

Firm Characteristics, Board Structure and Corporate Social Responsibility Expenditure and Tax Avoidance in Ghana

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Abstract: The aim of this study is to examine the determinants of tax avoidance in Ghana, with a particular focus on firm characteristics, corporate governance, and corporate social responsibility (CSR) expenditure. The study employs quantitative methods, analysing ten years of data (2012–2021) extracted from the annual reports of listed firms. The results indicate that firm size, CSR expenditure, board independence, and foreign ownership are significant determinants of tax avoidance. In contrast, firm profit, gender diversity, and debt-to-equity ratio are found to be statistically insignificant. Notably, larger firms with higher profits and increased leverage tend to engage more in tax avoidance. The study also reveals a negative relationship between tax avoidance and both board independence and gender diversity, whereas foreign ownership and CSR expenditure are positively associated with tax avoidance. The study highlights the importance of CSR expenditure in understanding tax avoidance motives, suggesting that firms with significant CSR activities may require closer scrutiny by tax authorities to prevent aggressive tax practices. The value of this study lies in its inclusion of CSR expenditure as a novel factor influencing tax avoidance, providing fresh insights for researchers and policymakers on how firm characteristics and governance structures affect tax behaviour.

Keywords: corporate governance, CSR expenditure, firm characteristics, listed firms, tax avoidance.

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INTRODUCTION

Taxes play a pivotal role in funding government activities, and any reduction in tax obligations can have detrimental effects on the economy (Agyei et al., 2020; Amidu et al., 2019; Amidu & Yorke, 2017; Zhu et al., 2019). Ghana faces challenges with tax avoidance, contributing to a low tax to GDP ratio in the subregion, putting strain on government finances (Nartey, 2023; Okpeyo et al., 2019). Despite governmental efforts to reform tax policies and enhance compliance, the outcomes have been less than satisfactory, emphasizing the severity of the tax avoidance problem (Amidu et al., 2019; Okpeyo et al., 2019). Tax avoidance, while theoretically



legal, often involves exploiting legal loopholes or employing aggressive planning techniques, posing difficulties for Ghana's revenue generation and economic growth (Benlemlih et al., 2023; Tackie et al., 2022; Kovermann & Velte, 2021).

The impact of corporate tax avoidance on Ghana's economy is multifaceted, affecting government revenue, societal programs, and economic stability (Tackie et al., 2022; Okpeyo et al., 2019). Successful corporate tax avoidance results in significant financial losses for the government, diminishing funds available for essential sectors such as education, infrastructure, and social welfare programs (Nasir et al., 2023; Dakhli, 2022). The subsequent reduction in tax revenue may lead to an increased budget deficit, potentially impacting government spending, borrowing costs, or necessitating higher taxes on other entities (Addo et al., 2017). This, in turn, may compromise economic sustainability and stability (Musah et al., 2022). Moreover, the burden of tax payment may shift to other taxpayers, contributing to perceptions of an unfair tax system and exacerbating income disparity (Saidin et al., 2023; Benlemlih et al., 2023).

From the perspective of agency theory, which views tax avoidance as potentially damaging and, in some cases, unlawful, effective oversight by the board becomes crucial in curbing aggressive tax planning (Nasir et al., 2023; Agyei et al., 2020; Bimo et al., 2019). The discretion exercised by management in implementing tax avoidance strategies is influenced by various corporate attributes, including size, profitability, and ownership structures, while performance-related incentives may further motivate managers to engage in tax avoidance to bolster profits (Amidu et al., 2019; Kovermann & Velte, 2021; Tackie et al., 2022). This analysis contends that several business characteristics and corporate governance variables, guided by agency theory, influence the extent of tax avoidance in Ghanaian corporations. Furthermore, the deduction of social responsibility expenses under the Income Tax Act, 2015, Act 896, provides corporations with an avenue to potentially avoid paying taxes altogether, adding a layer of complexity to the tax landscape.

Empirical research on taxes in Ghana has predominantly centred on tax evasion, as a means to improving government revenue mobilization, despite the global concern over tax avoidance as an unethical business practice. In the realm of tax avoidance studies in Ghana, two primary research lines have emerged. Firstly, investigations into the motivations behind tax avoidance have largely concentrated on specific business sectors (Agyei et al., 2020; Tackie et al., 2022; Amidu et al., 2019). Secondly, the literature has explored the impact of tax avoidance on business profitability (Tackie et al., 2022; Yorke et al., 2016; Kawor & Kportorgbi, 2014). For instance, Tackie et al. (2022) assessed the influence of tax avoidance on the performance of insurance companies in Ghana, while Yorke et al. (2016) delved into its effects on the value of firms in the country. However, the role of corporate governance factors and firm characteristics in explaining tax avoidance by Ghanaian listed companies has received limited attention. Additionally, the studies mentioned above have not examined the potential link between corporate social responsibility spending and tax avoidance in Ghana. Addressing these gaps, this study investigates the impact of firm-specific characteristics, corporate governance and ownership determinants, and corporate social responsibility expenditures on tax avoidance among listed corporations in Ghana, contributing to a more comprehensive understanding of tax practices in the Ghanaian business landscape (Tackie et al., 2022; Yorke et al., 2016; Amidu et al., 2019).

The study adds something novel to the literature in a lot of ways. First, by incorporating corporate governance factors like board independence and gender diversity on tax avoidance—which have not gotten much attention in Ghanaian and African literature—the study expands on earlier research on tax avoidance incentives in Ghana (Agyei et al., 2020; Amidu et al., 2019). Second, the study looked at the relationship between CSR spending and tax avoidance, which hasn't gotten much attention in earlier research on the topic, even in an international

setting. Additionally, the study discovered a positive interaction between foreign ownership and tax avoidance, suggesting that multinational corporations have a greater motivation to engage in aggressive tax avoidance behaviour in order to lower their tax burden. This relationship has not been previously investigated. The study's findings give businesses valuable information they may utilize to enhance their tax planning techniques and increase tax avoidance. The government and the Ghana Revenue Authority would also benefit from the results since they will be able to better understand the reasons behind the high rate of tax avoidance and utilize laws and regulations to reduce excessive tax avoidance and increase government revenue.

METHODS

A quantitative design was used for the investigation for several reasons. Using numerical data taken from these businesses' annual reports, the study first aims to identify indicators that predict tax avoidance tactics by listed entities in Ghana; for this reason, the quantitative approach was most suited. Second, in keeping with the quantitative approach, the study used statistical methods such panel corrected standard error regression analysis, correlation matrix, and descriptive statistics. Lastly, the study aimed to test a hypothesis that could be accomplished through the use of quantitative design in order to determine the degree to which certain firm-specific variables, corporate governance, foreign ownership, and corporate social responsibility expenditure predict the level of tax avoidance among firms in Ghana

All of the companies that are currently listed on the Ghana Stock Exchange make up the study's population. There are now 42 listed stocks from 37 companies on the Ghana Stock Exchange. The final sample size of 26 listed enterprises was determined by the study using the following sampling criteria throughout a 10-year period from 2012 to 2021. The entity needs to list on the Ghana Stock Exchange first. Secondly, the entity needs to have released a financial report with the account notes made publicly accessible on the website of the relevant firm, the Securities and Exchange Commission, or the Ghana Stock Exchange. After vetting each of the 37 named corporations, only 26 companies satisfied the first two requirements, and as a result 26 company data over a 10-year period was used for the study.

Throughout the study period, the published annual reports of the selected companies served as a secondary source of data collection for the research. The variables were taken out of the companies' annual reports by the researchers, who then coded them in Excel and arranged them in cross-sectional and time series formats. The utilization of data from the annual report was the most suitable since it gave the data greater credibility since it had been independently audited and confirmed by the Exchange's regulator.

The dependent variable for the study is tax avoidance which is measured as the effective tax rate of the listed entities (Table 1). The study measured tax avoidance using effective tax rate in line with previous studies such as Amidu et al. (2019), Bimo et al. (2019), Agyei et al. (2020) and other similar studies on corporate tax avoidance in Ghana and other parts of the world.

The independent variables include firm characteristics such as firm size, firm profit and capital structure of firms which have been argued to predict avoidance by firms (Agyei et al., 2020; Bimo et al., 2019). The study also included corporate governance variables such as board independence and gender diversity as potential determinants of tax avoidance. Also, foreign ownership is believed to influence tax avoidance since the motivation for foreign controlled firms to reduce their tax liability is higher (Kusbandiyah, 2021). The other variable that can predict tax avoidance is corporate social responsibility expenditure because of the tax benefit of CSR in Ghana under the Income Tax Act, 2015, Act 896.

The study adapted the following panel regression model to achieve the objectives of the study.

$$\text{TaxAvoid}_{it} = \beta_0 + \beta_1 \text{Size}_{it} + \beta_2 \text{Profit}_{it} + \beta_3 \text{CSRExp}_{it} + \beta_4 \text{BoardInd}_{it} + \beta_5 \text{Board Gender}_{it} + \beta_6 \text{DebttoEquity}_{it} + \beta_7 \text{Foreignown}_{it} + \varepsilon_{it}$$

Table 1 Measurement of Variable

Variable	Meaning	Measurement
TaxAvoid	Tax avoidance	Effective tax rate measured as tax expenses minus deferred tax divided by profit before tax multiplied by 100
Size	Firm size	Natural logarithm of total assets
Profit	Firm profitability	Return on assets measured as profit before tax divided by total assets multiplied by 100
CSRExp	Corporate social responsibility spending	Natural logarithm of CSR expenditure
BoardInd	Board independence	Proportion of non-executive directors on the board
Board Gender	Women representation on the board	The proportion of female directors on the board
DebttoEquity	Firm gearing/Capital structure	Total debt divided by equity
Foreignown	Foreign ownership	Dummy, 1 where there firm is foreign-controlled, 0 otherwise

RESULTS AND DISCUSSION

The analysis in Table 2 examines several variables as potential determinants of tax avoidance in listed firms in Ghana. The first variable, effective tax rate, reveals an average rate of 22.2%, indicating that, on average, these firms pay 22% of their profits in taxes. Considering that the average corporate income tax rate in Ghana is 25%, this suggests evidence of tax avoidance. However, the corporate tax rate can vary by sector, with the extractive sector facing a higher rate of 35%, indicating potential tax planning as firms pay, on average, below the sector-specific rates. It is crucial to note the distinction between accounting and tax profit determination, given the divergent criteria outlined in the Income Tax Act, 2015, Act 896. Firm size, measured by the natural logarithm of total assets, suggests that listed firms exhibit a mean size of 8.91. Profitability, assessed through return on assets, indicates that these firms retain 4.4% of their revenue after accounting for operating expenses. However, with operating expenses consuming over 95% of revenue, concerns arise over slim profit margins. Corporate social responsibility (CSR) expenditure, measured logarithmically, shows a range from 0 to 7.30, suggesting variability in CSR commitment among the listed firms, with some reporting no expenditure in this area. Examining corporate governance variables, board independence reveals that 78% of board members are non-executive directors, signifying adherence to good governance practices to enhance board independence and monitoring. However, gender diversity on boards remains a concern, with only 20% female representation and instances where some firms lack female representation, highlighting a need for greater gender inclusivity. Gearing, assessed through the debt-to-equity ratio, shows an average ratio consistent with the thin capitalization ratio of 3:1 as per the tax laws. Nonetheless, some firms surpass this ratio, potentially raising concerns about compliance with thin capitalization rules. Lastly, foreign ownership is found in approximately 52% of listed firms, indicating a significant presence of foreign-owned businesses. In summary, the analysis suggests evidence of tax avoidance, variability in CSR commitment, adherence to good governance practices regarding board independence, and concerns over gender diversity and compliance with thin capitalization rules.

Table 2 Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Tax avoidance	253	22.1793	13.98	0	131.49
Firm size	253	8.9053	0.94808	6.4222	10.5852
Firm profit	253	4.359	10.7528	-44.2878	46.9596
CSR Expenditure	253	4.90016	2.1416	0	7.301
Board independence	253	0.7798	0.1243	0	1
Gender diversity	253	0.2012	0.1362	0	0.6
Debt to Equity	253	3.0241	31.3449	-411.74	26.756
Foreign ownership	253	0.5238	0.50079	0	1

The correlation analysis reveals several noteworthy relationships between key variables in the study. Firm size exhibits a strong negative correlation with tax avoidance, indicating that larger firms are more likely to engage in tax avoidance practices. Conversely, firm profit demonstrates a weak positive correlation with tax avoidance, suggesting that higher profits may be associated with lower tax avoidance. Corporate social responsibility (CSR) expenditure displays a strong positive correlation with tax avoidance, implying that companies investing in CSR activities tend to engage in tax avoidance practices, leading to a reduced effective tax rate. Board independence exhibits a positive correlation with effective tax rate, suggesting that an independent board may contribute to lower tax avoidance and, consequently, a higher effective tax rate. Gender diversity on the board shows a weak positive correlation with effective tax rate, implying that boards with female directors may be associated with lower tax avoidance. Additionally, a weak negative correlation is observed between debt-to-equity ratio and effective tax rate, indicating that companies with higher gearing tend to have lower effective tax rates, reflecting higher tax avoidance. Finally, foreign ownership demonstrates a strong negative correlation with effective tax rate, suggesting that firms with foreign ownership are more likely to engage in tax avoidance, leading to a reduced effective tax rate. These findings contribute valuable insights into the complex interplay between firm characteristics and tax avoidance behaviour in the context of listed firms in Ghana.

The correlation results in Table 3 shows that there is little problem with multicollinearity as the correlation coefficient between the independent variables are not more than 0.5. Also, given that there could be issues of autocorrelation and even multicollinearity etc, the study adopted the panel corrected standard errors (PCSE) regression model which according to previous studies addresses these issues with the data. When analysing panel data, Panel Corrected Standard Errors (PCSE) regression has a number of benefits. Important issues including heteroscedasticity, autocorrelation, the existence of temporal and individual-specific effects, and so on are covered. PCSE corrects for these problems and yields more accurate and trustworthy parameter estimates, especially when dealing with large panel datasets where the assumptions of ordinary least squares (OLS) may not hold true (Coffie & Bedi, 2019). The approach decreases biases in standard errors, increases estimate efficiency, and shows resilience in the face of model misspecification. Notably, PCSE is very helpful when working with sophisticated panel data structures and allows for non-stationarity in variables. In general, PCSE regression is a useful technique for researchers who want to draw conclusions from panel data studies that are more reliable and valid.

Table 3 Correlation Analysis

Variables	1	2	3	4	5	6	7	8
1. Tax avoidance	1.0000							
2. Firm size	-0.5450	1.0000						
3. Firm profit	-0.3290	0.0371	1.0000					
4. CSR Expenditure	-0.6423	0.0673	0.1826	1.0000				
5. Board independence	0.4490	-0.0772	0.0937	0.0733	1.0000			
6. Gender diversity	0.2730	-0.1619	-0.0160	-0.1862	-0.1658	1.0000		
7. Debt to Equity	-0.0589	0.0299	-0.0051	0.0652	-0.0254	0.0167	1.0000	
8. Foreign ownership	-0.5880	0.4011	0.2360	0.4138	-0.2847	-0.0593	0.0300	1.0000

The findings in Table 4 demonstrated a strong and negative correlation between a firm's size and its effective tax rate. The implication of this finding is that larger enterprises engage in more aggressive tax avoidance, which lowers the effective tax rate of Ghanaian listed companies. The second variable looked at the relationship between corporate earnings and Ghanaian state entities' tax avoidance. Table 4's regression analysis showed a negative relationship between firm profit and effective tax rate, indicating that profitable businesses are likely to engage in more tax avoidance, which accounts for their lower effective tax rates. However, the statistical insignificance of the association between corporate profitability and tax avoidance suggests that Ghanaian tax avoidance activities are not predicted by the profitability of listed firms. A negative correlation between the debt-to-equity ratio and the effective tax rate was also demonstrated by the results in Table 4. Despite the statistical insignificance of the relationship between gearing and tax avoidance, the result suggests that the degree of gearing by businesses influences tax avoidance practices. Foreign ownership and effective tax rate had a negative coefficient, according to Table 4's regression analysis. The outcome suggests that foreign-owned businesses use more tax avoidance strategies, which lowers their effective tax rate. At the 5% significance level, there is a statistically significant correlation between foreign ownership and tax avoidance, suggesting that foreign ownership is a substantial predictor of the extent of tax avoidance tactics among Ghanaian public organizations.

The relationship between board independence and tax avoidance by Ghana Stock Exchange listed companies was determined using the model's subsequent variable. According to Table 4's regression analysis, there is a positive correlation between board independence and the effective tax rate. This suggests that having an independent board lowers tax avoidance, which raises the effective tax rate. At a 1% significance level, the positive correlation between board independence and effective tax rate is also statistically significant, indicating that board independence is a predictor of tax avoidance among Ghanaian listed companies. The second corporate governance variable gender diversity showed a positive coefficient with corporate effective tax rate. The positive coefficient between gender diversity on the board and effective tax rate is however statistically insignificant which implies that women inclusion on the board of listed firm is not a significant determinant of tax avoidance even though it reduces tax avoidance practices.

The last variable in the model ascertained the extent to which corporate social responsibility expenditure by listed firms predict the level of tax avoidance. The regression results in Table 4 showed a negative coefficient between corporate social responsibility expenditure and effective tax rate which implies that firms that spend more in the area of corporate social responsibility are associated with higher corporate tax avoidance practices.

The association between corporate social responsibility expenditure and tax avoidance is also statistically significant at a 1% significance level.

Table 4 Regression Analysis

Variable	Coeff/Std. Errors
Firm size	−12.21798*** (3.627131)
Firm profit	−0.1298 (0.2052)
Debt to Equity	−0.0617 (0.0692)
Foreign ownership	−3.7683** (1.7421)
Board independence	43.5342*** (11.6435)
Gender diversity	1.1323 (1.1294)
CSR Expenditure	−2.6895*** (3.697)
CONS	44.7857** (19.5161)
R-squared	0.6687
Wild Chi2(7)	57.62
Prob>Chi2	0.000

Note: *** denotes that the variable is significant at less than a 1% significance level, ** means significant at less than a 5% significance level and * means significant at less than a 10% significance level.

The study's first goal was to determine how firm-specific factors affected listed companies in Ghana tax avoidance levels. The study took into account a number of factors, including corporate size, profitability, leverage, and their associations with tax avoidance. Table 4's regression results demonstrated a correlation between larger enterprises and a lower effective tax rate, suggesting a higher likelihood of tax avoidance. At a 1% significance level, the finding is similarly statistically significant, suggesting that larger businesses are linked to more sophisticated tax planning tactics. The outcome supports the claim made by Chytis et al. (2018) and Agyei et al. (2020) that big businesses have the ability and know-how to engage in sophisticated tax avoidance strategies that lower their effective tax rate. The outcome is in line with the first hypothesis's prediction that there would be a positive correlation between tax avoidance and firm size. The outcome is also in line with the research conducted by Mocanu et al. (2021), which discovered that big Romanian companies have a higher propensity to engage in tax avoidance activities, which lowers their effective tax rate. The outcome is in line

with the expectations of the stakeholder theory, which postulates that management of sizable companies will probably engage in tax avoidance to boost profits in an effort to appease shareholders, who are regarded as the most important and influential stakeholder. Firm size and tax avoidance have a positive and significant relationship, indicating that a company's propensity to engage in tax avoidance strategies increases with its size. In other words, larger companies are more likely to use strategies and tactics to reduce their tax obligations because they often have more resources (financial, human, and technical) available to them for tax planning and implementing tax avoidance strategies (Dang & Tran, 2021; Chouaibi et al., 2022; Kalbuana et al., 2023). Second, larger businesses usually have a broader geographic reach, with branches, subsidiaries, and affiliates spread across multiple countries. Their global reach gives them greater opportunities for tax planning and optimization, including the ability to capitalize on regional differences in tax incentives, rules, and loopholes (Blaylock et al., 2022). Furthermore, larger companies may have more alternatives for tax planning due to their more complex organizational structures. They can utilize strategies like profit shifting, transfer pricing, and setting up subsidiaries in low-tax nations to lower their overall tax payments.

Firm profit and its connection to tax avoidance make up the second firm-specific variable in the model. The regression analysis's findings indicated a negative correlation between company profit and tax avoidance, although this correlation is statistically negligible, suggesting that firm profitability does not significantly influence tax avoidance by Ghanaian public bodies. The study's second hypothesis, which projected a strong positive correlation between corporate profitability and tax avoidance in Ghana, was not supported by the results. The findings could be used to suggest that the degree of tax avoidance is not predicted by profitable businesses which is consistent with the findings of Amidu et al. (2019) who found statistically insignificant relationship between return on assets and tax avoidance of large entities in Ghana.

The final firm-specific variable examined the connection between tax avoidance and firm leverage. The outcome of the study revealed a negative relationship between the effective tax rate and the debt-to-equity ratio, which is a measure of leverage. According to this finding, more leverage encourages tax avoidance, which lowers the effective tax rate. Leverage is not a significant predictor of tax avoidance in Ghana, nevertheless, as the relationship between business leverage and tax avoidance is statistically negligible. The Income Tax Act, 2015, Act 896's thin capitalization regulations, which prohibit businesses from deducting interest expenses from their taxes above a debt-to-equity ratio of 3.1, may be to blame for this.

The second objective of the study ascertained the relationship between certain corporate governance variables and foreign ownership and its effect on tax avoidance in Ghana. On the first variable under corporate governance which is board independence and its relationship with tax avoidance, the analysis of the result showed that board independence has a positive coefficient with tax effective rate which suggest that independent directors reduce tax avoidance practices which translate into increased effective tax rate. The relationship between board independence and corporate tax avoidance was also statistically significant at a 1% significance level which implies that board independence is a significant determinant of tax avoidance in Ghana. A company's propensity to employ tax avoidance strategies decreases as board independence levels climb, according to a negative coefficient between the two. Stated differently, companies having more independent boards are less prone to use egregious tax planning techniques. The results suggest that tax avoidance is more of an ethical problem that independent directors want to protect by ensuring the company they oversee acts ethically, even though it is not illegal. Furthermore, independent boards are usually tasked with upholding stringent corporate governance standards and working in the best interests of shareholders (Chigudu, 2021; Saha & Kabra, 2022; Jatana, 2023). They might choose paying taxes and engaging in morally and ethically sound corporate activities over using aggressive tax avoidance strategies. Independent directors

may promote compliance and openness in tax matters since they are not swayed by management's objectives (Boussaidi & Hamed-Sidhom, 2021; Zaid, 2023). The outcome is in line with the third and fourth study hypotheses, which postulated a detrimental correlation between board independence and tax avoidance in Ghana. The outcome, however, is at odds with those of Agyei et al. (2020), who discovered a negative correlation between board independence and effective tax rate, suggesting that independent bank boards are linked to increased tax avoidance in Ghana. The second corporate governance variable ascertained gender diversity on the board of directors and its effect on tax avoidance. The positive regression coefficient suggests that having more women on the board discourages tax avoidance, which raises the effective tax rate. Nonetheless, there is no statistically significant correlation between tax avoidance and gender diversity on the board, indicating that the presence of women on the board does not indicate the extent of tax avoidance by companies listed on the Ghana Stock Exchange.

The final variable pertaining to the second objective investigated the correlation between foreign ownership and tax avoidance in Ghanaian public companies. The effective tax rate of foreign-owned enterprises appears to be lower due to increased tax avoidance practices, as indicated by the negative regression coefficient between foreign ownership and effective tax rate. The results are consistent with the sixth hypothesis, which predicted a positive association between foreign ownership and tax avoidance. A correlation between foreign ownership and tax avoidance shows that businesses with higher degrees of foreign ownership use tax avoidance tactics more frequently, meaning that businesses that are majority controlled by foreign entities are more likely to use strategies designed to lower their tax obligations. The relationship between foreign ownership and tax avoidance is also statistically significant at a 5% significance level, implying that foreign ownership significantly increases tax avoidance practices by public entities in Ghana. Furthermore, multinational corporations often maintain subsidiaries and branches throughout multiple countries. Because of its international reach, businesses can use strategies like profit shifting, transfer pricing, and tax havens to lower their overall tax burden. They may profit from variations in tax rules and regulations among various jurisdictions to lower their tax responsibilities. Apart from the previously mentioned benefits, companies that are held by foreign nationals often possess greater financial and human capital, which they can leverage to devise strategies for tax planning and avoidance. They may be able to manage complicated tax laws and regulations more expertly because they have specialized tax teams or counsel who are educated about overseas taxation. The result of the study is consistent with the findings of Chytis et al. (2018) where they reported a negative and significant association between foreign ownership and tax avoidance based on a sample of listed firms in Greece.

The last objective looked at how corporate social responsibility spending affected tax avoidance in Ghana. The Income Tax Act of 2015, Act 896, as amended by Acts 902, 907, and 1071, permits corporate entities to deduct their charitable contributions, such as those made in support of corporate social responsibility. According to international research, corporations may employ corporate social responsibility as a proactive means of evading taxes (Jones et al., 2017; Goerke, 2019). The study's findings showed a negative correlation—which is statistically significant at the 1% significance level—between tax avoidance and corporate social responsibility spending. A positive relationship in this case indicates that tax avoidance and corporate social responsibility are related. This could imply that businesses with greater CSR activity levels are also more inclined to use tax avoidance techniques. It's crucial to remember that this view could seem contradictory because aggressive tax avoidance frequently raises questions about justice and the social compact, yet corporate social responsibility (CSR) is typically linked to moral behaviour and responsible business operations. The findings align with the seventh hypothesis, which postulated a negative correlation between CSR expenditure and effective tax rate. This suggests that CSR may exacerbate tax avoidance tactics,

ultimately resulting in a lower effective tax rate. The outcome is in line with research by Jones et al. (2017) and Goerke (2019), among others, which found a positive correlation between tax avoidance and corporate social responsibility (CSR).

The study adopted another measure of the dependent variable (Tax avoidance) and running it against the same independent variables to ensure robustness of the results reported earlier. The study measured tax avoidance as the difference between the national corporate tax rate and effective tax rate. Even though corporate tax rate in Ghana is 25%, companies in the extractive sector have a corporate tax rate of 35% and hence that was applied on the affected companies. The results of the analysis are presented in Table 5.

Table 5 Regression Analysis (Robustness)

Variable	Coeff/Std. Errors
Firm size	−0.4530*** (0.0995)
Firm profit	−0.0629 (0.0344)
Debt to Equity	−0.202* (0.0475)
Foreign ownership	−0.3770*** (0.1160)
Board independence	0.3280*** (0.0762)
Gender diversity	0.0715* (0.0321)
CSR Expenditure	−0.7550*** (0.1080)
CONS	10.3992** (4.4030)
R-squared	0.7087
Wild Chi2(7)	44.48
Prob>Chi2	0.000

Note: *** denotes that the variable is significant at less than a 1% significance level, ** means significant at less than a 5% significance level and * means significant at less than a 10% significance level.

The results from the alternative measure of tax avoidance produced almost the same results as that used in the study except that the negative relationship between leverage and effective tax rate is statistically significant and that of gender diversity which both had a weak statistical significance of 10% significance level. The remaining variables produced same results in terms of relationship and significance as well. The above implies that the results of the study are robust enough to allow for generalization of the findings.

CONCLUSION

The study ascertained the influence of firm-specific factors such as firm size, firm profitability, firm leverage and foreign ownership of firms, corporate governance variables such as board independence and foreign ownership as well as CSR expenditure on tax avoidance of publicly listed entities in Ghana. The study sampled 26 listed entities over ten years from 2012 to 2021. The study achieved the above objectives using panel corrected standard errors technique. The results of the analysis showed that firm-specific factors such as firm size, firm profit, firm leverage and foreign ownership increase tax avoidance practice which reduces the effective tax rate of these companies. While firm size and foreign ownership are statistically significant, firm profit and the level of leverage does not significantly predict the level of tax avoidance. With respect to the corporate governance variables, the study found that board independence significantly reduces the level of tax avoidance practices which result in an increase in the effective tax rate. The study found female representation on the board of listed entities reduces tax avoidance practices even though the relationship is statistically significant. Finally, the study found that corporate social responsibility expenditure significantly increases the level of tax avoidance practices of public entities in Ghana. The results implies that public entities use corporate social responsibility spending as a means to reduce their tax liability thereby reducing their effective tax rate. The results implies that managers of public entities exercise their managerial discretion to reduce their tax liability to enhance their financial performance which is consistent with the predictions of the agency theory. These results implies that managers of public entities have little regard for the consequence of aggressive tax avoidance behaviour on their reputation or even the penalty of aggressive tax avoidance behaviour which explains why they engage in aggressive tax avoidance behaviour. The further found that independent directors reduce tax avoidance behaviour which implies that independent directors on the board do not only improve the monitoring of management thereby reducing their discretionary power to engage in aggressive tax avoidance practices but also care about their reputation which makes them reduce management discretion to engage in aggressive tax avoidance behaviour. The results of the study have several implications for policy makers and researchers. The results implies that tax authorities must begin to scrutinize firm's corporate social responsibility expenditure as it predicts tax avoidance practices of listed firms. Also, more attention should be paid on large entities and foreign entities as these two variables also predict aggressive tax avoidance behaviour. The results provide the need for policy makers in Ghana to emphasize the need for more independent directors to help reduce the incidence of tax avoidance practices. The study has some limitations which provides an avenue for future research. For instance, the study is limited in geography to entities in Ghana and hence the results should be generalised with caution. This means that future studies can examine these variables using a sample from several African countries to confirm the current findings. Secondly, the study focused on the direct effect of these variables on tax avoidance practices which implies that future studies can also introduce some moderating and mediating variables to predict factors that influence tax avoidance.

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