not significant
BGD*E	-	0.008	0.004	0.079**	Significant
BGD*S	-	-0.003	0.006	0.676	Not significant
BGD*G	-	-0.004	0.005	0.465	Not significant
ROA	+/-	0.112	0.117	0.340	Not Significant
LEV	+/-	-0.168	0.008	0.034*	Significant
SIZE	+/-	0.023	0.018	0.208	Not significant
R-Squared				0.119	
Wald chi2				23.14	
Prob > chi2				0.010	
N				129	

Notes: CETR: Tax Avoidance; ESG: Environmental, Social, and Governance; BGD: Boards Gender Diversity; Size: Firms Size; Lev: Firm Leverage; ROA: Return on Asset. Sig.\*\*\*= 1%, \*\* = 5%, \* = 10%.

Examining Hypothesis 3, in the context of each pillar of E, S, and G, as shown in Table 7 only environmental performance was significant, and it could also play a moderating role in the relationship between gender diversity and tax avoidance. While the BGD was statistically insignificant, the E score has a negative effect on tax avoidance. The positive coefficient of the moderating E and BGD variables suggested that board gender diversity strengthened the negative relationship between E score and tax avoidance. This finding suggested that the environmental pillar was an important factor in reducing tax avoidance. Moreover, the presence of women on the board would strengthen the role of environmental performance in reducing tax avoidance. This finding confirmed previous studies which found different impacts of the three dimensions of ESG (Reyes et al., 2018; Alazzani

et al., 2017). While findings of descriptive statistics show wide gap of environmental performance of Indonesian listed companies, this GMM finding suggests that, in Indonesian context, the environmental pillar is indeed statistically significant in reducing tax avoidance. Companies in Indonesia attempt to have good management practices to avoid environmental risks which may create a long-term shareholder value. The finding of a significant moderating effect of environmental performance with board gender diversity supported the liberal feminism theory, suggesting that in the Indonesian context, women can strengthen the role of the company's environmental performance in reducing agency problems namely moral hazards in tax avoidance.

### Sensitivity Test: Using GAAP ETR as a Proxy of Tax Avoidance

Table 8: Sensitivity Test Results

Variables	Prediction	GAAP ETR			
		Model 1		Model 2	
		Coef.	Sig.	Coef.	Sig.
Cons		-0.5747	0.545	-0.2396	0.810
BGD	-	0.0009	0.838	0.0038	0.457
ESG score	-	-0.0018	0.238		
BGD*ESG	-	-0.0002	0.838		
E score	-			-0.0016	0.384
S score	-			-0.0001	0.953
G score	-			0.0002	0.897
BGD*E	-			0.0002	0.137
BGD*S	-			-0.0001	0.597
BGD*G	-			-0.0001	0.225
ROA	+/-	0.383	0.101	0.3431	0.124
LEV	+/-	0.003	0.936	-0.0120	0.785
SIZE	+/-	0.100	0.738	-0.0008	0.979
R-Squared		0.058		0.079	
Prob Chi-2		0.507		0.664	
Observations		121		121	

Notes: GAAP ETR: Tax Avoidance; ESG: Environmental, Social, and Governance; BGD: Boards Gender Diversity; Size: Firms Size; Lev: Firm Leverage; ROA: Return on Asset. Sig. \*\*\*= 1%, \*\* = 5%, \* = 10%.

This study conducted a sensitivity test to ensure the consistency of the research model or a robustness test by conducting a sensitivity analysis by changing variable measurements, such as the ETR current tax avoidance proxy replaced by the GAAP ETR, the measurement developed by Gebhart (2017). As shown in Table 8 changing the proxy of tax avoidance, this study consistently could not find the effect of gender diversity of the Indonesian corporate board of directors on tax avoidance. The results could not find ESG total score as a moderating variable in the relationship of board gender diversity on tax avoidance. These results were consistent (robust) with the main results. Regarding Model 2, the results of the sensitivity test however could not confirm the findings of the main model. In a two-way relationship, however, the moderating effect of E Score on BGD was significant at 10% (0.068), suggesting a consistent finding with the main model.

### Sensitivity Test: Excluding Years Affected by COVID-19

Table 9: Sensitivity Test Results (COVID-19)

Variables	Prediction	CETR			
		Model 1		Model 2	
		Coef.	Sig.	Coef.	Sig.
Cons		-0.358	0.300	-0.648	0.209
BGD	-	0.000	0.464	-0.0003	0.469
ESG score	-	-0.001	0.077*		
BGD*ESG	-	0.000	0.313		
E score	-			-0.001	0.136
S score	-			-0.00004	0.488
G score	-			0.0002	0.434
BGD*E	-			0.0000	0.433
BGD*S	-			0.0000	0.236
BGD*G	-			-0.00004	0.286
ROA	+/-	0.002	0.456	0.3187	0.028**
LEV	+/-	0.012	0.389	0.0077	0.429
SIZE	+/-	0.321	0.019**	0.0113	0.328
R2			0.137		0.168
Wald chi2			8.611		9.49
Prob > chi2			0.197		0.486
N			72		72

Notes:

**CETR**= Tax Avoidance; **BGD**= Board Gender Diversity; **ESG Score**= Environmental, social, and governance score; **E Score**= Environmental Score; **S Score**= Social Score; **G Score**= Corporate Governance; **ROA**= Return on Asset; **LEV**= Leverage; **SIZE**= Size of the companies.

Sig.\*\*\*= 1%, \*\* = 5%, \*= 10%.

This study also conducted a sensitivity test by excluding the years 2020 and 2021 because they were affected by COVID-19. Consequently, only 72 observations were eligible for the analysis. The results as in Table 9 indicated the same results as the main model in that 1) the effect of BGD on tax avoidance was not statistically significant; 2) ESG score had a negative relationship with tax avoidance; and 3) the moderating effect of total ESG performance was not statistically significant. Overall, the sensitivity test suggested the robustness of Model 1, as the sensitivity results confirmed the results of the main model. The sensitivity test results of Model 2 could not find any significant results, similar to GAAP tax avoidance results as shown in Table 9.

## **CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FUTURE STUDIES**

This study aimed to examine the effect of board gender diversity moderated by environmental, social, and governance (ESG) factors on tax avoidance. The sample of this study were companies listed on the Indonesia Stock Exchange and had ESG scores during the period from 2017 to 2021. The results of the study showed no significant relationship between BGD and tax avoidance. The study, however, found a positive relationship between ESG performance and tax avoidance supporting for ESG practice in reducing tax avoidance. Examining each pillar of ESG, this study found that environmental performance was significant in reducing tax avoidance while board gender diversity was still not significant. Board gender diversity, however, moderating with E score can strengthen the negative relationship between environmental performance and tax avoidance. This result supported the Liberal Feminism Theory. In the Indonesian context, women can strengthen the role of the company's environmental performance in minimising agency problems of tax avoidance. This study also supported previous literature regarding an impact of a single dimension of ESG (Reyes et al., 2018; Alazzani et al., 2017). The results of the main models were robust as shown by sensitivity analyses. Despite the big gap of environmental performance of Indonesian listed companies, as found in the descriptive analysis, this study found that in the Indonesian context, the environmental pillar played an important role in minimising tax avoidance, and hence may ensure sustainability practices and create a long-term shareholder value.

The findings of this study provide theoretical contribution to tax avoidance literature, supporting the current ESG initiative in reducing tax avoidance. This study provides an integrated framework that combined ESG and tax avoidance research, which previously was studied separately. By examining the interaction between ESG performance and tax avoidance, this study highlighted the role of non-financial performance indicators in shaping financial decisions. This integration offers a more holistic understanding of corporate behaviour, bridging the gap between ethical conduct and financial strategy. Moreover, this study supported the Liberal Feminism Theory suggesting the important role of women in strengthening the negative relationship between environmental performance and tax avoidance.

This study brings practical implications for policymakers, suggesting the promotion of ESG practices as it plays an indirect mechanism for improving corporate tax compliance. Encouraging or mandating higher standards for ESG performance could be an effective way to enhance overall corporate governance and reduce aggressive tax behaviours. This offers a practical policy tool for governments aiming to increase tax revenues and promote fair corporate conduct. The findings also call into question the effectiveness of board diversity as a standalone measure for improving governance outcomes related to tax avoidance. This implies that corporate governance reforms should be more comprehensive, elaborating both board diversity and the current ESG initiatives.

This research has some limitations, especially related to the limited information collected from secondary data related to ESG performance. ESG scoring can also be developed based on local ESG regulation or best practices. Future studies should explore other dimensions of board diversity, such as expertise, tenure, or international experience, to determine their impact on tax avoidance. Conducting cross-country studies would provide insights into how different regulatory environments, cultural norms, and governance practices influence the relationship between ESG, board diversity, and tax avoidance.

## **ACKNOWLEDGEMENTS**

The authors acknowledge partial research funding from Universitas Indonesia (NKB-32/UN2.RST/HKP.05.00/2024).

## REFERENCES

Abd-Elmageed, M. H., & Abdel Megeid, N. S. (2020). Impact of CEO duality, board independence, board size and financial performance on capital structure using corporate tax aggressiveness as a moderator. *Journal of International Accounting, Auditing and Taxation*, 24(4), 724-759.

Agyemang-Mintah, P., & Schadewitz, H. (2019). Gender diversity and firm value: Evidence from UK financial institutions. *International Journal of Accounting & Information Management*, 27(1), 2-26.

Alareeni, B. A., & Hamdan, A. (2020). ESG impact on performance of US S&P 500-listed firms. *Corporate Governance: The International Journal of Business in Society*, 20(7), 1409-1428.

Alazzani, A., Hassanein, A., & Aljanadi, Y. (2017). Impact of gender diversity on social and environmental performance: evidence from Malaysia. *Corporate Governance: The International Journal of Business in Society*, 17(2), 266-283.

Baudot, L., Johnson, J. A., Roberts, A., & Roberts, R. W. (2020). Is corporate tax aggressiveness a reputation threat? Corporate accountability, corporate social responsibility, and corporate tax behavior. *Journal of Business Ethics*, 163(2), 197-215.

Bauer, R., Derwall, J., & Tissen, C. (2022). Legal Origins and Institutional Investors' Support for Corporate Social Responsibility. *Available at SSRN 4096769*.

Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics*, 95(1), 41-61.

Chen, S., Huang, Y., Li, N., & Shevlin, T. (2019). How does quasi-indexer ownership affect corporate tax planning?. *Journal of Accounting and Economics*, 67(2-3), 278-296.

Dakhli, A. (2021). Does financial performance moderate the relationship between board attributes and corporate social responsibility in French firms?. *Journal of Global Responsibility*, 12(4), 373-399.

Elgood, T., Fulton, T. & Schutzman, M. (2008). *Tax Function Effectiveness: The Vision for Tomorrow's Tax Function*. CCH.

Francoeur, C., Labelle, R., & Sinclair-Desgagné, B. (2008). Gender diversity in corporate governance and top management. *Journal of Business Ethics*, 81(1), 83–95.

Gebhart, M.S. (2017). Measuring corporate tax avoidance—An analysis of different measures. *Junior Management Science*, 2(2), 43-60.

Gillan, S.L., Koch, A. & Starks, L.T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance*, 66, 101889.

Govindan, K., Kilic, M., Uyar, A., & Karaman, A. S. (2021). Drivers and value-relevance of CSR performance in the logistics sector: A cross-country firm-level investigation. *International Journal of Production Economics*, 231, 107835.

Gul, F.A., Srinidhi, B. & Ng, A.C. (2011). Does board gender diversity improve the informativeness of stock prices?. *Journal of accounting and Economics*, 51(3), 314-338.

Hanlon, M. & Slemrod, J. (2009). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. *Journal of Public Economics*, 93(1-2), 126-141.

Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, 50(2-3), 127–178.

Hoseini, M., Gerayli, M. S., & Valiyan, H. (2018). Demographic characteristics of the board of directors structure and tax avoidance: Evidence from Tehran Stock Exchange. *International Journal of Social Economics*, 46(2), 199–212.

Jarboui, A., Kachouri Ben Saad, M. & Riguen, R. (2020). Tax avoidance: Do board gender diversity and sustainability performance make a difference?. *Journal of Financial Crime*, 27(4), 1389-1408.

Jiang, L., Cherian, J., Sial, M. S., Wan, P., Filipe, J. A., Mata, M. N., & Chen, X. (2021). The moderating role of CSR in board gender diversity and firm financial performance: Empirical evidence from an emerging economy. *Economic Research-Ekonomska Istraživanja*, 34(1), 2354-2373.

Lanis, R., & Richardson, G. (2012). Corporate social responsibility and tax aggressiveness: An empirical analysis. *Journal of Accounting and Public Policy*, 31(1), 86-108.

Lanis, R., Richardson, G., Liu, C., & McClure, R. (2019). The impact of corporate tax avoidance on board of directors and CEO reputation. *Journal of Business Ethics*, 160(2), 463-498.

Liu, G., & Hamori, S. (2020). Can one reinforce investments in renewable energy stock indices with the ESG index?. *Energies*, 13(5), 1179.

McKeown, M., Scholes, A., Jones, F., & Aindow, W. (2019). Coercive practices in mental health services: Stories of recalcitrance, resistance, and legitimization. *Madness, Violence, and Power*, 263-285.

Muller, A., & Kolk, A. (2015). Responsible tax as corporate social responsibility: The case of multinational enterprises and effective tax in India. *Business & Society*, 54(4), 435-463.

Napitupulu, I. H., Situngkir, A., & Edelia, A. (2019). Triggers of tax avoidance practices in Indonesia. *International Journal of Economics, Business and Management Research*, 3(11), 185-191.

Para-González, L. & Mascaraque-Ramírez, C. (2019). The importance of official certifications in globalized companies' performance: An empirical approach to the shipbuilding industry. *Corporate Social Responsibility and Environmental Management*, 26(2), 408-415.

Pertiwi, S. R., & Prihandini, W. (2021). Gender diversity as the moderating effect on tax avoidance, economic value added, and firm value: A study of companies listed on Indonesia stock exchange 2015-2019. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 5(1), 435–449.

Prasetyo, B.N. (2019). The role of gender diversity on the board of directors and tax avoidance. *Russian Journal of Agricultural and Socio-Economic Sciences*, 87(3), 107-115.

Rahman, J. M., & Leqi, L. I. (2021). Corporate social responsibility (CSR): Focus on tax avoidance and financial ratio analysis. *Accountancy Business and the Public Interest*, 21(1), 73-89.

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.

Reyes-Bastidas, C., & Briano-Turrent, G. del C. (2018). Women in leadership positions and corporate sustainability: Evidence on listed companies from Colombia and Chile. *Estudios Gerenciales*, 34(149), 385–398.

Riguen, R., Salhi, B. & Jarboui, A. (2020). Do women in board represent less corporate tax avoidance? A moderation analysis. *International Journal of Sociology and Social Policy*, 40(1/2), 114-132.

Riguen, R., Salhi, B., & Jarboui, A. (2021). The impact of audit characteristics on corporate tax avoidance: The moderating role of gender diversity. *Scientific Annals of Economics and Business*, 68(1), 97–114.

Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review*, 15(2), 404–413.

Sahar, E., Wan-Hussin, W.N. & Ariffin, M.S.M. (2022). Sustainability performance and board compensation in Japan and ASEAN-5 Countries. *Borsa Istanbul Review*, 22(2), 189-199.

Salhi, B., Riguen, R., Kachouri, M. & Jarboui, A. (2020). The mediating role of corporate social responsibility on the relationship between governance and tax avoidance: UK common law versus French civil law. *Social Responsibility Journal*, 16(8), 1149-1168.

Schadewitz, S.H. (2017). Gender diversity in board committees and firm performance. *Review of Integrative Business and Economics Research*, 7(1), 2414.

Shakil, M. H. (2021). Environmental, social and governance performance and financial risk: The moderating role of ESG controversies and board gender diversity. *Resources Policy*, 72, 102144.

Sikka, P., & Willmott, H. (2013). The tax avoidance industry: Accountancy firms on the make. *Critical Perspectives on International Business*, 9(4), 415-443.

Suandy, E., 2016. Tax Law, Seventh Edition. *Jakarta: Salemba Four Publisher*.

Suleiman, S., & Abubakar, Z. (2021). Board heterogeneity and corporate tax aggressiveness. *Taxation, Social Contract and Economic Development*, 20(11), 110-120.

Srinidhi, B.I.N., Gul, F.A. & Tsui, J. (2011). Female directors and earnings quality. *Contemporary Accounting Research*, 28(5), 1610-1644.

Vacca, A., Iazzi, A., Vrontis, D., & Fait, M. (2020). The role of gender diversity on tax aggressiveness and corporate social responsibility: Evidence from Italian listed companies. *Sustainability*, 12(5), 2007.

Widuri, R., Tjahjono, P.A., Viana Rosaline Aditama, F. & Fudianto, M. (2020, December). Female board membership and sustainability: Can they mitigate tax avoidance in Indonesia and Malaysia?. In *5th International Conference on Tourism, Economics, Accounting, Management and Social Science (TEAMS 2020)* (pp. 296-304). Atlantis Press.

Yahya, F. (2021). The moderating role of board gender diversity between power-based corporate governance and tax aggressiveness. *Economics and Business Letters*, 10(2), 140-147.

Yarram, S. R., & Adapa, S. (2021). Board gender diversity and corporate social responsibility: Is there a case for critical mass? *Journal of Cleaner Production*, 278, 123319.

Zaid, M. A. A., Wang, M., Adib, M., Sahyouni, A., & Abuhileh, S. T. F. (2020). Boardroom nationality and gender diversity: Implications for corporate sustainability performance. *Journal of Cleaner Production*, 251, 119652.

Zeng, T. (2019). Country-level governance, accounting standards, and tax avoidance: A cross-country study. *Asian Review of Accounting*, 27(3), 401-424.

Zumente, I. & Bistrova, J. (2021). ESG importance for long-term shareholder value creation: Literature vs. practice. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), 127.