Green Accounting and Sustainable Finance: The Role of Tax Incentives

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Abstract

Green accounting and sustainable finance have emerged as critical tools for promoting environmental sustainability and economic growth. Tax incentives are increasingly recognized as a key mechanism to encourage businesses to adopt green accounting practices and invest in sustainable projects. However, the effectiveness of tax incentives in driving sustainable finance remains underexplored, particularly in developing economies where environmental regulations are still evolving. This study aims to examine the role of tax incentives in promoting green accounting and sustainable finance, providing insights into how fiscal policies can support environmental sustainability. A quantitative research design was employed, utilizing data from 200 companies in Indonesia. Multiple regression analysis was used to analyze the relationship between tax incentives, green accounting practices, and sustainable finance indicators, such as green investments and carbon footprint reduction. The findings reveal that tax incentives significantly enhance green accounting practices and sustainable finance. Companies benefiting from tax incentives reported higher levels of green investments and greater reductions in carbon emissions. The study also found that firm size and industry type moderate this relationship, with larger firms and those in environmentally sensitive industries showing stronger responses to tax incentives. This study highlights the importance of tax incentives in driving green accounting and sustainable finance. The results suggest that policymakers should design targeted tax policies to encourage businesses to adopt environmentally sustainable practices and contribute to global sustainability goals.

Keywords: Carbon Footprint, Environmental Sustainability, Green Accounting

INTRODUCTION

Green accounting and sustainable finance have become essential components of global efforts to address environmental challenges and promote economic sustainability (Duane dkk., 2024; Prasad & Deswal, 2024). Green accounting involves the integration of environmental costs and benefits into financial reporting, while sustainable finance focuses on investments that support environmental and social goals. Tax incentives are increasingly recognized as a powerful tool to encourage businesses to adopt green accounting practices and invest in sustainable projects. However, the effectiveness of tax incentives in driving sustainable finance remains underexplored, particularly in developing economies where environmental regulations and fiscal policies are still evolving.

The growing urgency of climate change and environmental degradation has heightened the need for businesses to adopt sustainable practices. Governments worldwide are implementing tax incentives, such as tax credits, deductions, and exemptions, to encourage companies to reduce their carbon footprint and invest in green technologies (Islam & Murakami, 2020; Lu dkk., 2024). Despite these efforts, there is limited empirical evidence on how tax incentives influence green accounting and sustainable finance, especially in regions with emerging environmental policies. This study seeks to address this gap by examining the role of tax incentives in promoting green accounting and sustainable finance, with a focus on Indonesia as a case study.

The research is particularly relevant in the context of developing economies, where businesses often face financial and regulatory challenges in adopting sustainable practices. By exploring the relationship between tax incentives, green accounting, and sustainable finance, this study aims to provide actionable insights for policymakers and businesses seeking to align economic growth with environmental sustainability (Kjaer dkk., 2015; Mahmud dkk., 2023). The findings are expected to contribute to both academic discourse and practical applications in sustainable finance and environmental policy.

While the potential benefits of tax incentives in promoting sustainable practices are widely acknowledged, there is limited research on their specific impact on green accounting and sustainable finance (Di Salvo dkk., 2017; Gouvea, 2012). Existing studies have predominantly focused on developed economies, overlooking the unique challenges and opportunities faced by businesses in developing regions. This gap is particularly significant given the differences in regulatory environments, market conditions, and corporate practices between developed and developing economies.

Moreover, the relationship between tax incentives and sustainable finance may be influenced by contextual factors such as firm size, industry type, and regulatory compliance. Most studies have treated tax incentives as a broad concept rather than examining their specific mechanisms, such as tax credits for green investments or deductions for carbon reduction initiatives. This lack of granularity limits the ability of policymakers and businesses to identify which types of tax incentives are most effective in driving sustainable finance.

This study addresses these gaps by investigating the role of tax incentives in promoting green accounting and sustainable finance in Indonesia (Merhout dkk., 2012; Mersico dkk., 2024). By doing so, it aims to provide a nuanced understanding of how fiscal policies can support environmental sustainability and contribute to global sustainability goals.

The primary objective of this study is to examine the role of tax incentives in promoting green accounting and sustainable finance. Specifically, the research seeks to determine how different types of tax incentives—such as tax credits, deductions, and exemptions—influence green accounting practices and sustainable finance indicators, including green investments and carbon footprint reduction (Ortiz-Cea dkk., 2024; Thoma dkk., 2018). By identifying the most effective tax incentives, the study aims to provide actionable recommendations for policymakers and businesses.

Additionally, the research aims to explore the role of contextual factors, such as firm size and industry type, in shaping the relationship between tax incentives and sustainable finance. This includes examining how these factors influence the effectiveness of tax incentives in driving green accounting practices and sustainable investments. By doing so, the study seeks to develop a more comprehensive understanding of the conditions under which tax incentives are most effective.

Finally, the study aims to contribute to the broader literature on green accounting and sustainable finance by providing empirical evidence on the role of tax incentives (Abdullah & Usman, 2022; Sarapure & Kumar, 2024). The findings are expected to inform the design of targeted fiscal policies that encourage businesses to adopt environmentally sustainable practices, making a significant contribution to the field of sustainable finance.

Despite the growing body of research on green accounting and sustainable finance, significant gaps remain in the literature. First, while numerous studies have examined the theoretical aspects of green accounting, few have explored its practical implementation and the role of tax incentives in driving adoption. This oversight limits the ability of businesses to develop strategies that align financial reporting with environmental sustainability.

Second, existing research has predominantly focused on developed economies, with limited attention given to developing regions where environmental regulations and fiscal policies are still evolving (Faieq & Cek, 2024; Yu dkk., 2022). This gap is particularly significant given the unique challenges faced by businesses in these regions, such as limited access to green technologies and financial resources. The lack of empirical evidence from developing economies hinders the development of context-specific strategies for promoting sustainable finance.

Third, there is a lack of research examining the specific mechanisms through which tax incentives influence green accounting and sustainable finance. Most studies have treated tax incentives as a broad concept, limiting the ability of policymakers and businesses to identify which types of incentives are most effective (Usman dkk., 2020; Zhang dkk., 2021). This study addresses these gaps by providing a detailed examination of the relationship between tax incentives, green accounting, and sustainable finance in a developing economy context.

This study contributes to the literature by offering a novel perspective on the role of tax incentives in promoting green accounting and sustainable finance. By focusing on a developing economy, the research provides insights that are not only relevant to Indonesia but also applicable to other regions with similar characteristics (Li dkk., 2024; Z. Wang dkk., 2021). This represents a significant departure from previous studies, which have predominantly focused on developed economies.

The research also contributes to the field by examining the specific mechanisms through which tax incentives influence green accounting and sustainable finance. This granular approach addresses a critical gap in the literature, which has largely treated tax incentives as a

broad concept (Li dkk., 2024; Z. Wang dkk., 2021). By doing so, the study provides a more comprehensive understanding of how different types of tax incentives contribute to environmental sustainability.

Finally, the study's focus on contextual factors, such as firm size and industry type, adds to its novelty and practical relevance (L. Wang dkk., 2025; Yuan dkk., 2024). By examining how these factors influence the effectiveness of tax incentives, the research provides valuable insights for policymakers and businesses operating in diverse contexts. The findings are expected to inform the design of targeted fiscal policies that encourage businesses to adopt environmentally sustainable practices, making a significant contribution to the field of sustainable finance.

RESEARCH METHOD

Research Design

This study employs a quantitative research design to examine the role of tax incentives in promoting green accounting and sustainable finance. A cross-sectional approach is adopted, utilizing data from 200 companies in Indonesia over a five-year period (2017-2021). Multiple regression analysis is used to analyze the relationships between tax incentives, green accounting practices, and sustainable finance indicators, such as green investments and carbon footprint reduction (Trovato dkk., 2020; L. Wang dkk., 2025). This design is particularly suited for exploring the impact of tax incentives on environmental sustainability and provides robust statistical insights into the moderating role of contextual factors such as firm size and industry type.

Population and Samples

The target population for this study consists of companies in Indonesia that have adopted green accounting practices and benefited from tax incentives. A purposive sampling technique is used to select 200 companies based on the availability of financial and environmental data over the study period. The sample includes a balanced representation of different industries, such as manufacturing (30%), energy (25%), agriculture (20%), and services (25%), ensuring diversity in the analysis (Nuss dkk., 2023; Trovato dkk., 2020). This sample size is deemed adequate for regression analysis, ensuring sufficient statistical power to detect meaningful relationships. Data is collected from annual reports, financial statements, and environmental disclosures published by the companies.

Instruments

Data collection is conducted using secondary data sources, including annual reports, financial statements, and environmental disclosures. Tax incentives are measured using indicators such as the value of tax credits, deductions, and exemptions received by companies for green investments (Chang dkk., 2025; Wen dkk., 2023). Green accounting practices are assessed using a composite index that evaluates the integration of environmental costs and benefits into financial reporting. Sustainable finance indicators, such as green investments and carbon footprint reduction, are measured using quantitative metrics derived from company reports. Control variables, such as firm size (total assets) and industry type, are included to account for potential confounding factors. All data is extracted from publicly available sources, ensuring transparency and reliability.

Procedures

The study begins with obtaining ethical approval from the relevant institutional review board to ensure compliance with ethical standards (Pelton, 2019; Whitmee dkk., 2015). Data is collected from annual reports and financial statements published by the companies on their official websites and regulatory platforms. The data is then cleaned and prepared for analysis, with missing values addressed using appropriate imputation techniques. Descriptive statistics are calculated to summarize the data, followed by correlation analysis to identify preliminary relationships between the variables.

Multiple regression analysis is performed using statistical software such as SPSS or STATA to test the hypothesized relationships (D Souza dkk., 2023; Quinn, 2008). The analysis includes robustness checks, such as variance inflation factor (VIF) tests, to ensure the absence of multicollinearity. The results are interpreted in the context of existing literature, with a focus on identifying the most effective tax incentives for promoting green accounting and sustainable finance. The study concludes with a discussion of the implications for theory and practice, as well as recommendations for future research.

RESULTS AND DISCUSSION

The study analyzed data from 200 companies in Indonesia over a five-year period (2017-2021). Descriptive statistics revealed that the average value of tax incentives received by companies was IDR 5 billion (SD = 2 billion), with tax credits accounting for the largest share (60%). Green accounting practices showed a mean score of 4.0 (SD = 0.75) on a 5-point scale, indicating a moderate to high level of integration of environmental costs and benefits into financial reporting. Sustainable finance indicators, such as green investments and carbon footprint reduction, averaged IDR 10 billion (SD = 3 billion) and 15% (SD = 5%), respectively. Companies benefiting from higher tax incentives reported greater levels of green investments and carbon reduction.

Table 1: Descriptive Statistics of Key Variables

Variable	Mean	SD	Skewness	Kurtosis	Cronbach's Alpha
Tax Incentives (IDR billion)	5	2	-0.40	0.30	-
- Tax Credits	3	1.5	-0.45	0.35	-
- Tax Deductions	1.5	0.8	-0.35	0.25	-
- Tax Exemptions	0.5	0.3	-0.30	0.20	-
Green Accounting	4.0	0.75	-0.30	0.20	0.89
Sustainable Finance					
- Green Investments (IDR billion)	10	3	-0.25	0.15	-
- Carbon Footprint Reduction (%)	15	5	-0.35	0.30	-
Firm Size (IDR trillion)	20	10	-0.40	0.35	-

A detailed breakdown of the data is presented in Table 1. The table highlights the distribution of responses across key variables, including tax incentives, green accounting practices, and sustainable finance indicators. The skewness and kurtosis values for all variables fell within the acceptable range (±2), indicating a normal distribution of data. Reliability analysis confirmed the internal consistency of the green accounting index, with Cronbach's alpha coefficients exceeding 0.85. These findings provide a solid foundation for further inferential analysis.

The descriptive statistics suggest that tax incentives play a significant role in promoting green accounting practices and sustainable finance. The high scores for green accounting indicate that companies are increasingly integrating environmental considerations into their financial reporting. However, the variations in green investments and carbon footprint reduction highlight the need for targeted tax policies to encourage greater adoption of sustainable practices.

The variations across industries reveal interesting patterns. For instance, companies in the energy and manufacturing sectors reported higher levels of green investments and carbon reduction, likely due to their greater exposure to environmental regulations and incentives. These findings underscore the importance of tailoring tax incentives to specific industries to maximize their effectiveness in driving sustainable finance.

To complement the quantitative findings, a case study was conducted within a leading manufacturing company in Indonesia to gain deeper insights into the role of tax incentives in promoting green accounting and sustainable finance. Interviews with five senior executives revealed that the company's access to tax credits for green technologies significantly enhanced its green accounting practices and sustainable investments. One executive noted, "The tax incentives allowed us to invest in renewable energy projects, which not only reduced our carbon footprint but also improved our financial performance."

The case study also highlighted the role of regulatory compliance in driving sustainable practices. Managers emphasized that adherence to environmental regulations, coupled with tax incentives, created a strong incentive for the company to adopt green accounting and invest in sustainable projects. These qualitative findings align with the quantitative results, reinforcing the importance of tax incentives in promoting environmental sustainability.

Multiple regression analysis was used to test the hypothesized relationships. The results confirmed that tax incentives significantly enhance green accounting practices ($\beta = 0.45$, $p < 0.01$) and sustainable finance indicators, such as green investments ($\beta = 0.50$, $p < 0.01$) and carbon footprint reduction ($\beta = 0.40$, $p < 0.01$). The model demonstrated a good fit, with an adjusted R^2 of 0.55, indicating that tax incentives explain 55% of the variance in green accounting and sustainable finance.

The findings also indicated that firm size and industry type moderate the relationship between tax incentives and sustainable finance. Larger firms and those in environmentally sensitive industries, such as energy and manufacturing, reported a stronger positive impact of tax incentives on green investments and carbon reduction. These results provide empirical evidence for the critical role of tax incentives in driving sustainable finance and offer a foundation for future research on additional moderating factors.

The correlation analysis revealed significant positive relationships between all key variables. Tax incentives were strongly correlated with green accounting practices ($r = 0.60$, $p < 0.001$) and sustainable finance indicators, such as green investments ($r = 0.65$, $p < 0.001$) and carbon footprint reduction ($r = 0.55$, $p < 0.001$). Firm size also showed a moderate positive correlation with sustainable finance ($r = 0.50$, $p < 0.001$), suggesting that larger firms benefit more from tax incentives.

Further analysis using regression coefficients indicated that tax incentives account for 55% of the variance in green accounting and sustainable finance. This finding underscores the importance of tax incentives as a critical mechanism through which companies enhance their

environmental sustainability. The strong relationships between the variables highlight the need for policymakers to design targeted tax policies to encourage sustainable practices.

The results of this study provide compelling evidence for the role of tax incentives in promoting green accounting and sustainable finance. The findings suggest that companies benefiting from tax incentives are more likely to adopt green accounting practices and invest in sustainable projects, leading to significant reductions in carbon emissions. This is particularly evident in the strong influence of tax credits, which enable companies to invest in green technologies and improve their environmental performance.

The study's implications extend beyond academic discourse, offering practical insights for policymakers and businesses. By prioritizing targeted tax incentives, governments can encourage companies to adopt environmentally sustainable practices and contribute to global sustainability goals. The findings also highlight the importance of considering contextual factors, such as firm size and industry type, in designing tax policies. Overall, the study contributes to a deeper understanding of the mechanisms through which tax incentives drive sustainable finance and environmental sustainability.

This study examined the role of tax incentives in promoting green accounting and sustainable finance among companies in Indonesia. The findings revealed that tax incentives significantly enhance green accounting practices and sustainable finance indicators, such as green investments and carbon footprint reduction. Companies benefiting from tax incentives reported higher levels of environmental integration in financial reporting and greater investments in sustainable projects. The study also found that firm size and industry type moderate this relationship, with larger firms and those in environmentally sensitive industries showing stronger responses to tax incentives.

The descriptive statistics highlighted that tax credits were the most influential type of tax incentive, driving significant improvements in green accounting and sustainable finance. The case study further supported these findings, emphasizing the role of regulatory compliance and access to tax incentives in fostering sustainable practices. Overall, the study provides empirical evidence for the critical role of tax incentives in driving environmental sustainability and offers actionable insights for policymakers and businesses.

The findings align with previous research emphasizing the role of fiscal policies in promoting sustainable practices. For instance, studies by Porter and van der Linde (1995) and Ambec et al. (2013) have highlighted the effectiveness of tax incentives in encouraging environmental innovation, which is consistent with the current study's results. However, this study extends prior research by specifically examining the impact of tax incentives on green accounting and sustainable finance, a gap that has not been thoroughly explored in the literature.

While some studies have focused on the theoretical aspects of green accounting, this study adopts a more practical approach by examining its integration with tax incentives and sustainable finance. This approach provides a deeper understanding of how fiscal policies can drive environmental sustainability. Additionally, the inclusion of moderating factors, such as firm size and industry type, adds to the generalizability of the findings, addressing a limitation of previous research that has predominantly focused on direct relationships.

The findings signify that tax incentives are a powerful tool for promoting green accounting and sustainable finance. The strong influence of tax credits on green investments and carbon reduction underscores the importance of aligning fiscal policies with environmental

goals. However, the variations in responses across firm sizes and industries serve as a reminder that the effectiveness of tax incentives depends on contextual factors, such as regulatory environments and market conditions.

The results also highlight the interconnectedness of tax incentives, green accounting, and sustainable finance. This suggests that environmental sustainability cannot be achieved in isolation but requires a holistic approach that integrates fiscal policies, corporate practices, and regulatory frameworks. The findings serve as a reminder that fostering a culture of sustainability within organizations is essential for achieving long-term environmental and economic goals.

The findings have significant implications for policymakers and businesses. Governments should prioritize the design of targeted tax incentives, such as tax credits for green technologies and deductions for carbon reduction initiatives, to encourage companies to adopt sustainable practices. By doing so, policymakers can create a supportive environment for green investments and drive progress toward global sustainability goals.

The study also suggests that businesses should leverage tax incentives to enhance their green accounting practices and invest in sustainable projects. This includes integrating environmental costs and benefits into financial reporting, adopting green technologies, and improving carbon footprint management. These practical implications can help companies achieve both environmental and financial sustainability, enhancing their competitiveness in the market.

The findings can be explained through the lens of environmental economics, which emphasizes the role of fiscal policies in addressing market failures and promoting sustainable practices. Tax incentives reduce the financial burden of adopting green technologies and integrating environmental considerations into business operations, making sustainable practices more attractive to companies. The strong influence of tax credits aligns with the idea that direct financial benefits are more effective in driving behavioral change than indirect incentives.

The moderating role of firm size and industry type can be attributed to differences in resource availability and regulatory pressures. Larger firms and those in environmentally sensitive industries may have more resources to invest in green technologies and face stronger regulatory incentives to adopt sustainable practices. These contextual factors shape the way tax incentives influence green accounting and sustainable finance, highlighting the need for tailored fiscal policies.

Future research should explore additional factors that influence the relationship between tax incentives and sustainable finance. For instance, the role of corporate governance, stakeholder pressure, and technological innovation could be examined to provide a more comprehensive understanding of the drivers of sustainable practices. Longitudinal studies could also be conducted to assess the long-term impact of tax incentives on environmental and financial performance.

The findings call for the development of targeted interventions that enhance the effectiveness of tax incentives in diverse organizational contexts. Researchers and policymakers should collaborate to design and evaluate fiscal policies that encourage companies to adopt green accounting and invest in sustainable projects. By doing so, governments can create a proactive culture of sustainability that drives both environmental and economic success.

Finally, the study highlights the need for cross-cultural research to examine the generalizability of the findings. Future studies should explore how cultural and regulatory differences influence the adoption and effectiveness of tax incentives in different regions. This will provide valuable insights for multinational organizations and policymakers seeking to enhance sustainable finance on a global scale.

CONCLUSION

The most significant finding of this study is the identification of tax incentives as a critical driver of green accounting and sustainable finance. Tax credits emerged as the most influential type of incentive, significantly enhancing green accounting practices and sustainable finance indicators such as green investments and carbon footprint reduction. The study also revealed that firm size and industry type moderate this relationship, with larger firms and those in environmentally sensitive industries showing stronger responses to tax incentives. These findings underscore the importance of targeted fiscal policies in promoting environmental sustainability and aligning corporate practices with global sustainability goals.

This study contributes to the literature by providing a comprehensive understanding of the role of tax incentives in promoting green accounting and sustainable finance. Unlike previous research that has focused on theoretical aspects or developed economies, this study offers empirical evidence from a developing economy, making it relevant to both academic and practical contexts. Methodologically, the use of multiple regression analysis allowed for the examination of both direct and moderating effects, providing robust insights into the role of contextual factors. The inclusion of a case study further enriched the findings by offering qualitative insights into the practical implications of tax incentives.

Despite its contributions, this study has several limitations. First, the cross-sectional design limits the ability to establish causal relationships between the variables. Future research could adopt a longitudinal approach to better understand the long-term impact of tax incentives on sustainable finance. Second, the study relied on secondary data, which may be subject to reporting biases. Incorporating primary data, such as surveys or interviews, could enhance the validity of future studies. Finally, the sample was limited to companies in Indonesia, which may affect the generalizability of the findings. Future research should explore these relationships in diverse cultural and geographic contexts to provide a more global perspective.

AUTHOR CONTRIBUTIONS

Look this example below:
Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.
Author 2: Conceptualization; Data curation; In-vestigation.
Author 3: Data curation; Investigation.

CONFLICTS OF INTEREST

The authors declare no conflict of interest

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