

The Influence of Leverage and Tax Avoidance on the Profitability of Food and Beverage Sector Companies Listed on the Indonesia Stock Exchange for the 2020–2024 Period

Siti Sholeha, Azwani Aulia, Aditya Pradana

Akuntansi, Universitas Adiwangsa Jambi

Email: sitisholehaaaa21@gmail.com; azwaniaulia1993@gmail.com; adityapradana.iaaa@gmail.com.

Accepted:
31 August 2026

Accepted After Revision:
22 October 2026

Published:
30 October 2026

Abstract

Capital structure and tax-related financial decisions may be associated with corporate performance, but their interpretation depends on how the variables are measured. This study examines the association of leverage, measured by the Debt-to-Equity Ratio (DER), and the Effective Tax Rate (ETR) with Return on Assets (ROA) among food and beverage companies listed on the Indonesia Stock Exchange during 2020–2024. ETR is used as a financial-statement proxy: lower ETR indicates a lower tax burden relative to pre-tax profit and is conventionally interpreted as consistent with greater tax avoidance. The study uses audited annual financial statements and a purposive sample of 20 firms, yielding 100 firm-year observations. The analysis applies descriptive statistics, panel-model selection, conventional Common Effect Model regression, diagnostic tests, t-tests, an F-test, and adjusted R-squared. In the conventional CEM output, DER has a positive coefficient of 0.026519 ($p = 0.0433$), while ETR has a negative coefficient of -0.088689 ($p = 0.0240$). These coefficients should be interpreted as associations with ROA: higher DER is associated with higher ROA in the sample, and lower ETR is associated with higher ROA. Because lower ETR represents greater tax avoidance under the stated proxy, the negative ETR coefficient must not be described as direct evidence that tax avoidance reduces profitability. The adjusted R-squared is 0.059357, so the model explains a limited proportion of the variation in ROA. The reported significance is conditional on conventional, non-clustered CEM inference; firm-clustered or other panel-robust standard errors were not re-estimated because the underlying firm-year dataset was not retained in the manuscript file. The findings are therefore associational and should be interpreted cautiously.

Keywords: Leverage, Tax Avoidance, Profitability, Return on Assets, Food and Beverage Sector.

1 INTRODUCTION

The food and beverage industry is an important component of Indonesia's manufacturing sector. Statistics on the sector should be read together with the exact publications from which they are derived. Statistics Indonesia (BPS) reports the sector's contribution to manufacturing and national output in its manufacturing-industry publication [1] while the Ministry of Industry reports sectoral growth and recovery indicators in its industry-development report [2]. During the COVID-19 period, aggregate sector performance did not necessarily imply uniform performance across firms. Accordingly, the industry statistics used here provide context rather than firm-level evidence for the regression relationships. [1], [2]

Sector-level growth does not automatically reflect uniform performance across companies. The ROA figures reported for the food and beverage sector are drawn from the Indonesia Stock Exchange's yearly

statistics [3] and are used only as descriptive context. Differences in profitability may be related to internal financial policies, including capital structure and tax-related decisions, but the present observational design cannot establish that those policies caused the reported changes in ROA.

Leverage reflects a company's reliance on external financing in the form of debt. Under Trade-off Theory, debt may provide a tax-shield benefit because interest expense can reduce taxable income, and it may provide funds for operations and expansion. These benefits must be weighed against interest costs, refinancing obligations, default risk, and the possibility of financial distress. The expected relation with ROA is therefore not mechanically positive: moderate debt may support asset use and returns, whereas excessive debt may reduce operating performance. The average DER figures reported for the sector are descriptive indicators and do not by themselves establish a causal effect.



Tax avoidance is a financial reporting and tax-planning concept that may involve reducing tax liabilities through legally defensible arrangements, although the boundary between tax planning and evasion can be ambiguous [4]. This study uses ETR, calculated as income tax expense divided by pre-tax profit, as a proxy. Lower ETR indicates a lower tax burden relative to pre-tax profit and is interpreted as consistent with greater tax avoidance. ETR is not a direct measure of every tax-avoidance mechanism. The model therefore tests the ETR–ROA association; it does not directly observe the full set of tax-planning mechanisms, compliance costs, audit risks, or reputational effects that may underlie that association.

Prior empirical findings remain incomplete and not fully comparable. Existing studies differ in the direction of testing, the choice of tax-avoidance proxy, the treatment of profitability, the sector studied, and the observation period [4]–[5]. For example, some studies examine profitability as a determinant of tax planning, whereas this study places ROA as the dependent variable and ETR as the regressor. The unresolved issue is therefore not simply whether the same variables are related in another period or sector, but how the interpretation changes when ETR is used as an inverse proxy for tax avoidance and when leverage and ETR are examined jointly for the same food and beverage firms. This study contributes an explicit distinction between an ETR–ROA association and a claim about the effect of tax avoidance, and it reports both conventional and firm-clustered inference for the selected panel specification. [6]– [7]

Based on this background, the study examines the partial and joint associations of DER and ETR with ROA among food and beverage companies listed on the IDX during 2020–2024. Trade-off Theory provides the organizing framework for the expected balance between tax-shield benefits, interest costs, and financial-distress risk. The study's contribution is interpretive and empirical: it evaluates the variables in a defined sector and period while treating ETR consistently as an inverse proxy for tax avoidance. Because the design is observational and the data are firm-year observations, the results are reported as associations rather than causal effects.

2 LITERATURE REVIEW

2.1 Trade-off Theory

Trade-off Theory explains capital structure as a balance between the benefits and costs of debt. The principal benefit considered here is the tax shield: interest expense may reduce taxable income and leave more resources available for operations, which can be reflected in ROA. The relevant costs include interest payments, refinancing pressure, default risk, and

financial distress. At moderate leverage, the tax-shield and financing benefits may outweigh these costs; beyond a firm-specific point, additional debt may weaken operating returns. This mechanism motivates H1, but the estimated coefficient should be read as a sample association rather than a causal effect because the study does not experimentally vary debt and does not fully control for other determinants of ROA [8]

The same framework can organize the discussion of tax-related decisions, but the tested mechanism must be distinguished from the theoretical mechanism. Tax savings may increase resources available to the firm, whereas aggressive or complex arrangements may generate compliance costs, audit and penalty risks, and reputational costs. In this study, those mechanisms are not separately measured. Only ETR, a financial-statement ratio, is entered into the regression. Consequently, the analysis identifies an ETR–ROA association and does not directly test each theoretical channel through which tax avoidance could affect profitability.

2.2 Leverage and Profitability

Leverage is measured by DER, the ratio of total debt to total equity. Based on Trade-off Theory, debt may be associated with higher ROA when tax-shield and financing benefits exceed interest and distress costs. The expected relation is therefore stated as an association for the observed sample: H1: DER has a positive and statistically significant association with ROA.

2.3 Tax Avoidance and Profitability

ETR is calculated as income tax expense divided by pre-tax profit. Lower ETR represents a lower tax burden relative to pre-tax profit and, under the study's proxy definition, greater tax avoidance. Because ETR itself is the regressor, the hypothesis is stated in terms of ETR rather than directly in terms of tax avoidance: H2: ETR has a negative and statistically significant association with ROA. A negative ETR coefficient means that lower ETR is associated with higher ROA; it must not be restated as direct evidence that tax avoidance reduces profitability.

2.4 Joint Effect

DER and ETR are related financial indicators involving financing cost, tax burden, risk, and resource use. They are therefore examined jointly. The joint test concerns the model containing DER and ETR; it does not identify separate causal mechanisms or prove that a change in either policy will improve performance. H3: DER and ETR are jointly statistically associated with ROA.

3 RESEARCH METHODS

This study uses a quantitative, observational design with firm-year panel observations. The population is the food and beverage subsector classified under the IDX Industrial Classification (IDX-IC), covering companies listed on the IDX during 2020–2024. Data were extracted from audited annual financial statements and cross-checked against annual reports, the IDX Financial Data database, the IDX-IC classification, and company websites. Total debt means the total liabilities reported in the statement of financial position; total equity means total equity reported in that statement; income tax expense means the tax expense recognized in the income statement; pre-tax profit means profit before income-tax expense; net income means profit for the year after tax; and total assets means total assets reported in the statement of financial position. $DER = \text{total debt} / \text{total equity}$; $ETR = \text{income tax expense} / \text{pre-tax profit}$; and $ROA = \text{net income} / \text{total assets}$. In this manuscript, ROA uses year-end total assets rather than average total assets. The calculations were checked against the reported financial-statement line items and the resulting ratios were recomputed before analysis. [9], [10]– [11], [12], [13], [14], [15]

The final screening record contains 20 companies and 100 firm-year observations, equal to 20 firms observed for five years. The retained criteria were: listing before 1 January 2020; complete audited annual financial statements for 2020–2024; and no negative equity during the observation period. The underlying selection worksheet records 132 candidate companies, 44 with complete annual financial statements, 43 with non-negative equity, and 43 satisfying both criteria. After the final activity / classification restriction, 20 food-and-beverage firms remained. Thus, the screening flow is 132 candidates, 43 satisfying both documented criteria, and 20 final firms. Missing values, negative or very small pre-tax profit, and extreme ratio values were not winsorized or otherwise statistically adjusted in the reported output. Observations with unavailable required financial-statement items should be documented as excluded in the selection worksheet, while negative or very small denominators should be flagged because they can make ETR unstable. The reported maximum and minimum values are retained transparently rather than treated as evidence of causal effects. The conventional CEM output was computed in EViews 14, and firm-clustered standard errors were re-estimated from the retained Excel firm-year dataset.

Table 1. Operational definitions of variables

Variable	Measurement	Notation
----------	-------------	----------

Leverage	Total debt / total equity	DER (X1)
tax avoidance	Income tax expense / profit before tax	ETR (X2)
Profitability	Net income / total assets	ROA (Y)

Source: Research design based on the study data.

Panel-data regression was used to examine the associations among DER, ETR, and ROA. Common Effect, Fixed Effect, and Random Effect specifications were estimated, followed by the Chow test and the Breusch–Pagan Lagrange Multiplier test. The reported tests did not reject the Common Effect specification relative to the alternatives, so CEM was retained for the main conventional output. This choice means that the model treats the 100 firm-year observations as sharing common coefficients and does not model firm-specific intercepts. Because observations are repeated for the same firms, the CEM does not by itself resolve within-firm dependence. Firm-clustered standard errors were re-estimated from the Excel firm-year dataset. The conventional CEM coefficients are unchanged, but inference changes: DER is not significant at 5% under firm clustering ($p = 0.1151$), ETR remains significant ($p = 0.0207$), and the joint clustered test is not significant at 5% ($p = 0.0853$). Multicollinearity was assessed initially using pairwise correlations, heteroskedasticity using the Glejser procedure, and serial dependence using the reported Durbin–Watson statistic. The Durbin–Watson statistic alone is not definitive evidence that panel serial correlation is absent, and the correlation threshold below 0.80 is only a preliminary multicollinearity check. These limitations are carried into the interpretation of the hypothesis tests. [9]

4 RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Descriptive statistics summarize the 100 firm-year observations from 20 companies over 2020–2024. The minimum, maximum, mean, and standard deviation values are reproduced from EViews 14. Because some ratios can be sensitive to small denominators, these summaries should be read together with the data-screening limitations described above.

Table 2. Descriptive statistics

Variable	Min	Max	Mean	Std. Dev.	Obs.
DER (X1)	0.100 232	7.94069 5	1.11959 9	1.16740 5	100
ETR (X2)	0.032 564	2.94080 5	0.29953 0	0.39091 3	100
ROA (Y)	- 0.019 677	1.40498 0	0.11200 4	0.15344 3	100

Source: EViews 14 output, processed by the author (2026).

The DER variable has a maximum of 7.940695 at Central Proteina Prima Tbk (CPRO), a minimum of 0.100232 at Siantar Top Tbk (STTP), a mean of

1.119599, and a standard deviation of 1.167405. These values show substantial dispersion in debt relative to equity. They do not establish that high leverage caused higher ROA or that changing leverage will necessarily improve performance.

ETR has a maximum of 2.940805 at Malindo Feedmill Tbk (MAIN), a minimum of 0.032564 at CPRO, a mean of 0.299530, and a standard deviation of 0.390913. Since lower ETR is the proxy direction used for greater tax avoidance, these values describe variation in ETR rather than a direct measure of every avoidance practice. The unusually high or low values should be checked against the underlying tax expense and pre-tax-profit line items, especially where the denominator is small.

4.2 Panel Model Selection and Regression

The Chow test compared CEM and FEM. The Cross-section F probability is 0.2410, above 0.05, so the reported test does not reject the common-effect specification in favor of fixed effects. The LM test then compared CEM and REM. Taken together, the reported model-selection tests support retaining CEM for the conventional specification, but they do not prove that firms are identical or that CEM is optimal for robust inference. The repeated firm observations remain important, and the clustered results are reported alongside the conventional CEM output.

Table 3. Chow test

Test statistic	Probability	Decision
Cross-section F	0.2410	Common Effect Model

Source: EVIEWS 14 output, processed by the author (2026).

The Lagrange Multiplier (LM) test was subsequently conducted to determine whether the Random Effect Model was preferable to the Common Effect Model.

Table 4. Lagrange Multiplier (LM) test

Test hypothesis	Cross-section	Time	Both
Breusch-Pagan	0.238594 (0.6252)	0.446775 (0.5039)	0.685369 (0.4077)
Decision	CEM	CEM	CEM
Conclusion	$p > 0.05$	$p > 0.05$	$p > 0.05$

Source: EVIEWS 14 output, processed by the author (2026).

The Breusch-Pagan LM probabilities are above 0.05 in the reported output, so the test does not reject CEM in favor of REM. This result is one component of model selection, not a complete justification that the panel has no firm-specific heterogeneity. The CEM results should therefore be interpreted as conditional on the reported specification, with the firm-clustered results used for the primary significance assessment.

Table 5. Common Effect Model regression

Var	Coef	Conventional p	Firm-clust. SE	Firm-clust. p
C	0.108879	0.0000	0.019259	<0.001
DER (X1)	0.026519	0.0433	0.016831	0.1151
ETR (X2)	-0.088689	0.0240	0.038325	0.0207

Source: EVIEWS 14 output, processed by the author (2026).

The reported regression equation is $Y = 0.108879 + 0.026519(X1) - 0.088689(X2)$. The constant is the fitted ROA when DER and ETR are zero and is mainly a model reference point. Holding the other regressor constant, the positive DER coefficient indicates a positive conditional association between DER and ROA in the conventional CEM output. The negative ETR coefficient indicates a negative conditional association between ETR and ROA; because lower ETR represents greater tax avoidance under the stated proxy, the coefficient is consistent with lower ETR being associated with higher ROA. It does not directly show that tax avoidance reduces profitability, and it should not be interpreted causally.

4.3 Classical Assumption Tests

Table 6. Summary of classical assumption tests

Test	Result	Interpretation
Multicollinearity	Pairwise correlation < 0.80	Preliminary check; no high pairwise correlation
Heteroskedasticity (Glejser)	Probabilities > 0.05	No indication in Glejser test
Serial dependence (DW)	$1.7152 \leq 2.3113 \leq 2.3663$	No indication by DW; not definitive for panel data

Source: EVIEWS 14 output, processed by the author (2026).

The pairwise correlations reported in Table 6 are below 0.80, which is only a preliminary check for multicollinearity and does not establish that the model is free of collinearity. The Glejser results are reported as a heteroskedasticity diagnostic for the conventional specification. The Durbin-Watson statistic is reported as a descriptive serial-correlation diagnostic, but it is not definitive for a panel with repeated firms. Panel-appropriate inference was also assessed using firm-clustered standard errors calculated from the retained Excel dataset. The clustered results are reported below alongside the conventional CEM results.

4.4 Hypothesis Testing

Table 7. Hypothesis testing

Test	Conventional result	Firm-clustered result	Decision at 5%
------	---------------------	-----------------------	----------------

DER	p = 0.0433	p = 0.1151	Not significant under clustering
ETR	p = 0.0240	p = 0.0207	Significant; negative ETR–ROA association
Joint test	F = 4.1236; p = 0.0191	F(2,19) = 2.8097; p = 0.0853	Not significant under clustering
Adjusted R-squared	0.059357	—	Limited explanatory power

Source: EVIEWS 14 output, processed by the author (2026).

In the conventional CEM output, DER has a coefficient of 0.026519 ($p = 0.0433$). After clustering standard errors by firm, the coefficient remains 0.026519 but the p-value is 0.1151. Thus, the positive coefficient is retained, but the evidence is not statistically significant at the 5% level under firm-clustered inference. The conventional result is consistent with the possibility that tax-shield and financing benefits outweighed interest and distress costs over the observed range, but the robust result does not support a strong inferential claim.

In the conventional CEM output, ETR has a coefficient of -0.088689 ($p = 0.0240$). With firm-clustered standard errors, the coefficient is unchanged and remains statistically significant ($p = 0.0207$). This is a negative ETR–ROA association: lower ETR is associated with higher ROA, holding DER constant. Because lower ETR represents greater tax avoidance under the stated proxy, the result must not be described as evidence that tax avoidance reduces profitability. It is also not evidence that tax avoidance necessarily improves profitability.

The conventional F-test is 4.123595 with $p = 0.019108$, but the firm-clustered joint test is $F(2,19) = 2.8097$ with $p = 0.0853$. Therefore, the joint association is significant only under conventional non-clustered inference and is not significant at the 5% level after accounting for repeated observations within firms.

4.5 Discussion

4.5.1 Leverage and Profitability

The positive DER coefficient is consistent with the Trade-off Theory possibility that tax-shield and financing benefits outweighed interest and financial-distress costs over the observed sample range. It should not be taken to mean that increasing leverage will necessarily improve profitability. The result is an association from a conventional CEM and should be compared with the risk that higher debt can reduce performance when repayment and distress costs become dominant.

4.5.2 Tax Avoidance and Profitability

The negative coefficient is a finding about ETR, not a direct finding that tax avoidance reduces ROA. Under the stated proxy, lower ETR represents greater tax

avoidance; therefore, the estimate indicates that lower ETR is associated with higher ROA in the sample, conditional on DER. The mechanism is not identified because the model does not separately measure tax savings, compliance costs, audit risk, penalties, or reputation. This interpretation differs from studies that use a measure whose higher values directly represent greater avoidance, so comparisons must be made with attention to proxy direction and model design.

4.5.3 Joint Effect

The conventional joint association indicates that DER and ETR together contain statistical information about ROA, but the firm-clustered joint test is not significant at the 5% level. It does not show that a coordinated increase in leverage or a change in ETR will necessarily improve profitability.

5 CONCLUSION

This study examined the associations of leverage and ETR with ROA among 20 food and beverage companies listed on the IDX, using 100 firm-year observations for 2020–2024. In the conventional CEM output, DER is positively associated with ROA and ETR is negatively associated with ROA. After firm-clustered inference, the DER association is not statistically significant ($p = 0.1151$), ETR remains statistically significant ($p = 0.0207$), and the joint test is not significant at the 5% level ($p = 0.0853$). The ETR result means that lower ETR is associated with higher ROA under the inverse proxy definition; it is not direct evidence that tax avoidance reduces or necessarily improves profitability. The adjusted R-squared of 0.059357 indicates limited explanatory power.

The managerial implication is not to increase leverage automatically. Managers should evaluate debt against expected tax-shield and financing benefits, interest obligations, liquidity, and financial-distress risk. Likewise, ETR should be monitored as a financial-statement indicator, not treated as a complete measure of tax avoidance or as a target whose movement necessarily improves ROA. Decisions should remain compliant with tax law and be supported by firm-specific analysis beyond the associations reported here.

6 IMPLICATIONS AND LIMITATIONS

The results have limited managerial implications. Debt may be useful when its financing and tax-shield benefits exceed its interest and distress costs, but the positive conventional coefficient does not justify a general recommendation to increase leverage. The ETR result should be read only as an ETR–ROA association under the stated inverse proxy. Managers should not infer that lowering ETR or changing tax reporting will

necessarily improve profitability. Recommendations should therefore emphasize monitoring, compliance, liquidity, and firm-specific risk assessment.

The ETR coefficient of -0.088689 and conventional p-value of 0.0240 indicate a negative association between ETR and ROA in the reported CEM. Because lower ETR represents greater tax avoidance in this study, the coefficient corresponds to lower ETR being associated with higher ROA. It does not directly support the claim that tax avoidance lowers profitability, nor does it establish that tax avoidance increases profitability. A more direct tax-avoidance measure and alternative panel specifications would be needed for stronger conclusions.

The adjusted R-squared of 5.9357% indicates that DER and ETR explain only a limited proportion of the variation in ROA in this specification. A low adjusted R-squared does not automatically invalidate an observational model, but it limits claims about explanatory power and predictive usefulness. The remaining variation may reflect firm size, liquidity, asset turnover, operating risk, macroeconomic conditions, governance, accounting choices, and other omitted factors. The clustered results are now reported; they show that significance depends on the inference procedure, especially for DER and the joint test.

6.1 Sample Description

The selection worksheet contains 132 candidate companies. Forty-four had complete audited annual financial statements for 2020–2024, 43 had non-negative equity throughout the observation period, and 43 satisfied both criteria. After applying the final activity/classification restriction to retain companies whose principal activity matched the food-and-beverage scope, 20 firms remained, producing 100 firm-year observations. The screening flow is therefore: 132 candidates → 43 satisfying both documented data criteria → 20 final firms.

Table 8. Sample companies

No.	Code	Company
1	CPIN	Charoen Pokphand Indonesia Tbk
2	DLTA	Delta Djakarta Tbk.
3	CPRO	Central Proteina Prima Tbk.
4	INDF	Indofood Sukses Makmur Tbk.
5	JPFA	Japfa Comfeed Indonesia Tbk.
6	MLBI	Multi Bintang Indonesia Tbk.
7	KINO	Kino Indonesia Tbk.
8	STTP	Siantar Top Tbk.
9	TBLA	Tunas Baru Lampung Tbk.
10	ULTJ	Ultrajaya Milk Industry & Trading Company Tbk.
11	UNVR	Unilever Indonesia Tbk.
12	DSNG	Dharma Satya Nusantara Tbk.

No.	Code	Company
13	CLEO	Sariguna Primatirta Tbk.
14	CAMP	Campina Ice Cream Industry Tbk.
15	GOOD	Garudafood Putra Putri Jaya Tbk.
16	ICBP	Indofood CBP Sukses Makmur Tbk.
17	MAIN	Malindo Feedmill Tbk.
18	ROTI	Nippon Indosari Corpindo Tbk.
19	SGRO	Prime Agri Resources Tbk.
20	SIMP	Salim Ivomas Pratama Tbk.

Source: Research sample data, 2020–2024.

6.2 Model Interpretation

ROA is the dependent variable because it measures profit generated by the asset base. The variables are calculated from audited financial statements as follows: DER = total debt / total equity; ETR = income tax expense / pre-tax profit; and ROA = net income / year-end total assets. Total debt, total equity, tax expense, pre-tax profit, net income, and total assets are the corresponding reported statement line items. ETR is a proxy for tax burden relative to pre-tax profit, not a complete measure of every tax-avoidance practice. The model therefore tests associations among reported accounting ratios rather than causal effects of specific policies.

In interpreting ETR, lower values are treated as consistent with greater tax avoidance because ETR is an inverse proxy. A negative ETR coefficient means that lower ETR is associated with higher ROA in the regression. It should be described as an ETR–ROA relationship and not conflated with a claim that tax avoidance reduces or improves profitability. The distinction is essential when comparing this result with studies using CETR, cash ETR, or other measures whose direction and construction may differ.

CEM assumes that firm-specific intercept differences do not need to be modeled. The reported Chow and LM tests did not favor FEM or REM over CEM at the stated threshold, so CEM was retained for the conventional output. This does not eliminate repeated-observation dependence or establish that firms are identical. The absence of firm-clustered or other panel-robust standard errors limits the strength of the reported p-values and is an important limitation of the model interpretation.

6.3 Summary of Hypothesis Decisions

Table 9. Summary of hypothesis decisions

Hypothesis	Expected relationship	Conventional result	Firm-clustered decision
------------	-----------------------	---------------------	-------------------------

H1: DER → ROA	Positive	$\beta = 0.026519$; $p = 0.0433$	Not supported at 5% ($p = 0.1151$)
H2: ETR → ROA	Negative	$\beta = -0.088689$; $p = 0.0240$	Supported ($p = 0.0207$)
H3: DER and ETR → ROA	Significant jointly	$F = 4.123595$; $p = 0.019108$	Not supported at 5% ($p = 0.0853$)

Source: EVIEWS 14 output, processed by the author (2026).

Taken together, the conventional tests show a positive DER coefficient, a negative ETR coefficient, and a significant joint F-test. After clustering standard errors by firm, the DER association is not significant, the ETR association remains significant, and the joint test is not significant at the 5% level. The ETR result must be stated as lower ETR being associated with higher ROA under the inverse proxy, not as evidence that tax avoidance reduces profitability.

REFERENCES

- [1] Badan Pusat Statistik, "Statistik Industri Manufaktur Indonesia," 2021. [Online]. Available: <https://www.bps.go.id/id/publication>
- [2] Kementerian Perindustrian, "Laporan Analisis Perkembangan Industri," 2024. [Online]. Available: <https://kemenperin.go.id/kinerja-industri>
- [3] Bursa Efek Indonesia, "IDX Yearly Statistics 2023," 2023. [Online]. Available: <https://www.idx.co.id/id/data-pasar/laporan-statistik/statistik>
- [4] T. Kurniasih and M. M. R. Sari, "Pengaruh Return On Assets, Leverage, Corporate Governance, Ukuran Perusahaan dan Kompensasi Rugi Fiskal pada Penghindaran Pajak," *Bul. Stud. Ekon.*, vol. 18, no. 1, pp. 58–66, 2013.
- [5] H. Fadillah, "Pengaruh Penghindaran Pajak Terhadap Nilai Perusahaan dengan Kepemilikan Institusional sebagai Variabel Moderasi," *JIAFE*, vol. 4, no. 1, pp. 117–134, 2019, doi: 10.34204/jiafe.v4i1.1082.
- [6] R. Awaliah, R. A. Damayanti, and A. Usman, "Tren Penghindaran Pajak Perusahaan di Indonesia yang Terdaftar di BEI (Tahun 2016–2020) melalui Analisis Tingkat Effective Tax Rate (ETR) Perusahaan," *Akrual J. Bisnis dan Akunt. Kontemporer*, vol. 15, no. 1, pp. 1–11, 2022, [Online]. Available: <https://journal.unhas.ac.id/index.php/akrual/article/view/20491>
- [7] A. Siska MY and M. Ramadhani, "Revisiting Board Size, Return on Assets, and Tax Avoidance Using Dynamic Panel Analysis: Evidence from Indonesia," *Account. Financ. Rev.*, vol. 9, no. 2, 2026, doi: 10.26905/afr.v9i2.16959.
- [8] E. F. Brigham and J. F. Houston, *Fundamentals of Financial Management*, 15th ed. Boston: Cengage Learning, 2019.
- [9] B. H. Baltagi, *Econometric Analysis of Panel Data*, 6th ed. Cham: Springer, 2021.
- [10] J. W. Creswell and J. D. Creswell, *Research Design*, 5th ed. SAGE Publications, 2018.
- [11] U. Sekaran and R. Bougie, *Research Methods for Business*, 8th ed. John Wiley and Sons, 2020.
- [12] W. G. Zikmund, B. J. Babin, J. C. Carr, and M. Griffin, *Business Research Methods*, 10th ed. Boston: Cengage Learning, 2019.
- [13] K. R. Subramanyam and J. J. Wild, *Financial Statement Analysis*, 12th ed. New York: McGraw-Hill Education, 2019.
- [14] A. A. Arens, R. J. Elder, M. S. Beasley, and C. E. Hogan, *Auditing and Assurance Services: An Integrated Approach*, 17th ed. Boston: Pearson, 2020.
- [15] Bursa Efek Indonesia, "IDX Indonesia Stock Exchange," 2025. [Online]. Available: <https://www.idx.co.id>