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CSR, Profitability, Capital and Inventory Intensity Effects on ETR Moderated by Firm Size

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ABSTRACT

Purpose : The purpose of this research is to empirically test and analyze the influence of Corporate Social Responsibility, Profitability, Capital Intensity, and Inventory Intensity on the Effective Tax Rate with Firm Size as a moderating variable.
Method : The population consists of manufacturing companies in the consumer goods sector listed on the Indonesia Stock Exchange (IDX) for 2018-2023, totaling 91 companies. Sample selection used a purposive sampling approach, resulting in 150 data analysis units after excluding 63 outliers, analyzed using the Eviews 12 program. The study uses unbalanced panel data from secondary sources in annual reports. Data analysis techniques were conducted using descriptive statistical approaches and inferential statistical analysis.
Findings : The research findings indicate that Corporate Social Responsibility and Inventory Intensity have no significant effect on the Effective Tax Rate (ETR). In contrast, Profitability negatively affects the ETR, while Capital Intensity has a positive effect. Furthermore, Firm Size moderates the relationship between Inventory Intensity and ETR but does not significantly moderate the effects of Corporate Social Responsibility, Profitability, or Capital Intensity.
Novelty : The study builds upon and extends previous research on the effects of CSR, profitability, capital intensity, and inventory intensity on the ETR by using recent data (2018–2023) and incorporating firm size as a moderating variable to provide a more comprehensive analysis in the Indonesian context.

INTRODUCTION

Indonesia has great economic potential and is a rapidly developing country. At the end of 2019, world attention was focused on the emergence of a disease outbreak, namely Covid-19. This pandemic has caused changes in the Indonesian economy since the beginning of the second quarter of 2020. Seeing the economic contraction in 2020, the central and regional governments have designed policy strategies through budget allocations designed in the State Revenue and Expenditure Budget (APBN) and the Revenue and Expenditure Budget. Regional Expenditures (APBD) are used to support the Indonesian economy. The Indonesian government needs adequate funding to support continued national development. One funding source for the Indonesian state can be obtained through tax revenues. Compared with other sources of income, every year, an essential role in the economy is played by the tax sector because taxes are always one of the largest sources of income.

Based on Article 1 paragraph 1 of the Law on General Provisions and Tax Procedures (UU KUP) number 28 of 2007, mandatory contributions to the state are paid by individuals or entities in a coercive manner without any direct compensation according to the provisions of the law to meet the needs of the state for the sake of creating social welfare it is called a tax (Saparinda et al., 2023). Given the importance of tax revenue to national development, evaluating how effectively the tax system collects revenue from corporate taxpayers is crucial. One commonly used indicator is the Effective Tax Rate (ETR), which reflects the actual tax burden borne by companies. A persistently low ETR may signal weak tax compliance or aggressive tax planning, both of which can reduce state revenue.

Figure 1 shows the realization of Indonesian tax reveneu from 2010 to 2023. The data indicate a significant decline in 2020 due to the COVID-19 pandemic. However, tax revenues recovered strongly in 2021 and 2022. The

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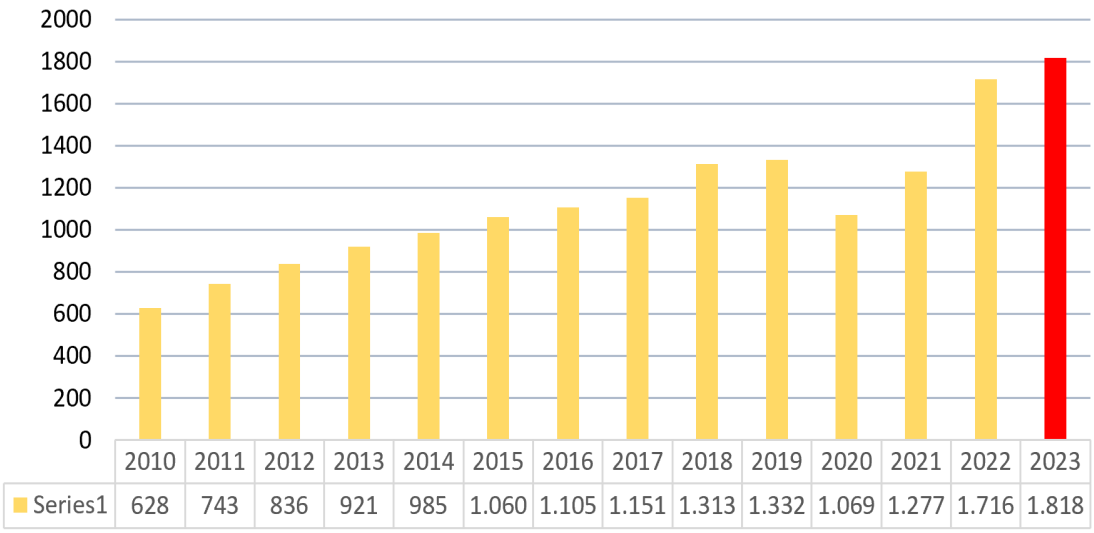

Figure 1. Realization of Indonesian Tax Revenue (2010-2023*)
Source: Ministry of Finance

projection for 2023, marked with an asterisk (*), represents estimated data based on government reports that had not yet been finalized at the time of analysis. As shown in the figure, tax revenue in 2023 is estimated to reach IDR 1,818.2 trillion, exceeding the target set in the 2023 APBN of IDR 1,718 trillion.

Business entities often use the Effective Tax Rate as a tool for evaluating and measuring tax costs in providing an accurate picture of the impact of taxes on companies because this value combines the tax rates based on the law and the basis for imposing income tax in one measure (Stamatopoulos et al., 2019). ETR is an indirect measure of how much a company contributes to government revenue, which can understand the implementation of a low effective tax rate. Achieving the state tax target will also be reduced if the company's contribution to tax payments is low because ETR is one of the reasons companies carry out tax avoidance actions. Starting from the 2022 tax year, the corporate tax rate in Indonesia is 22%, Number 7 of the 2021 Tax Harmonization Law.

The phenomenon of tax avoidance by companies in Indonesia continues to attract attention from various stakeholders. Although tax planning is legally permitted, overly aggressive strategies to minimize tax burdens can negatively impact state revenues. Companies may exploit regulatory loopholes or optimize allowable deductions to reduce their Effective Tax Rate (ETR), which is widely used in many studies as an indicator of tax avoidance. Therefore, it is important to analyze the various factors that influence ETR in order to identify corporate tendencies toward tax avoidance.

Several cases reported in the media also highlight the importance of tax compliance among corporations. For example, in 2022, PT Pazia Retailindo (PT PR), a company operating in the communication equipment sector, was reported by the North Jakarta Regional Office of the Directorate General of Taxes (DJP) for allegedly submitting inaccurate tax reports, potentially causing state losses of IDR 292 billion (Putra, 2022). Another case involved an individual with the initials AY through PT EIB, who was suspected of being part of a network issuing fictitious tax invoices, resulting in estimated state losses of IDR 110 billion during the 2020–2021 period (Rahadian, 2023). Although both cases fall into the category of tax evasion, their emergence serves as a reminder that companies may have incentives to reduce their tax burden through various means, both legal and illegal.

Based on previous findings regarding tax management efforts, the results still show that the Effective Tax Rate needs to be more consistent. Various components show varying influences on ETR, so it is interesting to conduct research by understanding specific components, including corporate social responsibility, profitability, capital intensity and inventory intensity, and company size as a moderating variable. Companies in the manufacturing consumer goods sector listed on the Indonesia Stock Exchange are the main focus of this research, where this sector recorded growth of 35.1%, which is the most significant contribution (Menkeu, 2022). This is because the consumer goods industrial sector often operates on a large production scale.

This study aims to provide empirical evidence on the influence of Corporate Social Responsibility (CSR), profitability, capital intensity, and inventory intensity on the Effective Tax Rate (ETR) in manufacturing companies within the consumer goods sector listed on the Indonesia Stock Exchange (IDX) from 2018 to 2023. In addition, the research examines the moderating role of firm size in these relationships.

The novelty of this study lies in several aspects. First, it integrates CSR, profitability, capital intensity, and inventory intensity into a single model to examine their combined effect on ETR an approach rarely explored, particularly in the Indonesian context. Second, it utilizes recent data from 2018 to 2023, encompassing the COVID-19 pandemic and major tax policy reforms, thus providing more current insights. Third, it explicitly tests the moderating role of firm size, offering a nuanced understanding of how company characteristics shape corporate tax behavior.

Agency theory, a fundamental concept introduced by Jensen & Meckling (1976), defines an agency relationship as a contract between the principal and the agent. This contract is where one or more people (principal) involve another person (agent) to perform certain services on behalf of the principal, including delegating some decision-making authority to the agent responsible for managing the company optimally to achieve significant profits. Understanding this theory is crucial as it sheds light on how managers, as employed agents, may act in their main interests, namely by maximizing shareholder wealth, but in reality, they tend to prioritize their interests even if this is detrimental to shareholders (Novotna et al., 2020).

Positive accounting theory was developed by Watts et al., (1978), who presented the concept of positive accounting as an approach to understanding accounting practices in the context of rational economic decisions. Positive accounting theory allows companies to choose one of the alternative accounting policies to minimize contract costs and optimize company value. Assumptions regarding political costs are used in these findings regarding company responsibility towards the government related to political costs. Taxation is an essential issue in public finance, so the factors that influence effective tax rates, especially the size of a company, are supported by political cost theory (Sharif & Khan, 2023).

Legitimacy theory illustrates that there are differences between the values held by companies and those in society. This difference is known as a legitimacy gap, which can put the company in a threatened position (Pratama & Deviyanti, 2022). Companies are increasingly aware that their interactions with the social environment in which they operate can influence their survival. Legitimacy theory states that companies have a social contract with society to carry out activities based on the values of justice and how the company responds to legitimizing actions from various company interest groups (Nugraha & Meiranto, 2015).

Effective Tax Rate is a general approach in determining a company's tax management to show the high tax payments borne by a business entity divided by profit before tax (Ermadiani et al., 2023). ETR is often used to compare levels of tax avoidance among various companies and changes over time (Drake et al., 2020). The lower the effective tax rate, the smaller the tax burden borne by taxpayers, allowing them to save on payments

Corporate social responsibility (CSR) is a company's commitment to supporting sustainable development and social welfare by complying with local and international regulations, maintaining ethical integrity, and providing transparent leadership (Abad-Segura et al., 2019). The emergence of CSR originates from public distrust of companies, so companies create commitments to gain public trust (Hisar et al., 2020). CSR involves company efforts to create a significant positive impact on economic, social, and environmental sustainability; thus, CSR is considered a critical factor in achieving competitive advantage for companies (Oduro et al., 2024). According to legitimacy theory, companies aim to maintain and enhance their social acceptance by engaging in socially responsible activities that align with societal expectations. As part of this effort, companies that actively implement Corporate Social Responsibility (CSR) are more likely to comply with tax regulations, promote transparency, and avoid aggressive tax avoidance practices that may contradict the ethical standards promoted by their CSR initiatives. Investing in corporate social responsibility (CSR) can help companies comply with tax regulations, maintain transparency, and avoid aggressive tax avoidance strategies that conflict with their CSR principles. As a result, their effective tax rate (ETR) will be higher. This shows that CSR has a positive impact on ETR. means that CSR has a positive effect on ETR.

H_1: Corporate social responsibility has a positive effect on the effective tax rate

Profitability is a business entity's capability to gain profits from its operations in a certain period (Fisdiyah et al., 2020). This serves as a sign and critical indicator for financial analysis and shows how much ability a business entity generates in profits from sales or capital investments and management efficiency in overseeing company assets (Meylinda et al., 2022). A company's ability to generate profits depends on aspects related to consumers. A company's profitability is generally inversely related to its tax burden. Companies with high profitability often seek ways to minimize their tax liabilities to maximize net income. This behavior aligns with positive accounting theory, which suggests that firms tend to select accounting methods and tax strategies that reduce tax burdens in order to enhance firm value and reduce overall costs. Therefore, management seeks ways to minimize tax payments within tax regulations. As a company's profitability increases, its tax burden decreases, resulting in a lower Effective Tax Rate (ETR). In other words, profitability has a negative impact on ETR.

H_2: Profitability has a negative effect on the effective tax rate

Capital intensity refers to the proportion of fixed assets in a company's total assets, reflecting the scale of long-term investment in operational infrastructure such as machinery, property, and equipment (Novotna et al., 2020). Companies with high capital intensity generally operate on a larger scale and tend to attract more attention from tax authorities. This condition leads to increased supervision and stricter compliance with tax regulations, which limits the use of aggressive tax planning strategies. Furthermore, in many jurisdictions, differences between commercial accounting and fiscal regulations result in partial or delayed recognition of depreciation for tax purposes. Consequently, the depreciation benefit is not fully realized in reducing taxable income. As a result, the tax burden becomes relatively higher compared to firms with lower capital intensity. Companies with greater capital

investment also maintain conservative financial practices to preserve reputational integrity and stakeholder trust. These factors contribute to a higher Effective Tax Rate (ETR) in firms with higher capital intensity.

H_3: Capital intensity has a positive effect on the effective tax rate

A comparison that reflects how a company manages investment in inventory for efficiency and effectiveness is called inventory intensity (Marantika & Martani, 2023). The company's investment in warehouse inventory will result in inventory storage and warehouse maintenance expenses, increasing the company's total expenses and potentially reducing company profits. Companies with high inventory intensity will be more proactive in managing the tax burden that must be paid. This is consistent with agency theory, where managers have discretion in inventory management, which can be used to reduce taxable income and affect the Effective Tax Rate (ETR). In times of declining profits, companies with high inventory intensity have more flexibility in managing inventories, enabling them to reduce taxable profits and the ETR value. Hence, high inventory intensity has a negative impact on ETR.

H_4: Inventory intensity has a negative effect on the effective tax rate

Company size is an indicator that reflects the size of a company in achieving its goals by looking at overall revenue, total assets, and stock market valuation (Wahyuningrum & Amalia, 2023). Large companies will be more likely to implement fiscal planning policies and adopt accounting practices to reduce taxes (Delgado et al., 2014). According to legitimacy theory, companies aim to maintain their social legitimacy through CSR initiatives aligned with societal expectations. However, large firms often face greater scrutiny and higher expectations from stakeholders. When CSR efforts appear insufficient relative to the firm's size, stakeholders may remain unconvinced of the firm's fairness. Consequently, firm size may weaken the positive effect of CSR on the Effective Tax Rate (ETR).

H_5: Firm size weakens the positive effect of corporate social responsibility on the effective tax rate

Based on Positive Accounting Theory, companies with high profitability have stronger incentives to engage in tax planning to minimize their tax burden and maximize net income. Highly profitable firms are subject to increased scrutiny and face greater pressure to pay higher taxes. However, they possess substantial resources and expertise to implement sophisticated tax planning strategies that effectively reduce their Effective Tax Rate (ETR). Firm size moderates this relationship by weakening the negative effect of profitability on ETR, as larger firms generally have more opportunities and mechanisms to manage earnings and optimize their tax obligations efficiently (Sharif & Khan, 2023).

H_6: Firm size weakens the negative effect of profitability on the effective tax rate

Based on agency theory, managers are incentivized to reduce the company's tax burden by investing in fixed assets, which can be depreciated and thus lower taxable income. Companies with high capital intensity tend to have more opportunities to utilize depreciation-related tax benefits. However, larger firms often engage in more advanced tax planning strategies that go beyond simple capital deductions. Due to their complex organizational structures and greater public visibility, large firms are also subject to higher regulatory oversight and scrutiny. These firms are more likely to adopt conservative tax positions to protect their reputation and ensure long-term compliance. Delgado et al., (2018) found that firm size plays an important role in moderating the relationship between corporate characteristics and effective tax rates, highlighting that larger companies tend to face institutional pressures that can reduce the tax burden through broader planning strategies. Therefore, firm size can weaken the positive effect of capital intensity on the Effective Tax Rate (ETR).

H_7: Firm size weakens the positive effect of capital intensity on the effective tax rate

According to agency theory, companies with high inventory intensity possess greater flexibility in managing inventory levels and timing of cost recognition. This allows managers to influence taxable income, thereby reducing the effective tax burden. Marantika & Martani (2023) confirm that inventory intensity can affect the Effective Tax Rate through inventory valuation and accounting choices that impact profit reporting. However, larger firms-which are typically reflected by higher total assets-tend to adopt more standardized inventory control systems, supported by formal policies, external audits, and regulatory compliance. These structures limit the ability of management to manipulate inventory figures for tax minimization purposes. Therefore, firm size can weaken the negative effect of inventory intensity on the Effective Tax Rate.

H_8: Company size weakens the negative effect of inventory intensity on the effective tax rate

RESEARCH METHODS

The data type used in this research is a deductive-quantitative approach with a hypothesis-testing study research design. The data used for this research is unbalanced data, measured using a ratio scale. This data was meticulously collected from secondary data sources, specifically from annual reports officially published on the BEI website www.idx.co.id. The object of this research is manufacturing companies listed on the Indonesia Stock Exchange

Table 1. Sampling Process

No	Sample Criteria	2018	2019	2020	2021	2022	2023	Total
1	All manufacturing companies in the consumer goods sector are listed on the Indonesia Stock Exchange for 2018-2023.	91	91	91	91	91	91	546
2	Companies that do not publish and present annual financial reports on the Indonesia Stock Exchange for the 2018-2023 period	(31)	(23)	(13)	(3)	(1)	(19)	90
3	Companies that experienced consecutive losses during the 2018-2023 period	(11)	(10)	(14)	(16)	(17)	(13)	81
4	Companies that use foreign currency in their financial reports	(1)	(1)	(1)	(1)	(1)	(1)	6
5	Companies that do not present complete information	(25)	(29)	(25)	(30)	(29)	(18)	156
	Outlier	(9)	(8)	(13)	(10)	(11)	(12)	63
	Number of research samples	14	20	25	31	32	28	150

Source: secondary data processed (2024)

(IDX) during the period 2018–2023. The sampling technique used was purposive sampling, with criteria designed to ensure the availability and completeness of relevant data for analysis. The final result being 150 data analysis units after subtracting 63 outliers. These comprehensive results will be the focus of testing using the Eviews 12 program.

The sampling process is summarized in Table 1. One of the exclusion criteria was companies that did not present complete financial or sustainability report data relevant to the variables studied (e.g., CSR disclosures, tax expense, profitability measures). These companies were excluded to maintain the consistency and accuracy of the analysis.The independent variables used include Corporate Social Responsibility, profitability, capital, and inventory intensity, while the dependent variable is the Effective Tax Rate. Company size is a moderating variable (Table 2).

RESULTS AND DISCUSSIONS

Most variables yield an average value higher than the standard deviation, suggesting consistency and even distribution (Table 3). However, the CSR variable presents a different picture with an average value lower than the standard deviation, indicating a significant variation. This variation, influenced by differences in policies, company

Table 2. Measurement of Research Variables and Operational Definitions

No	Variable	Variable Definition	Indicator	Scale
1.	Effective Tax Rate (ETR)	The ratio measured by the company's tax burden to operating income before tax (Panda & Nanda, 2021)	ETR = Income Tax Expense / Profit Before Tax Poli, (2019)	Ratio
2.	Corporate Social Responsibility	The company's commitment to sustainable economic development by emphasizing a balance between economic, social and environmental interests (Andreas *et al.*, 2015).	CSR = CSR Costs / Operational Expenses Andreas *et al.*, (2015)	Ratio
3.	Profitability	The ability of a company to generate profits and measure the level of efficiency in using assets (Hirdinis, 2019).	ROA = Profit Before Tax / Total Assets (Wahyuningrum *et al.*, (2021)	Ratio
4.	Capital Intensity	Comparison between the size of fixed assets and the company's total assets (Allam, 2022) Debt to Equity Ratio (DER.	CIR = Total Fixed Assets / Total Assets Dias & Reis, (2018)	Ratio
5.	Inventory Intensity	Comparison between total inventory and total company assets (Andhari & Sukartha, 2017).	IIR = Total Inventory / Total Assets Fernandez-Rodriguez *et al.*, (2021)	Ratio
6.	Company Size	The determinant of company profits is reflected in the number of assets classified as large or small companies (Hirdinis, 2019).	Size = Ln (Total Assets) Naoui & Kasraoui, (2020)	Ratio

Source: Processed from various sources (2024)

Table 3. Descriptive Statistical Test

Statistik	ETR	CSR	ROA	CIR
Mean	0.268422	0.012074	0.069730	0.271352
Median	0.232885	0.003115	0.062473	0.266775
Maximum	0.962059	0.090770	0.197707	0.541432
Minimum	0.003572	0.000149	0.000126	0.000830
Std. Dev.	0.153049	0.018706	0.050472	0.125780
Observations	150	150	150	150

Source: Processed secondary data, 2024

scale, regulatory and social pressures, and variations in CSR measurement and reporting across companies, has a profound impact on the dataset.

Three-panel data regression model approaches, the Common Effect Model, the Fixed Effect Model, and the Random Effect Model, will be selected as the best models for interpreting the results (Sofyan et al., 2023). To determine the most appropriate model, Chow and Hausman tests were performed. The Chow test was conducted to compare CEM and FEM, while the Hausman test was applied to determine whether FEM or REM is more suitable. Based on Table 4, it can be concluded that the Fixed Effect Model (FEM) is the preferred estimation method for both the model without moderation and the model with moderation.

Regression formulas aim to ensure the accuracy of data analysis, so it requires testing classical assumptions. Not all classical assumptions must be tested in a linear regression model with the Ordinary Least Squares (OLS) approach (Widarjono 2007 in Napitupulu et al, 2021). The multicollinearity test aims to identify the high correlation between independent variables (Hamid et al, 2020). The results of the unmoderated multicollinearity test (Table 5) show that the correlation coefficient between independent variables is <0.90, meaning that the regression model used passes the multicollinearity test.

The results of the multicollinearity test for the moderated model (Table 6) show that several interaction terms have correlation coefficients exceeding 0.90. However, this does not automatically imply that the regression model suffers from severe multicollinearity. According to Disatnik & Sivan (2016), multicollinearity that arises due to the inclusion of interaction terms (such as product terms between independent variables and moderators) is a common and often unavoidable phenomenon in moderation analysis. This type of multicollinearity is different from that caused by conceptual redundancy or high collinearity between original variables. As long as the original predictor variables (e.g., CSR, ROA, Size) are not excessively correlated with each other, the interpretation of moderation effects remains valid. Moreover, since all variables in this study are measured on ratio scales, the multicollinearity is not due to differences in measurement scale but rather the mathematical construction of interaction terms. Therefore, the model remains statistically acceptable and interpretable for drawing conclusions.

The heteroscedasticity test analyzes whether the variance of the error is constant (homoscedastic) or changes (heteroskedastic) (Nani, 2022). The results of the unmoderated and moderated heteroscedasticity tests (Table 7) show that the probability of the Glejser test value for each variable is > 0.05, so the regression model is accessible from the assumption of heteroscedasticity problems. Equation 1 (Unmoderated) and 2 (Moderated) are the results of estimating the regression equation with the selected model, namely the fixed effect model.

$$ETR = 0.152674414069 - 2.35636306195*CSR - 1.27798376925*ROA + 0.759970793693*CIR + 0.12219278778*IIR + [CX=F] \quad \text{.....1}$$

$$ETR = 0.219497379918 - 31.1066166249*CSR - 8.83875441274*ROA - 1.74052835228*CIR + 6.26386901618*IIR + 0.998440851512*CSR\_SZ + 0.269451399109*ROA\_SZ + 0.076069864474*CIR\_SZ - 0.216670791881*IIR\_SZ + [CX=F] \quad \text{.....2}$$

Table 4. Model Approaches

Test	Effects/Test Summary	Statistic	d.f.	Prob.
Unmoderated Chow Test	Cross-section F	3.810092	(45, 100)	0.0000
	Cross-section Chi-square	149.793442	45	0.0000
Unmoderated Hausman Test	Cross-section random	12.923535	4	0.0117
Moderated Chow Test	Cross-section F	4.292197	(45, 96)	0.0000
	Cross-section Chi-square	165.389023	45	0.0000
Moderated Hausman Test	Cross-section random	16.810947	8	0.0321

Source: Processed secondary data, 2024

Table 5. Unmoderated Multicollinearity Test

	CSR	ROA	CIR	IIR
CSR	1.000000	-0.049437	-0.193051	0.118822
ROA	-0.049437	1.000000	-0.089408	-0.107844
CIR	-0.193051	-0.089408	1.000000	-0.306788
IIR	0.118822	-0.107844	-0.306788	1.000000

Source: Data processed with Eviews 12, 2024

Based on the F statistical test results (Table 8), both equations 1 and 2 obtained a significance value of 0.000000 < 0.05, meaning that H0 is rejected and Ha is accepted, so all independent variables and moderating variables simultaneously influence the Effective Tax Rate. The results of the coefficient of determination test (Table 8) show that after entering the moderating variable, the influence of the independent variable on the dependent variable becomes more robust, which initially had an influence of 52.8% (before there was a moderating variable) to 58.36% (after there was a moderating variable).

Based on the test results (Table 9), the first hypothesis (H_1) shows that social responsibility does not influence ETR. This is not in line with legitimacy theory, which requires companies to convince the public that their operations are following applicable values and norms by complying with tax obligations according to provisions without committing tax evasion (Safitri & Muid, 2020). This finding shows no effect because companies that disclose CSR widely tend not to avoid tax by showing awareness of their responsibilities, including the taxes that must be paid. The costs incurred for CSR are not large enough to affect ETR significantly. This finding supports the findings by Haryanto & Ramadhani (2023) that there is no significant influence between CSR and ETR. These findings contradict the findings by Nugraha & Meiranto (2015) that the CSR variable has a significant negative effect on ETR.

The second hypothesis (H_2) indicates significant negative impacts on the profitability factor of ETR. This result is strengthened by positive accounting theory, especially the political cost assumption, which suggests that a company has a higher level of profitability and can use a tax consultation program that can increase the efficiency of the company structure and minimize the tax burden (Oliveira et al., 2022). The negative research results are because very profitable companies can employ tax consultants to optimize the company's tax structure, and the tax burden that would otherwise be large due to profitability can be optimized through careful tax planning so that the ETR value can be reduced to a lower level. This finding supports research by Pulungan et al., (2023), showing that profitability significantly negatively influences ETR. These findings contradict the findings by Panda & Nanda, (2021) that profitability has a positive influence on ETR.

The findings support the hypothesis (H_3) that capital intensity positively affects the Effective Tax Rate (ETR). According to agency theory, companies with high capital intensity tend to operate on a larger scale, which increases their visibility to tax authorities. This leads to stricter regulatory oversight and higher tax compliance, limiting their ability to engage in aggressive tax avoidance. Moreover, differences between commercial and fiscal accounting standards mean that depreciation expenses are not always fully deductible for tax purposes, reducing the effectiveness of tax shields. As a result, these companies experience a higher ETR. This finding supports Delgado et al., (2018), who state that capital intensity significantly impacts ETR. The results of this study are not in line with the findings by Greeff (2019), which state that there is a negative relationship between capital intensity and ETR.

The fourth hypothesis (H_4) confirms that inventory intensity does not significantly influence the Effective Tax Rate (ETR). Although inventory costs are theoretically deductible and reduce taxable income, the findings of this study reveal that inventory intensity does not play a determining role in tax strategy or tax burden reduction. The relatively uniform accounting treatment of inventories and consistent inventory management practices across firms in the consumer goods manufacturing sector limit the impact of inventory intensity on ETR. This result supports the findings of Jaffar et al., (2021), who also reported no significant relationship between inventory intensity and ETR.

Table 6. Moderated Multicollinearity Test

	CSR	ROA	CIR	IIR	CSR_SZ	ROA_SZ	CIR_SZ	IIR_SZ
CSR	1.000000	-0.049437	-0.193051	0.118822	0.996924	-0.033759	-0.161721	0.127786
ROA	-0.049437	1.000000	-0.089408	-0.107844	-0.042869	0.994919	-0.042088	-0.066714
CIR	-0.193051	-0.089408	1.000000	-0.306788	-0.192794	-0.084481	0.989783	-0.315070
IIR	0.118822	-0.107844	-0.306788	1.000000	0.086763	-0.117115	-0.335915	0.990745
CSR_SZ	0.996924	-0.042869	-0.192794	0.086763	1.000000	-0.023466	-0.155355	0.099430
ROA_SZ	-0.033759	0.994919	-0.084481	-0.117115	-0.023466	1.000000	-0.028052	-0.068142
CIR_SZ	-0.161721	-0.042088	0.989783	-0.335915	-0.155355	-0.028052	1.000000	-0.329637
IIR_SZ	0.127786	-0.066714	-0.315070	0.990745	0.099430	-0.068142	-0.329637	1.000000

Source: Data processed with Eviews 12, 2024

Table 7. Heteroscedasticity Test Results (Unmoderated and Moderated)

Variable	Coefficient (Unmod)	Std. Error (Unmod)	t-Statistic (Unmod)	Prob. (Unmod)	Coefficient (Mod)	Std. Error (Mod)	t-Statistic (Mod)	Prob. (Mod)
C	0.019674	0.027622	0.712234	0.4780	0.028881	0.027682	1.043332	0.2994
CSR	-0.477135	0.450151	-1.059944	0.2917	3.751157	5.827955	0.643649	0.5213
ROA	-0.002055	0.132422	-0.015520	0.9876	0.397229	1.852866	0.214387	0.8307
CIR	0.029170	0.077742	0.375211	0.7083	1.047625	1.089608	0.961469	0.3387
IIR	0.149831	0.088002	1.702599	0.0917	-0.100994	0.633943	-0.159311	0.8738
CSR_SZ	–	–	–	–	-0.118648	0.199063	-0.596030	0.5526
ROA_SZ	–	–	–	–	-0.009604	0.065851	-0.145841	0.8841
CIR_SZ	–	–	–	–	-0.035787	0.037063	-0.965577	0.3367
IIR_SZ	–	–	–	–	0.004057	0.022221	0.182582	0.8555

Source: Data processed with Eviews 12, 2024

In contrast, it differs from the results of Adams & Balogun, (2020) who found a positive relationship, and Fernandez-Rodriguez et al., (2019) who observed a negative effect.

The fifth hypothesis (H_5) shows that firm size does not significantly moderate the effect of Corporate Social Responsibility (CSR) on ETR. Although larger firms may have more public visibility and greater resources to manage taxes, CSR initiatives in these companies are often embedded in broader strategic goals rather than aimed directly at tax minimization. Thus, the moderating effect of firm size on the CSR–ETR relationship is not significant. The sixth hypothesis (H_6) indicates that firm size does not significantly moderate the effect of profitability on ETR. Although highly profitable firms are generally motivated to reduce their tax burden, the results of this study show that firm size neither strengthens nor weakens this relationship. The effectiveness of tax planning depends more on managerial discretion and financial strategy than on the scale of the company. This finding is supported by Utomo & Fitria (2020), who also found no significant moderating effect of firm size on the profitability–ETR relationship.

The seventh hypothesis (H_7) demonstrates that firm size does not significantly moderate the relationship between capital intensity and ETR. While capital-intensive firms require large fixed assets and may attract attention from tax authorities, the scale of the company does not significantly influence how capital intensity affects tax obligations. This aligns with Prabowo & Sahlan (2021), who found no significant interaction between firm size and capital intensity on ETR. The eighth hypothesis (H_8) reveals that firm size significantly moderates the effect of inventory intensity on ETR. Larger companies tend to manage inventory more efficiently through better systems and resources, reducing the tax impact of high inventory levels. This supports the notion that firm size can reduce the sensitivity of ETR to inventory intensity by enhancing inventory control and optimizing tax-related decisions.

Table 8. Statistical Test F and Coefficient of Determination

Statistic	R-squared	Adjusted R-squared	S.E. of regression	Sum squared resid	Log likelihood	F-statistic	Prob (F-statistic)	Mean dependent var	S.D. dependent var	Akaike info criterion	Schwarz criterion	Hannan-Quinn criterion	Durbin-Watson stat
Equation 1	0.683223	0.528002	0.105148	1.105621	155.4264	4.401624	0.000000	0.268423	0.153050	-1.405685	-0.402140	-0.997976	2.511183
Equation 2	0.731743	0.583643	0.098757	0.936276	167.8953	4.940864	0.000000	0.268423	0.153050	-1.518604	-0.434775	-1.078278	2.748863

Source: Data processed with *Eviews* 12, 2024

Table 9. Summary of Hypothesis Test Results

Hypothesis	Note	Regression Coefficient	Sig.	Result
H_1	Corporate social responsibility has a positive effect on the effective tax rate	- 2.3563	0.0636	Rejected
H_2	Profitability has a negative effect on the effective tax rate	-1.2779	0.0008	**Accepted**
H_3	Capital intensity has a positive effect on the effective tax rate	0.7599	0.0007	**Accepted**
H_4	Inventory intensity has a negative effect on the effective tax rate	0.1221	0.6199	Rejected
H_5	Firm size weakens the positive effect of corporate social responsibility on the effective tax rate	0.9984	0.0959	Rejected
H_6	Firm size weakens the negative effect of profitability on the effective tax rate	0.2694	0.1733	Rejected
H_7	Firm size weakens the positive effect of capital intensity on the effective tax rate	0.0760	0.4931	Rejected
H_8	Company size weakens the negative effect of inventory intensity on the effective tax rate	-0.2166	0.0015	**Accepted**

Source: Processed secondary data, 2024

CONCLUSIONS

Based on the regression results, it is concluded that profitability has a negative effect on the Effective Tax Rate (ETR), while capital intensity has a positive effect. Meanwhile, corporate social responsibility and inventory intensity do not significantly affect ETR. In terms of moderation, firm size only moderates the effect of inventory intensity on ETR, but does not moderate the effects of CSR, profitability, or capital intensity in manufacturing companies in the consumer goods sector listed on the Indonesia Stock Exchange from 2018 to 2023. This research has limitations because many manufacturing companies in the consumer goods sector need to include CSR costs. These companies have just listed their shares on the Indonesia Stock Exchange and have yet to consistently present annual financial reports or company sustainability reports from 2018 to 2023, reducing the number of samples. It is expected that future research will use samples other than those of companies in the consumer goods sector, such as the non-financial and financial sectors, the mining sector, and other companies that impact research variables in various sectors because the consumer goods industrial sector often has a large production scale to meet high market demand and has a short product cycle, which can result in different cost structures, including tax cost structures.

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