CAN INSTITUTIONAL INVESTORS SHAPE TAX EFFICIENCY? EVIDENCE FROM GREEN ACCOUNTING, CAPITAL INTENSITY, AND DEFERRED TAX STRATEGIES IN EMERGING MARKETS

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Abstract

Taxation serves as a cornerstone of national development, underpinning the government's capacity to fund public services, infrastructure, and social programs (Ekawati et al., 2025; El Merhebi & El Tanbour, 2025; Ola, 2024; Mbama & Mfelam, 2025). In Indonesia, all income-earning citizens are legally obligated to contribute taxes, with the taxation sector consistently comprising the majority of state revenue (Khan & Nuryanah, 2023). This study investigates the influence of institutional ownership on corporate effective tax rates (ETR), incorporating the roles of green accounting practices, capital intensity, and deferred tax liabilities. Employing a quantitative approach, the research utilizes secondary data from 219 manufacturing firms listed on the Indonesia Stock Exchange (IDX) between 2019 and 2023, selected through purposive sampling. Data were extracted from annual and sustainability reports. The findings reveal that green accounting and deferred tax liabilities significantly affect ETR, whereas capital intensity does not exhibit a meaningful impact. Furthermore, institutional ownership strengthens the relationship between both green accounting and deferred tax liabilities with ETR, but does not moderate the effect of capital intensity. These results offer practical insights for firms in optimizing tax strategies and for investors in evaluating corporate fiscal policies. From a regulatory perspective, the study contributes to the development of tax policies that promote transparency and corporate accountability. The novelty of this research lies in its integrated examination of environmental accounting, asset structure, and tax planning, moderated by institutional ownership, an approach rarely explored within the manufacturing sector of emerging markets.

Keywords: Effective Tax Rate, Institutional Ownership, Green Accounting, Capital Intensity, Emerging Markets, Manufacturing Firms

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1. INTRODUCTION

Taxation serves as a cornerstone of national development, underpinning the government's capacity to fund public services, infrastructure, and social programs (Ekawati et al., 2025; El Merhebi & El Tanbour, 2025; Ola, 2024; Mbama & Mfelam, 2025). In Indonesia, all income-earning citizens are legally obligated to contribute taxes, with the taxation sector consistently comprising the majority of state revenue (Khan & Nuryanah, 2023). Despite its strategic importance, Indonesia's tax revenue realization frequently falls short of government targets, revealing persistent inefficiencies in tax compliance and collection mechanisms (Iriyadi et al., 2024).

One contributing factor is the asymmetry in perception between the government and taxpayers. While taxes represent a vital source of national income, many business entities perceive them as a direct reduction in profit, thereby incentivizing tax avoidance practices (Rahayu & Suryarini, 2021). This tension is particularly evident in the manufacturing sector, where several publicly listed firms have reported consistently low effective tax rates (ETR), suggesting the use of aggressive tax planning strategies (Firmansyah & Estutik, 2020). For instance, PT Budi Starch and Sweetener Tbk and PT Indocement Tunggal Prakarsa Tbk have recorded average ETR below the industry norm, potentially reflecting the strategic use of tax incentives, deferred tax accounts, or capital structures optimized for tax minimization (Fauzia et al., 2025).

This phenomenon invites scrutiny through the lens of agency theory, which posits that managerial agents may pursue tax avoidance to enhance reported profitability, aligning with shareholder interests but potentially conflicting with the state's fiscal objectives (Handoyo et al., 2022; Jensen & Meckling, 1976). While such strategies may be rational from a corporate governance standpoint, they raise normative questions about fiscal responsibility, regulatory compliance, and long-term sustainability (Arora & Sharma, 2022).

Recent discourse has begun to explore how environmental accounting practices, capital intensity, and deferred tax strategies interact with corporate tax behavior (Febrianto et al., 2025). However, existing studies often treat these variables in isolation, overlooking their potential interdependence and the moderating role of institutional ownership. Institutional investors, as influential stakeholders, may either constrain or enable tax minimization depending on their governance orientation and risk tolerance. Nevertheless, empirical evidence on how institutional ownership shapes tax efficiency, particularly in emerging markets, remains fragmented and inconclusive (Felix et al., 2025).

Despite growing interest in tax governance and sustainability, few studies have integrated environmental accounting, asset structure, and deferred taxation into a unified framework for analyzing tax efficiency (Görlitz & Dobler, 2023). Moreover, the moderating influence of institutional investors in this nexus is underexplored, especially in the context of emerging economies like Indonesia, where regulatory enforcement and investor activism vary widely (Fauzia et al., 2025).

Based on the background that has been described, this study seeks to answer the following questions:

RQ1: How does green accounting affect the tax effectiveness (effective tax rate) of manufacturing companies in Indonesia?

RQ2: How does capital intensity affect the effectiveness of corporate taxes?

RQ3: How do deferred tax strategies affect the effectiveness of corporate taxes?

RQ4: Does institutional ownership moderate the relationship between green accounting, capital intensity, and deferred tax strategies on corporate tax effectiveness?

This study addresses these gaps by investigating the relationship between green accounting, capital intensity, and deferred tax strategies on ETR, with institutional ownership as a moderating variable. By doing so, it offers a multidimensional perspective on corporate tax behavior, contributing to both theoretical development and practical policy formulation. The findings are expected to inform corporate tax strategy, enhance investor assessment of tax governance, and support the design of more transparent and accountable fiscal policies.

Furthermore, to provide a clear roadmap for the readers, the structure of this paper is structured as follows. Section 2 reviews the relevant literature and develops hypotheses, which includes an in-depth exploration of agency theory, green accounting, capital intensity, deferred tax strategies, institutional ownership, and ETR. Section 3 outlines the research methodology, including the research design, sampling techniques for manufacturing companies listed on the Indonesia Stock Exchange (IDX), operational definitions and measurement of variables (independent, dependent, and moderation), as well as data analysis methods used (such as panel data regression with interaction analysis for moderation effect testing). Section 4 presents the results of descriptive statistical analysis, classical assumption tests, hypothesis testing results, and interpretation of empirical findings. Section 5 summarizes the discussion, the theoretical and practical implications of the study. Section 6 concludes the paper, acknowledges the limitations of the study, and provides suggestions for future research.

2. LITERATURE REVIEW

2.1. Green accounting and tax efficiency

Green accounting refers to the identification, measurement, and reporting of environmental costs within corporate financial statements (Majidah & Aryanty, 2022). It reflects a firm's commitment to sustainability and transparency, potentially enhancing its public image and investor trust (Ulupui et al., 2020). Under stakeholder theory, firms are accountable not only to shareholders but also to broader stakeholder groups, including regulators, communities, and environmental advocates (Awa et al., 2024). Transparent environmental disclosures may reduce information asymmetry and discourage aggressive tax avoidance, thereby influencing the firm's ETR (Schwab et al., 2022). Prior studies (Thanasas, 2024; Hu et al., 2020; Shahzad, 2020;

Scarpellini et al., 2020) have found a significant relationship between green accounting practices and ETR, suggesting that sustainability reporting may serve as a signal of fiscal responsibility.

H1: Green accounting has a significant effect on the effective tax rate.

2.2. Capital intensity and tax efficiency

Capital intensity reflects the proportion of fixed assets relative to total assets, indicating the firm's investment in long-term physical infrastructure (Mariana et al., 2021). According to agency theory, managers may pursue tax minimization strategies to enhance reported profitability and secure performance-based incentives. High capital intensity enables firms to leverage depreciation expenses, thereby reducing taxable income and lowering ETR (Ulfa et al., 2021). Empirical evidence (Urrahmah & Mukti, 2021; Mariana et al., 2021; Chang et al., 2023; Rahayu & Suryarini, 2021) supports the notion that capital-intensive firms tend to report lower ETR due to asset-based tax deductions.

H2: Capital intensity has a significant effect on the effective tax rate.

2.3. Deferred tax strategies and tax efficiency

Deferred tax arises from temporary differences between accounting profit and taxable income (MacCarthy, 2021). These differences may result in deferred tax liabilities or assets, which can be strategically used to manage earnings and tax obligations (Soliman & Ali, 2020). Within the agency framework, managers may exploit deferred tax mechanisms to present favorable financial outcomes while deferring actual tax payments (Purwaningsih, 2022). Studies by Iriyadi et al. (2024), Moniz et al. (2022), Görlitz and Dobler (2023), Wong et al. (2021), and Sutopo et al. (2021), indicate that deferred tax expenses are associated with variations in ETR, highlighting their role in corporate tax planning.

H3: Deferred tax expense has a significant effect on the effective tax rate.

2.4. Institutional ownership as a moderating variable

Institutional investors play a critical role in shaping corporate governance and financial transparency (Dasgupta et al., 2021). Under agency theory, higher institutional ownership may mitigate managerial opportunism and promote responsible tax behavior (Putra et al., 2019; Chikhaoui, 2025). In the context of green accounting, institutional investors may demand credible sustainability disclosures and discourage the use of environmental costs as a vehicle for tax avoidance (Sukmadilaga et al., 2023). Their oversight can strengthen the relationship between green accounting and tax efficiency (Xu et al., 2023).

Similarly, institutional investors may influence how capital intensity affects tax outcomes. By monitoring investment decisions, they can ensure that asset allocations are aligned with long-term value creation rather than short-term tax minimization (Mariana et al., 2021). This governance pressure may reduce the likelihood of excessive depreciation-based tax avoidance.

Finally, institutional investors may constrain the use of deferred tax strategies for earnings manipulation. Their presence can enhance tax transparency and reduce the risk of aggressive deferral practices (Tuinsma et al., 2025), thereby influencing the link between deferred tax expense and ETR.

H4: Institutional ownership moderates the relationship between green accounting and the effective tax rate.

H5: Institutional ownership moderates the relationship between capital intensity and the effective tax rate.

H6: Institutional ownership moderates the relationship between deferred tax expense and the effective tax rate.

3. METHOD

This study adopts an associative quantitative approach to examine the influence of green accounting, capital intensity, and deferred tax expense on corporate tax efficiency, as measured by the ETR. Additionally, institutional ownership is introduced as a moderating variable to assess its role in shaping the relationship between the independent variables and tax efficiency

3.1. Sampling and data collection

The research sample consists of manufacturing companies listed on the IDX during the period 2019–2023. There are 831 manufacturing companies listed on the IDX. The sample is selected using purposive sampling, based on the following inclusion criteria:

- continuously listed on IDX from 2019 to 2023;
- published annual reports during the observation period;
- disclosed corporate social responsibility (CSR) expenditures consistently;
- reported positive net income each year;
- had identifiable institutional ownership throughout the period.

Secondary data were obtained from annual reports and sustainability reports published on the official IDX website (https://www.idx.co.id/id).

3.2. Variable measurement

3.2.1. Dependent variable

Effective tax rate (*ETR*) is calculated as the ratio of income tax expense to profit before tax (Lanis et al., 2019):

$$ETR = \frac{Income\ tax\ expense}{Profit\ before\ tax} \quad (1)$$

3.2.2. Independent variables

Green accounting (*GA*) defined as the proportion of CSR-related expenditures to net profit, reflecting the firm's environmental cost disclosures (Sukmadilaga et al., 2023):

$$GA = \frac{Cost}{Profit} \quad (2)$$

Capital intensity (*CINT*) represents the proportion of fixed assets to total assets, indicating the firm's investment structure (Chang et al., 2023):

$$CINT = \frac{Total\ fixed\ assets}{Total\ assets} \quad (3)$$

Deferred tax expense (*DTE*) measured as the ratio of *DTE* to total assets in the previous period (Fernández-Rodríguez et al., 2021):

$$DTE = \frac{DTE_{i,t}}{Total\ assets_{i,t-1}} \quad (4)$$

3.2.3. Moderating variable

Institutional ownership (*IO*) is defined as the proportion of shares held by institutional investors such as pension funds, insurance companies, mutual funds, and government entities (Sari et al., 2021):

$$IO = \frac{Number\ of\ shares\ owned\ by\ the\ institution}{Number\ of\ shares\ outstanding} \quad (5)$$

3.2.4. Data analysis technique

The study employs descriptive statistics to summarize the characteristics of the sample and variables. To test the hypotheses and moderation effects, panel data regression analysis is conducted using EViews 12. The moderation analysis is performed by incorporating interaction terms between institutional ownership and each independent variable into the regression model. This approach allows for the assessment of conditional effects and the extent to which institutional ownership influences the relationship between environmental, structural, and fiscal strategies and tax efficiency.

For this study, the main method of panel data regression with multiple regression analysis (MRA) was chosen because of its suitability with the nature of the data and the research questions that are of direct influence testing and moderation. However, the use of partial least squares structural equation modeling (PLS-SEM) can be a key alternative if the measurement of the green accounting construct becomes more complex.

4. RESULT

4.1. Statistics descriptive

Descriptive statistics provide an overview of the characteristics of all variables used in this study. This analysis includes the size of the data concentration (such as mean and median), the size of the spread (such as standard deviation, minimum, and maximum), and the number of observations (*N*) for each variable. Table 1 presents a descriptive statistical summary of dependent variables (*ETR*), independent variables (*GA*, *CINT*, *DTE*) and moderation variable (*IO*).

Table 1. Descriptive statistics results

Description	*GA*	*CINT*	*DTE*	*ETR*	*IO*
Mean	0.071971	0.425462	0.001508	0.265630	0.675682
Maximum	2.501700	0.814400	0.046600	0.814600	0.986600
Minimum	0.000200	0.025000	-0.010400	-0.224300	0.014900
Standard deviation	0.248021	0.204376	0.005788	0.144284	0.204125
Observations			125		

Source: Authors' elaboration using EViews 12.

Descriptive statistics were employed to summarize the distributional characteristics of the research variables. *ETR* recorded a mean of 0.2656, with a range from -0.2243 to 0.8146 and a standard deviation of 0.1443, indicating substantial variation in tax efficiency across firms. *GA* variable had a mean of 0.0720 and a standard deviation of 0.2480, reflecting notable differences in environmental expenditure relative to net profit. *CINT* showed a mean of 0.4255 and a standard deviation of 0.2044, suggesting diverse asset investment structures among sampled companies. *DTE* was relatively stable, with a mean of 0.0015 and a standard deviation of 0.0058. Meanwhile, *IO* exhibited a high average of 0.6757 and a standard deviation of 0.2041, indicating a dominant presence of institutional investors. Overall, *ETR*, *GA*, and *CINT* demonstrated high variability, while *DTE* and *IO* were more consistently distributed across the sample.

4.2. Estimation model selection

The selection of the estimation model in this study indicates that the random effects model (REM) is the most appropriate approach. Therefore, the regression analysis of the panel data was performed using REM, as shown in Table 2. In panel data regression, models such as the common effect model (CEM) and fixed effects model (FEM) are based on ordinary least squares, so they require testing classical assumptions to ensure their validity. Meanwhile, REM adopts the generalized least squares approach, which is inherently capable of addressing the problems of heteroscedasticity and autocorrelation, so it does not require additional classical assumption testing (Ghozali, 2016). Therefore, the REM model is applied directly without the need for additional classical assumption testing, as presented in Table 2.

Table 2. Model conclusions

No.	*Test*	*Prob.*	*Results*
1	Chow	0.0011 < 0.05	Fixed effects model
2	Hausman	0.2254 < 0.05	Random effects model
3	Lagrange multiplier	0.0059 < 0.05	Random effects model

Source: Authors' elaboration using EViews 12.

4.3. Hypothesis test

Table 3 reports an adjusted R-squared value of 0.3910, indicating that approximately 39.10% of the variation in *ETR* can be explained by the independent variables *GA*, *CINT*, and *DTE*, along with their interaction terms with *IO* (*GA * IO*, *CINT * IO*, *DTE * IO*). The remaining 60.90% of the variation is attributed to other factors not captured in the model. The model's overall significance is confirmed by an F-statistic of 12.3711 with a p-value of 0.0000, suggesting that the regression equation is statistically robust in explaining the dependent variable.

Table 3. Hypothesis test results

Variable	*Coefficient*	*Std. error*	*t-statistic*	*Prob.*	*Information*
GA	-3.016273	0.422251	-7.143325	0.0000	*H1* accepted
CINT	0.381256	0.323893	1.177108	0.2415	*H2* rejected
DTE	-27.92676	7.513397	-3.716929	0.0003	*H3* accepted
*GA * IO*	5.270835	0.707918	7.445543	0.0000	*H4* accepted
*CINT * IO*	-0.661775	0.431552	-1.533476	0.1279	*H5* rejected
*DTE * IO*	45.03737	10.29163	4.376116	0.0000	*H6* accepted
R-squared	0.425339				
Adjusted R-squared	0.390957				
F-statistic	12.37117				
Prob. (F-statistic)	0.000000				

Source: Authors' elaboration using EViews 12.

Based on the regression results, hypotheses *H1*, *H3*, *H4*, and *H6* are supported, as *GA*, *DTE*, and their respective interaction terms with *IO* (*GA * IO* and *DTE * IO*) exhibit p-values < 0.05. These findings indicate that both *GA* and *DTE* have a negative and significant effect on *ETR*, and that *IO* strengthens these relationships. In contrast, hypotheses *H2* and *H5* are rejected, as *CINT* and its interaction with *IO* (*CINT * IO*) show p-values > 0.05, implying no significant influence on *ETR* and no moderating effect.

5. DISSCUSION

5.1. The effect of green accounting on effective tax rate

This study finds a significant negative relationship between *GA* and the *ETR*. Firms that allocate greater resources to environmental activities tend to report lower taxable income, which in turn reduces their *ETR*. This may be attributed to the deductibility of CSR-related expenses or the availability of fiscal incentives for environmentally responsible practices (Wang et al., 2025). *GA* thus serves not only as a sustainability measure but also as a strategic tool for tax efficiency (Thanasas, 2024).

The findings align with stakeholder theory, which emphasizes the importance of corporate responsiveness to broader stakeholder interests, including regulators, communities, and investors. By disclosing environmental expenditures, firms enhance their legitimacy and reputation, which can lead to long-term financial and operational benefits. These results are consistent with Ahmad et al. (2024), and Thanasas (2024), who reported a similar negative association, but contrast with Hu et al. (2020), Zen and Ariri (2025), and Nurhalija et al. (2025), who found no significant relationship, highlighting the potential influence of industry context and measurement approaches.

5.2. The effect of capital intensity on effective tax rate

The results indicate that *CINT* does not significantly affect the *ETR*. Although fixed asset investments theoretically offer tax advantages through depreciation, their impact on *ETR* may not be immediately observable (Panda & Nanda, 2020). This suggests that capital expenditures are primarily driven by long-term operational strategies rather than short-term tax optimization. Other factors, such as firm size, profitability, and leverage, may play a more dominant role in shaping tax outcomes (Hendayana et al., 2024).

This finding challenges the assumptions of agency theory, which posits that managers may utilize capital investments to reduce taxable income (Gabrielli, 2023). In practice, however, the strategic use of fixed assets appears to be more aligned with business expansion and efficiency goals than with tax minimization (Lanis et al., 2019). The result is consistent with studies by Hendayana et al. (2024), Chang et al. (2023), and Mariana et al. (2021), but diverges from Birindelli et al. (2020), Fauzia et al. (2025), who reported significant effects suggesting that contextual factors may influence the relationship.

5.3. The effect of deferred tax burden on effective tax rate

The deferred tax burden is found to have a significant adverse effect on *ETR*. Firms may exploit temporary differences between accounting and taxable income to defer tax payments, thereby reducing current tax liabilities (Görlitz & Dobler, 2023). This strategy allows companies to manage cash flows more effectively and optimize their fiscal position (Iriyadi et al., 2024). The use of deferred tax mechanisms reflects managerial discretion in aligning financial reporting with tax planning objectives (Sutopo et al., 2021).

These findings support agency theory, which suggests that managers have the flexibility to manage earnings and tax obligations in ways that benefit shareholders (El Diri, 2018). *DTE* become a tool for balancing short-term tax efficiency with long-term financial performance (Putra et al., 2019). The results are consistent with Fernández-Rodríguez et al. (2021) and Puspa Midiastuty et al. (2023), but differ from Soliman and Ali (2020), who found no significant relationship indicating that the effectiveness of deferred tax strategies may vary across firms and regulatory environments.

5.4. Moderating role of institutional ownership in the green accounting-effective tax rates relationship

Institutional ownership significantly moderates the relationship between *GA* and *ETR*. Firms with higher levels of *IO* are more likely to adopt *GA* practices, which enhances their tax efficiency (Fauzia et al., 2025). Institutional investors often exert pressure on management to implement sustainable and transparent financial practices, thereby reinforcing the negative impact of environmental expenditures on *ETR* (Kordsachia et al., 2022).

This finding aligns with agency theory, where *IO* serves as an effective governance mechanism that mitigates managerial opportunism (Niswah & Nilwan, 2024). By strengthening oversight, institutional investors encourage firms to pursue responsible tax strategies that align with broader stakeholder expectations (Elemes et al., 2021). The result is consistent with Dewi and Narayana (2020), but contrasts with Giordino et al. (2025), and Dyck et al. (2019), who found no moderating effect, suggesting that the influence of *IO* may depend on its level of engagement and strategic orientation.

5.5. Moderating role of institutional ownership in the capital intensity-effective tax rates relationship

The study finds that *IO* does not moderate the relationship between *CINT* and *ETR*. This indicates that institutional investors do not influence decisions related to fixed asset investments and are instead driven by operational and strategic considerations (Giordino et al., 2025). *IO* functions as a homologizer moderator in this context, having no significant impact on either the direct or interactive relationship (Dasgupta et al., 2021).

This result challenges agency theory's prediction that institutional investors can influence managerial decisions regarding asset utilization for tax efficiency (Niswah & Nilwan, 2024). In reality, capital investment decisions may be more closely tied to long-term growth objectives than to fiscal outcomes (Ulfah et al., 2021). The findings are consistent with Ulfah et al. (2021) and Yin et al. (2024), partially with Suteja et al. (2023), although the latter also reported moderating effects in different contexts, highlighting the need for further investigation into sector-specific dynamics.

5.6. Moderating role of institutional ownership in the deferred tax burden-effective tax rates relationship

Institutional ownership acts as a quasi-moderator in the relationship between deferred tax burden and *ETR*, reinforcing the negative impact. Firms with strong institutional oversight appear more disciplined in managing deferred tax strategies to reduce current tax liabilities (Giordino et al., 2025). This suggests that institutional investors play a key role in shaping corporate tax behavior, particularly in the use of temporary tax differences (Tang et al., 2022).

The findings support agency theory, which posits that *IO* enhances monitoring and reduces agency conflicts (Gabrielli, 2023). By encouraging transparency and fiscal discipline, institutional investors help ensure that deferred tax mechanisms are used strategically and ethically (Bonsall et al., 2025). The result aligns with Fauzia et al. (2025) but differs from Giordino et al. (2025).

6. CONCLUSION

This study examined the influence of green accounting, capital intensity, and deferred tax burden on corporate tax efficiency, as measured by the ETR, with institutional ownership as a moderating variable. The findings reveal that green accounting and deferred tax burden significantly and negatively affect ETR, indicating that firms engaging in environmental disclosures and strategic tax deferral tend to achieve greater tax efficiency. Moreover, institutional ownership strengthens these relationships, highlighting its role in promoting fiscal discipline and responsible tax governance.

Conversely, capital intensity was found to have no significant impact on ETR, and institutional ownership did not moderate this relationship. These results suggest that fixed asset investment decisions are primarily driven by operational and strategic considerations rather than tax optimization motives. Overall, the study underscores the importance of integrating environmental and fiscal strategies within corporate governance frameworks, particularly in emerging markets where institutional oversight can enhance transparency and accountability in tax practices.

Despite its contributions, this study is subject to several limitations. First, the research model does not incorporate other potentially influential variables such as corporate governance mechanisms, industry-specific dynamics, or international tax planning strategies, which may further explain variations in tax efficiency. Second, the reliance on secondary data from publicly listed companies may not fully capture internal tax management practices or informal strategies that are not disclosed in financial reports. Third, the study is confined to a specific national and temporal context, which may limit the generalizability of the findings to other jurisdictions or time periods. Lastly, while ETR is a widely accepted proxy for tax efficiency, it may not fully reflect complex tax behaviors such as aggressive avoidance, compliance quality, or ethical considerations in tax planning.

The findings of this study carry important practical and theoretical implications. For policymakers, the results underscore the need to develop regulatory frameworks that encourage transparent environmental reporting and ethical tax planning, particularly in environments where institutional oversight is strong. For corporate managers, integrating sustainability disclosures and deferred tax strategies into broader governance and financial planning can enhance tax efficiency and stakeholder trust. Institutional investors, meanwhile, can leverage their influence to promote responsible tax behavior and environmental accountability, aligning financial performance with environmental, social, and governance principles. From an academic perspective, this study reinforces the value of interdisciplinary approaches that link sustainability, taxation, and governance, offering fertile ground for future research in emerging market contexts.

This study makes several key contributions to the literature. Empirically, it bridges the domains of sustainability accounting and tax efficiency, providing evidence that environmental disclosure practices can influence fiscal outcomes. Methodologically, the inclusion of institutional ownership as a moderating variable adds depth to existing models of tax behavior and governance. Contextually, the research offers insights specific to emerging markets, where institutional dynamics and regulatory environments differ significantly from those in developed economies. Finally, the study demonstrates methodological rigor through the operationalization of multidimensional constructs and the application of robust statistical techniques, thereby enhancing the validity and reliability of its findings.

This paper provides an important foundation for further research. First, the findings on the role of institutional ownership moderation open up opportunities to examine investor heterogeneity (e.g., investment types and horizons) and their more specific influence on tax behavior. Second, the insignificance of capital intensity invites exploration in different contexts, such as industries with special tax incentives or using more granular asset metrics. Third, an integrated framework that connects green accounting, tax strategy, and governance is the foundation for examining the interdependence between environmental, social, and governance performance and corporate finance strategy more broadly. Fourth, methodologically, future research can develop measurements by integrating qualitative or variable metrics such as the permanent book-tax gap to capture the nuances of more complex tax planning. Thus, this paper strategically identifies academic gaps and provides a developable framework for the advancement of tax accounting science and sustainable governance.

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