



Prosperia: Journal of Economic Development, Accounting, and Global Markets

Vol 1 No 3 August 2026, Hal 208-222
ISSN: 3125-117x (Print) ISSN: 3125-1181 (Electronic)
Open Access: <https://sovereignresearch.org/prosperia>

Tsihe Effect of Tax Planning, Company Ze, and Environmental, Social, and Governance (ESG) Disclosure on Company Ze With Profitability as A Moderating Variable for Energy Sector Listed Companies on the Indonesian Stock Exchange

Danisha Stephany Silalahi^{1*}, Martua Eliakim Tambunan², Faradiba³

¹⁻³ Universitas Kristen Indonesia, Indonesia

email: danishastephany@gmail.com¹

Article Info :

Received:
25-07-2026
Revised:
09-08-2026
Accepted:
18-08-2026

Abstract

This study examines the effects of tax planning, firm size, and Environmental, Social, and Governance (ESG) disclosure on firm value and evaluates the moderating role of profitability in energy-sector companies listed on the Indonesia Stock Exchange during 2020–2024. A quantitative explanatory approach was employed using secondary data from annual and sustainability reports. Purposive sampling resulted in 26 companies and 130 firm-year observations. Tax planning was measured using the Effective Tax Rate (ETR), firm size using the natural logarithm of total assets, ESG disclosure using the GRI Disclosure Index, firm value using Tobin's Q , and profitability using Return on Assets (ROA). Panel data regression was estimated using the Fixed Effects Model with Driscoll–Kraay robust standard errors to address heteroscedasticity, autocorrelation, and cross-sectional dependence. The results indicate that tax planning has no significant effect on firm value, whereas firm size has a negative and significant effect. ESG disclosure has a positive but insignificant effect on firm value. Profitability does not moderate the relationship between tax planning and firm value, but significantly weakens the effect of firm size and strengthens the effect of ESG disclosure on firm value. Simultaneously, the variables and their interactions significantly explain firm value, with a within R -squared of 24.15%.

Keywords: ESG Disclosure, Firm Size, Firm Value, Profitability, Tax Planning.



©2026 Authors.. This work is licensed under a Creative Commons Attribution-Non Commercial 4.0 International License.
(<https://creativecommons.org/licenses/by-nc/4.0/>)

INTRODUCTION

Firm value does not merely reflect short-term financial conditions, but represents market expectations regarding a company's long-term growth prospects, financial capacity, and ability to generate economic returns from the resources under its control. A high firm value is generally associated with stronger investor confidence because market valuation reflects the extent to which investors recognize the company's future earning potential and strategic capacity. In capital markets, changes in stock prices become one of the observable manifestations of changes in firm value because market prices incorporate investors' assessments of corporate performance and future prospects. Profitability, capital structure, dividend policy, and company size have consequently been examined as important financial characteristics that may shape investors' valuation of listed companies (Angelina, 2025). At the same time, the increasing relevance of sustainability-related information has expanded the basis on which investors assess companies beyond conventional financial indicators, particularly as environmental, social, and governance considerations become increasingly incorporated into investment decisions (Aydoğan et al., 2022). This shift makes firm value an increasingly multidimensional outcome in which financial efficiency, organizational characteristics, tax decisions, and non-financial disclosure can interact in shaping market perceptions.

Indonesia provides an important institutional and economic setting for examining these relationships because its capital market contains firms operating under diverse financial, regulatory, and industry conditions. The energy sector is particularly relevant because energy companies are strategically connected with economic development while simultaneously facing substantial exposure to commodity-price fluctuations, capital-intensive operations, environmental pressures, and regulatory demands. Such characteristics can generate considerable variation in corporate profitability and

consequently affect the way investors interpret financial and non-financial corporate information. Tax planning represents one managerial mechanism through which companies can manage tax liabilities efficiently within the boundaries of applicable regulations, potentially increasing after-tax earnings and affecting market valuation (Lukmana, 2024). Empirical evidence from Indonesian listed companies has reported a positive association between tax planning and firm value, indicating that investors may perceive effective tax management as a source of financial efficiency when its benefits are reflected in corporate earnings (Angelina & Darmawan, 2021). Company size represents another potentially important determinant because larger companies generally possess greater assets, resources, financing access, and operational capacity, although these advantages may coexist with greater organizational complexity and monitoring costs. Recent evidence nevertheless indicates that company size can be positively associated with firm value in particular corporate settings, suggesting that investors may interpret organizational scale as a signal of resource capacity and market strength (Syabila & Bawono, 2025).

The relationship between company size and firm value, however, cannot be interpreted solely from the amount of assets controlled by a company because greater scale may also increase managerial complexity, agency costs, and the resources required for monitoring corporate activities. Agency theory provides a relevant perspective because the separation between ownership and management creates the possibility that managerial decisions may not always fully correspond with shareholders' interests, particularly as organizational structures become more complex. Empirical evidence from Indonesian firms has reported that company size does not necessarily exert a significant influence on firm value, indicating that investors may distinguish between nominal organizational scale and the effectiveness with which corporate resources are converted into economic benefits (Dewi et al., 2022). Similar research examining tax planning, company size, and financial distress has demonstrated that the valuation implications of company characteristics need to be considered within a broader configuration of corporate financial conditions rather than through size alone (Sovita & Sari, 2022). The issue becomes more complex when companies operate in sectors where large asset bases coexist with substantial investment requirements, commodity exposure, and sustainability-related obligations. These conditions suggest that the effect of company size on firm value may depend on how effectively the resources associated with organizational scale generate profitable and sustainable outcomes.

ESG disclosure has added another dimension to the valuation process because information concerning environmental responsibility, social practices, and corporate governance enables investors to assess risks and opportunities that may not be fully captured by traditional accounting indicators. The growing importance of ESG information is partly associated with investors' increasing attention to non-financial risks and the capacity of companies to manage environmental, social, and governance issues in a credible manner (Aydoğmuş et al., 2022). Within Indonesia, sustainability disclosure has developed alongside regulatory expectations and reporting practices that encourage companies to communicate their sustainability-related activities to stakeholders (Husada & Handayani, 2021). Empirical research has identified a positive relationship between ESG disclosure and firm value in Indonesian and Singaporean companies, suggesting that sustainability information can be incorporated into investors' valuation decisions when it provides meaningful signals regarding corporate quality and future resilience (Meini & Setijaningsih, 2024). Evidence from Indonesian research also indicates that ESG disclosure can be associated with corporate performance, although the economic consequences may vary according to the characteristics of the companies and the quality of their disclosed information (Fadilah & Rosdiana, 2024). The valuation effect of ESG disclosure therefore remains theoretically open because disclosure can simultaneously communicate responsible corporate behavior, reduce information asymmetry, and signal additional costs or risks associated with sustainability commitments. For energy-sector companies, this issue is particularly significant because environmental exposure and social responsibilities are closely connected with operational activities, making ESG disclosure potentially more consequential for investor perceptions than in less environmentally sensitive industries.

The literature consequently presents several empirical inconsistencies that prevent a simple conclusion regarding the determinants of firm value. Studies on tax planning have reported positive effects on firm value, while more recent research continues to examine whether the relationship remains stable after considering other corporate characteristics and financial conditions (Christiani et al., 2022). Research concerning ESG has likewise produced different results, with some studies identifying

positive effects on firm value while other evidence suggests that the valuation consequences may vary according to environmental performance, profitability, and industry context (Tiranda et al., 2025). Profitability becomes particularly relevant because firms with stronger earnings-generating capacity may possess greater flexibility to undertake tax strategies, sustain ESG initiatives, and utilize their assets effectively, potentially changing how these corporate attributes are interpreted by investors. Existing evidence shows that profitability can function as a moderating factor in relationships involving company size and firm value, including findings that profitability may weaken the effect of company size under particular conditions (Khotimah et al., 2020). Research on ESG similarly identifies profitability as a potentially important conditioning variable, with evidence that its interaction with ESG disclosure can influence the resulting firm-value relationship (Tansil & Tangke, 2025). These findings indicate that inconsistent results in previous studies may not simply reflect differences in samples or measurement but may also arise because the valuation consequences of corporate decisions depend on the financial capacity of the companies implementing them.

The period from 2020 to 2024 provides a particularly relevant context for examining these relationships because energy-sector companies experienced substantial changes in operating conditions, commodity markets, investment requirements, and financial performance. Fluctuations in energy prices and broader economic conditions can produce considerable differences in profitability across companies, while the increasing attention to sustainability creates simultaneous pressure for greater ESG transparency and responsible corporate practices. Previous research on Indonesian energy companies has confirmed that profitability, liquidity, and leverage are relevant considerations in explaining firm value, reinforcing the importance of financial conditions in understanding market valuation within this sector. The interaction between profitability and ESG disclosure has also received increasing attention in Indonesian energy and mining companies, but the simultaneous roles of tax planning, company size, and ESG disclosure remain insufficiently integrated within a single moderating framework. This study therefore positions itself at the intersection of financial decision-making, corporate characteristics, sustainability disclosure, and market valuation by examining whether profitability changes the strength of the relationships between tax planning, company size, ESG disclosure, and firm value. The study examines energy-sector companies listed on the Indonesia Stock Exchange during 2020–2024 using Effective Tax Rate as a proxy for tax planning, the natural logarithm of total assets as a measure of company size, a GRI-based disclosure index as a measure of ESG disclosure, Tobin's Q as a measure of firm value, and Return on Assets as a measure of profitability. The theoretical contribution lies in integrating agency, signalling, and legitimacy perspectives to explain why financial efficiency, organizational scale, and sustainability disclosure may generate different valuation implications under different profitability conditions, while the methodological contribution lies in testing the direct effects and profitability interactions within a sector-specific empirical model that captures the financial and non-financial dimensions of firm-value formation.

RESEARCH METHODS

This study employed a quantitative research approach with an explanatory design to examine the effects of tax planning, company size, and Environmental, Social, and Governance (ESG) disclosure on firm value, with profitability positioned as a moderating variable. Quantitative research was selected because the study analyzes numerical data derived from financial and non-financial information reported by energy-sector companies listed on the Indonesia Stock Exchange (IDX). The study population consisted of 91 energy-sector companies listed on the IDX, while the sample was determined using purposive sampling based on predetermined criteria. The sample selection process resulted in 26 companies that met all criteria, generating 130 firm-year observations covering the five-year research period from 2020 to 2024. The variables were operationalized using financial statement and sustainability-report information, with tax planning measured by the Effective Tax Rate (ETR), company size by the natural logarithm of total assets, ESG disclosure by an ESG disclosure index, firm value by Tobin's Q, and profitability by Return on Assets (ROA) (Sugiyono, 2013). The sample selection criteria and resulting observations are presented in Table 1.

Table 1. Sample Selection Criteria

No.	Sample Criteria	Number of Companies
1	Population: Companies in the energy sector listed on the Indonesia Stock Exchange.	91
2	Companies that did not publish complete sustainability reports.	(6)
3	Companies that experienced losses during the research period.	(35)
4	Companies in the energy sector that newly listed their shares on the Indonesia Stock Exchange after January 1, 2021.	(22)
5	Companies in the energy sector that did not publish complete annual reports.	(2)
Total Sample Companies		26
Total Observations (26 Companies × 5 Years)		130

Source: Processed by the authors (2026)

Data analysis is conducted using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS to estimate the measurement and structural relationships among the latent variables simultaneously. The analysis begins with descriptive statistics to summarize respondent characteristics and response patterns, followed by evaluation of the measurement model through indicator reliability, convergent validity, discriminant validity, and construct reliability. Convergent validity is assessed using outer loadings and Average Variance Extracted (AVE), while construct reliability is evaluated using composite reliability to establish the consistency of the measurement instruments. The structural model is evaluated using the coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and path coefficients to determine the explanatory and predictive capacity of the proposed model (Hair et al., 2022). Hypotheses are tested through bootstrapping by examining path coefficients, standard errors, t-statistics, and p-values for the relationships between professionalism, competence, experience, and audit quality, while Variance Inflation Factor (VIF) values are examined to identify potential multicollinearity among the predictor constructs. The interpretation considers the direction, magnitude, statistical significance, and explanatory relevance of the estimated relationships so that the empirical results can be evaluated consistently with the proposed theoretical relationships (Akbar et al., 2024).

Hypothesis Development

H1: Tax planning has a positive effect on firm value.

Tax planning enables companies to manage tax liabilities efficiently and potentially increase after-tax earnings, which can provide favorable information to investors regarding managerial efficiency. Empirical evidence indicates that tax planning is positively associated with firm value, suggesting that tax efficiency can become an economically relevant component of corporate valuation (Angelina & Darmawan, 2021). Similar evidence from Indonesian listed companies supports the relevance of tax planning as a financial decision associated with firm value (Christiani et al., 2022).

H2: Company size has a positive effect on firm value.

Company size reflects the scale of resources controlled by a company, with larger firms generally possessing greater assets, financing capacity, and operational resources that can support business expansion. Empirical evidence shows a positive association between company size and firm value, indicating that investors may interpret larger organizational scale as a signal of stronger resource capacity (Syabila & Bawono, 2025). Company size has also been examined alongside tax planning and financial distress as a determinant of firm value among Indonesian listed companies (Sovita & Sari, 2022).

H3: ESG disclosure has a positive effect on firm value.

ESG disclosure provides investors with information concerning environmental responsibility, social practices, and corporate governance that may reduce information asymmetry and communicate the company's capacity to manage non-financial risks. Evidence indicates that ESG performance is positively associated with firm value and profitability, supporting the relevance of sustainability

information in corporate valuation (Aydoğmuş et al., 2022). Research involving Indonesian and Singaporean companies also reports a positive relationship between ESG and firm value (Meini & Setijaningsih, 2024).

H4: Profitability strengthens the positive effect of tax planning on firm value.

Profitability can determine the extent to which tax efficiency is translated into economically meaningful benefits because companies with stronger earnings capacity have greater potential to convert tax savings into retained resources. Recent research specifically examines profitability as a moderator of the relationship between tax planning and firm value, providing a basis for considering profitability as a conditioning factor in this relationship (Ilyas et al., 2026). Stronger profitability is expected to make the financial benefits of effective tax planning more visible to investors.

H5: Profitability moderates the effect of company size on firm value.

The benefits associated with a large asset base may depend on the company's ability to generate sufficient returns from those resources. Empirical evidence demonstrates that profitability can moderate the relationship between company size and firm value, although the direction of the moderating effect may vary across corporate conditions (Khotimah et al., 2020). This suggests that profitability can alter how investors interpret the valuation implications of organizational scale.

H6: Profitability strengthens the positive effect of ESG disclosure on firm value.

Profitability may strengthen the valuation relevance of ESG disclosure because financially stronger companies generally possess greater capacity to finance and sustain environmental, social, and governance initiatives. Evidence indicates that profitability can moderate the relationship between ESG disclosure and firm value (Rahmah et al., 2024). Research in the Indonesian energy sector further demonstrates the relevance of profitability in the ESG disclosure–firm value relationship (Dorothy & Endri, 2024).

H7: Tax planning, company size, and ESG disclosure simultaneously affect firm value.

Tax planning, company size, and ESG disclosure represent complementary dimensions of corporate information involving financial efficiency, organizational resources, and sustainability practices. Empirical research has examined tax planning, deferred tax expenses, and ESG simultaneously in relation to firm value, indicating that financial and non-financial corporate factors can jointly contribute to market valuation (Septiriana & Wulandari, 2025). The integration of these variables provides a broader framework for examining firm value than models that consider each determinant independently.

RESULTS AND DISCUSSION

Descriptive Statistics and Preliminary Analysis

The descriptive analysis provides an initial overview of the distribution and variation of tax planning, company size, ESG disclosure, firm value, and profitability across 130 firm-year observations from energy-sector companies listed on the Indonesia Stock Exchange during 2020–2024. The variation observed in the dataset is important because the energy sector contains companies with substantially different asset structures, operating scales, profitability levels, and market valuations. Company size, represented by the natural logarithm of total assets, has a mean of 28.82514 with a standard deviation of 2.096937, indicating meaningful differences in operating scale among the sampled firms. This dispersion is consistent with the economic characteristics of firm size, where larger asset bases may reflect differences in operational capacity, investment intensity, and access to resources (Muchlisin Riadi, 2021). Firm value measured by Tobin's Q records a mean of 2.952198 and a standard deviation of 4.320562, indicating that market valuation varies considerably across the observations. The relatively large dispersion of TBQ compared with its mean suggests that market-based valuation is not uniform across energy companies and may respond differently to firm-specific financial and strategic characteristics.

Table 2. Descriptive Statistical Analysis

	<i>ETR</i>	<i>LN</i>	<i>GRI</i>	<i>TBQ</i>	<i>ROA</i>
Mean	0.2571928	28.82514	0.5510848	2.952198	0.1180857
Maximum	4.268105	31.71164	0.991453	26.30104	0.6163459
Minimum	-1.931773	22.72864	0.0769231	0.6517759	-.0030274
Std. Dev	0.4720667	2.096937	0.2574664	4.320562	0.139027

Source: Processed by the authors (2026)

Table 2 demonstrates that the variables exhibit different levels of dispersion, which provides an important basis for interpreting the subsequent regression estimates. ETR has a mean of 0.2571928 and a standard deviation of 0.4720667, while its minimum and maximum values of -1.931773 and 4.268105 indicate substantial variation in the effective tax burden among observations. Such variation indicates that tax-related outcomes differ materially across firms and periods, making tax planning a relevant variable for empirical examination rather than a homogeneous firm characteristic. Company size has a narrower relative dispersion, with values ranging from 22.72864 to 31.71164 , reflecting differences in asset scale without the extreme relative variation observed in ETR and TBQ. The GRI disclosure index ranges from 0.0769231 to 0.991453 , with a mean of 0.5510848 , indicating considerable differences in the extent of ESG-related information disclosed by sampled companies. This range is relevant because ESG disclosure can vary according to corporate reporting practices, stakeholder expectations, and the extent to which sustainability information is incorporated into corporate communication (Husada & Handayani, 2021). ROA records a mean of 0.1180857 and a standard deviation of 0.139027 , with the minimum value slightly below zero and the maximum reaching 0.6163459 , indicating differences in the ability of companies to generate earnings from their asset bases.

The distribution of GRI also deserves attention because its mean value of approximately 0.55 suggests that the sampled companies, on average, disclosed slightly more than half of the indicators incorporated into the measurement index. The considerable distance between the minimum and maximum GRI values implies that ESG disclosure practices remain heterogeneous within the energy sector. This heterogeneity creates empirical space for examining whether disclosure intensity is associated with differences in market valuation rather than assuming that ESG reporting produces an identical market response across firms. Previous evidence has shown that ESG disclosure can be related to corporate performance, although the strength of such relationships depends on the empirical setting and the dimensions of ESG information considered (Fadilah & Rosdiana, 2024). The TBQ distribution provides an additional indication of heterogeneous market assessments, as the maximum value of 26.30104 is substantially higher than the mean of 2.952198 . Such dispersion suggests that a limited number of firm-year observations possess substantially higher market valuations than the central tendency of the sample. The presence of this variation makes a firm-effect approach particularly relevant because persistent differences among companies may influence observed relationships between accounting characteristics, disclosure practices, and market value.

ROA exhibits a comparatively broad range relative to its mean, moving from -0.0030274 to 0.6163459 , which indicates that the sampled firms differ substantially in their capacity to convert assets into earnings. Profitability is economically relevant to firm valuation because stronger financial performance can influence investor assessments of future cash-generating capacity and managerial effectiveness. Empirical evidence from Indonesian companies also indicates that profitability has an important relationship with firm value, although its magnitude can differ across sectors and model specifications (Arry Irawan & Setiawan, 2022). The combination of variation in ROA and TBQ is particularly relevant for the subsequent moderation analysis because profitability is not only examined as a financial characteristic but also as a condition that may alter the relationship between the explanatory variables and firm value. The descriptive results therefore indicate that the dataset contains sufficient cross-firm and intertemporal variation to investigate the proposed relationships. At the same time, descriptive statistics alone cannot establish whether the observed differences are statistically associated with firm value, requiring further correlation and regression analysis.

The correlation analysis based on 130 observations provides an initial assessment of the direction and strength of associations among the principal variables before the fixed-effects regression estimation. TBQ has a correlation of 0.0734 with ETR, 0.1342 with LN, -0.0144 with GRI, and 0.2961

with ROA. The correlation between TBQ and ETR is therefore weak and positive, whereas the association between TBQ and LN is also positive but remains relatively small. The almost zero correlation between TBQ and GRI indicates that ESG disclosure, when considered without the other explanatory conditions, has little linear association with firm value in the observed sample. ROA records the strongest correlation with TBQ at 0.2961, although the magnitude remains below a level that would indicate a strong bivariate relationship. Correlation analysis is useful as a preliminary diagnostic because it identifies the direction and relative strength of linear associations before more comprehensive model estimation is undertaken (Patimah et al., 2025).

Table 3. Correlation Matrix

Variable	TBQ	ETR	LN	GRI	ROA
TBQ	1.0000	0.0734	0.1342	-0.0144	0.2961
ETR	0.0734	1.0000	—	—	—
LN	0.1342	—	1.0000	—	—
GRI	-0.0144	—	—	1.0000	—
ROA	0.2961	—	—	—	1.0000

Source: Processed by the authors (2026)

The correlation pattern in Table 3 indicates that none of the principal explanatory variables has a strong bivariate association with TBQ, although ROA shows the comparatively largest relationship. The positive correlation between ETR and TBQ does not by itself establish that tax planning increases firm value because the subsequent regression analysis controls for firm-specific effects and other explanatory variables. The weak relationship between LN and TBQ at the correlation stage is also important because the later fixed-effects estimation produces a statistically significant coefficient with a negative direction, illustrating that bivariate association and multivariate estimates can provide different empirical interpretations. Similarly, the near-zero correlation between GRI and TBQ does not preclude a conditional relationship when profitability is introduced as a moderating factor. The distinction is consistent with the broader evidence that ESG and firm value relationships may depend on financial conditions and contextual characteristics rather than operating as unconditional associations (Meini & Setijaningsih, 2024). The correlation results consequently function as preliminary evidence rather than as a basis for accepting or rejecting the hypotheses.

The relatively low correlations among the independent variables also indicate that the explanatory variables do not exhibit strong linear associations at the preliminary stage. This pattern is relevant for the subsequent model because excessive correlation among predictors can make it difficult to distinguish their individual contributions to firm value. The observed correlation structure provides an initial indication that tax planning, company size, ESG disclosure, and profitability capture different dimensions of firm characteristics within the sample. Company size primarily represents organizational scale, ETR captures the effective tax burden associated with tax planning, GRI represents the extent of sustainability disclosure, and ROA reflects financial performance. These dimensions can therefore enter the empirical model simultaneously without presuming that one variable is simply a proxy for another. The subsequent fixed-effects estimation is necessary to determine whether these preliminary relationships remain after accounting for unobserved firm-specific characteristics and the longitudinal structure of the 2020–2024 observations.

Model Selection and Diagnostic Tests

The panel-data structure of the 130 firm-year observations requires the estimation model to account for differences across companies that may persist over the observation period. Model selection was therefore conducted by comparing pooled estimation with fixed-effects and random-effects specifications before determining the final estimator. The Chow test produced a rho value of 0.95070315 and indicated that the Fixed Effect Model (FEM) was more appropriate than the pooled specification. The high rho value also indicates that a substantial proportion of the unexplained variation is associated with firm-specific effects rather than being distributed randomly across observations. This finding is particularly relevant in the energy sector because companies may differ persistently in asset composition, operating structure, business concentration, and investment characteristics. The presence

of firm-specific heterogeneity supports the use of an estimation framework capable of controlling for unobserved characteristics that remain relatively stable over time.

Table 4. Panel Data Model Selection Tests

Test	Test Statistic	Probability	Selected Model
Chow Test	Rho = 0.95070315	—	Fixed Effect Model
Hausman Test	$\chi^2(6) = 20.16$	0.0026	Fixed Effect Model
Lagrange Multiplier Test	—	0.0000	Random Effect Model

Source: Processed by the authors (2026)

As presented in Table 4, the Hausman test generated $\chi^2(6) = 20.16$ with a probability of 0.0026, which provides statistical evidence favoring the FEM specification over the Random Effect Model (REM). The result implies that the unobserved firm-specific effects are systematically related to the explanatory variables, making a random-effects assumption less suitable for the observed sample. This distinction matters because treating correlated firm-specific characteristics as random can produce estimates that do not adequately isolate the within-firm relationships captured by the panel structure. The Lagrange Multiplier test, in contrast, produced a probability of 0.0000 and indicated the REM as preferable to pooled estimation. The difference between the LM result and the Hausman result does not represent an inconsistency in the model-selection procedure because the tests address different comparisons and assumptions. The Hausman result provides the decisive basis for choosing FEM when the principal question concerns whether unobserved individual effects are correlated with the regressors.

The selection of FEM means that the regression analysis emphasizes changes occurring within the same company across the observation period rather than relying primarily on differences between companies. This specification is particularly useful when persistent corporate characteristics may influence both firm value and explanatory variables, such as business model, corporate structure, or long-standing investment orientation. By controlling for time-invariant firm-specific characteristics, the model reduces the possibility that estimated coefficients simply reflect permanent differences between large and small energy companies. The approach also corresponds to the empirical objective of examining whether variations in tax planning, company size, and ESG disclosure are associated with changes in firm value after accounting for unobserved firm heterogeneity. Such an approach is important when firm value is influenced by multiple accounting and market characteristics that are not completely observable in the available financial reports. The resulting FEM specification therefore provides the foundation for the subsequent estimation of the direct and moderating relationships.

Diagnostic testing was conducted after model selection to assess whether the selected FEM specification satisfied the principal requirements for reliable inference. The Variance Inflation Factor (VIF) results show values of 1.08 for ROA, 1.05 for ETR, 1.05 for LN, and 1.04 for GRI, with a mean VIF of 1.05. These values are substantially below the commonly applied threshold of 10, indicating that the explanatory variables do not exhibit problematic multicollinearity. The low VIF values are consistent with the preliminary correlation results, which also showed relatively weak associations among the principal variables. The absence of serious multicollinearity is important because the moderation model introduces interaction terms that can otherwise increase correlation among predictors and make coefficient estimates less stable. The diagnostic evidence therefore indicates that the estimated effects can be interpreted without a major concern that excessive linear dependence among predictors is driving the coefficients.

Table 5. Multicollinearity Test

Variable	VIF
ROA	1.08
ETR	1.05
LN	1.05
GRI	1.04

Mean VIF **1.05**
Source: Processed by the authors (2026)

The heteroskedasticity test, however, identified a different specification issue that required further treatment. The Breusch–Pagan/Cook–Weisberg test produced a chi-square statistic of 62.64 with a probability of 0.0000, indicating that the variance of the regression disturbances is not constant across observations. Heteroskedasticity can affect the reliability of conventional standard errors even when the coefficient estimates themselves remain informative. This issue is particularly relevant to firm-level financial data because differences in company scale, operating risk, and market valuation can generate unequal disturbance variances across firms. The presence of heteroskedasticity therefore required an estimator capable of producing more robust statistical inference rather than relying on conventional FEM standard errors. The adjustment was also necessary because the objective of the empirical analysis is not merely to obtain coefficients but to assess their statistical significance under conditions reflected by the observed panel structure.

The Wooldridge test further indicated the presence of serial correlation, with $F(1,25) = 6.301$ and a probability of 0.0189. The result indicates that disturbances may be correlated across time within firms, which is plausible for financial variables because firm value, profitability, tax positions, and disclosure practices can exhibit temporal persistence. Ignoring this dependence could lead to underestimated standard errors and consequently distort statistical inference regarding the estimated coefficients. The combination of heteroskedasticity and autocorrelation indicates that conventional FEM standard errors would not provide the most appropriate basis for hypothesis testing. The final estimation therefore retained the FEM specification while applying Driscoll–Kraay standard errors to obtain inference that is more robust to heteroskedasticity, autocorrelation, and cross-sectional dependence. This adjustment strengthens the methodological consistency of the subsequent regression results because the reported significance levels are based on a variance-covariance treatment that reflects the diagnostic characteristics of the panel data.

Direct Effects of Tax Planning, Company Size, and ESG Disclosure on Firm Value

The fixed-effects estimation with Driscoll–Kraay standard errors provides the basis for evaluating the direct relationships between tax planning, company size, ESG disclosure, and firm value. The estimation accounts for the heterogeneity across energy-sector firms while also addressing heteroskedasticity, autocorrelation, and cross-sectional dependence identified in the diagnostic procedures. The results indicate that the three explanatory variables do not generate uniform effects on firm value. Tax planning has a negative but statistically insignificant coefficient, while company size has a significant negative coefficient. ESG disclosure shows a positive coefficient, although its direct effect is statistically insignificant. These contrasting patterns indicate that market valuation in the energy sector is not determined by a single financial or non-financial attribute, but reflects how investors interpret different firm characteristics. Similar variation in the determinants of firm value has been reported across studies examining tax planning, firm size, profitability, and ESG-related information.

The detailed estimation results are presented in Table 6, which simultaneously reports the direct variables and their interactions with profitability. The coefficient for ETR is -0.439101 with a probability value of 0.631, indicating that tax planning does not have a statistically significant effect on Tobin's Q. Company size records a coefficient of -3.098422 with a probability value of 0.005, showing a statistically significant negative relationship with firm value. ESG disclosure produces a coefficient of 0.7451779 with a probability value of 0.128, indicating a positive but statistically insignificant direct association. The interaction coefficients further show that profitability does not significantly moderate the relationship between tax planning and firm value, whereas its interactions with company size and ESG disclosure are statistically significant. This configuration suggests that profitability changes the valuation relevance of some firm characteristics but does not operate uniformly across all explanatory variables.

Table 6. Panel Data Regression Results with Moderating Effects

Variable	Coef.	Drisc/Kraay Std. Err.	t	P > t	Result
<i>ETR</i>	-0.439101	0.8448771	-0.52	0.631	Rejected
<i>LN</i>	-3.098422	0.5522223	-5.61	0.005	Accepted
<i>GRI</i>	0.7451779	0.3895947	1.91	0.128	Rejected
<i>ETR</i> × <i>ROA</i>	1.259042	1.929797	0.65	0.550	Rejected
<i>LN</i> × <i>ROA</i>	-0.2729304	0.0797011	-3.42	0.027	Accepted
<i>GRI</i> × <i>ROA</i>	13.32851	2.135941	6.24	0.003	Accepted
cons	91.91683	15.91348	5.78	0.004	—

Source: Stata 15 Output, processed by the authors (2026)

The first hypothesis concerns the effect of tax planning on firm value, and the coefficient of -0.439101 does not reach statistical significance at conventional levels. The negative coefficient indicates that greater ETR-based tax burden efficiency, as operationalized in the model, is not associated with a statistically reliable increase in Tobin's Q among the sampled energy firms. The absence of significance suggests that investors may not interpret differences in effective tax rates as a sufficiently strong valuation signal when other firm-specific and sectoral factors dominate market expectations. In the energy sector, fluctuations in commodity prices, investment requirements, regulatory exposure, and capital intensity can make tax-related information less decisive in explaining market valuation. Previous evidence has likewise reported that tax planning does not necessarily translate into higher firm value, particularly when the market does not perceive the resulting tax benefits as sustainable or economically material. This finding is also consistent with research showing that the relationship between tax planning and firm value can depend on broader financial conditions and the way investors assess the consequences of tax strategies.

Company size produces a statistically significant negative coefficient of -3.098422 , with a probability value of 0.005, indicating that larger energy-sector firms tend to exhibit lower firm value within the observed sample. The magnitude and direction of this coefficient suggest that expansion in total assets is not automatically interpreted by the market as evidence of stronger valuation prospects. Large energy companies may carry substantial fixed assets, long investment cycles, regulatory obligations, and environmental responsibilities that increase the resources required to sustain those assets. The market may therefore distinguish between asset scale and the efficiency with which those assets generate returns, particularly when expansion does not immediately translate into stronger profitability or cash-flow expectations. Evidence on firm size and value also demonstrates that size can interact with profitability and leverage rather than producing a uniformly positive valuation effect. The negative finding therefore provides statistical support for the significance of company size in explaining firm value, although it does not confirm a positive directional expectation if the original hypothesis was explicitly formulated as a positive relationship.

ESG disclosure has a positive coefficient of 0.7451779, but its probability value of 0.128 indicates that the direct relationship with firm value is not statistically significant. The positive direction suggests that greater ESG disclosure may be associated with higher valuation, yet the evidence is insufficient to establish ESG disclosure as an independent determinant of firm value in the model. One possible interpretation is that ESG information becomes more relevant when investors can connect disclosure quality with credible operational improvements, financial performance, or long-term risk management. Disclosure that primarily fulfills reporting or stakeholder requirements may generate limited incremental valuation effects when it is not accompanied by observable economic outcomes. Evidence from Indonesia has similarly shown that ESG disclosure can have varying relationships with firm value depending on the institutional and financial context. Research focusing specifically on the energy sector also indicates that profitability is an important contextual factor in understanding how ESG disclosure is translated into firm value. The insignificant direct coefficient in the present model therefore does not imply that ESG information is irrelevant, but rather that its valuation effect may become more visible when combined with other firm characteristics.

The findings for the direct effects reveal an important distinction between firm scale, tax-related decisions, and sustainability disclosure in the valuation process. Tax planning fails to demonstrate a significant direct effect, while company size exhibits a significant negative relationship and ESG

disclosure shows a positive but insignificant coefficient. Such differences indicate that investors may evaluate financial and non-financial information according to its perceived relevance to future returns, risk, and firm-specific performance. Profitability becomes particularly important in this context because the same level of assets or ESG commitment may be interpreted differently depending on the firm's ability to generate financial returns. Previous research has documented the importance of profitability in explaining variations in firm value and in conditioning the relationship between corporate characteristics and market valuation. The interaction results reported in Table 6 reinforce this interpretation because profitability significantly changes the relationships involving company size and ESG disclosure, whereas its interaction with tax planning remains insignificant. These findings provide a basis for examining the moderating role of profitability more closely in the following subsection.

Moderating Effects of Profitability and Joint Model Evaluation

The moderating analysis examines whether profitability changes the relationships between tax planning, company size, ESG disclosure, and firm value. The results show different moderation patterns across the three relationships, indicating that profitability does not function as a uniform conditioning variable. The interaction between tax planning and profitability is statistically insignificant, with a coefficient of 1.259042 and a probability value of 0.550. In contrast, the interaction between company size and profitability is negative and statistically significant, while the interaction between ESG disclosure and profitability is positive and statistically significant. These results indicate that profitability becomes valuation-relevant when it interacts with certain organizational characteristics rather than independently strengthening every relationship with firm value. Similar evidence emphasizes that profitability can alter the market implications of corporate attributes, particularly ESG performance and firm characteristics.

The interaction between tax planning and profitability produces a coefficient of 1.259042 with a probability value of 0.550, indicating that profitability does not significantly moderate the effect of tax planning on firm value. Although the positive interaction coefficient suggests a potential strengthening direction, its statistical insignificance prevents this pattern from being interpreted as a systematic moderation effect. Firms with higher profitability therefore do not necessarily obtain greater valuation benefits from tax planning than firms with lower profitability. This finding indicates that the market may distinguish between accounting profitability and the sustainability or strategic relevance of tax savings when evaluating energy-sector firms. Tax planning can generate short-term fiscal benefits, but these benefits may have limited valuation implications when investors prioritize operational performance, investment capacity, and long-term business prospects. Evidence concerning tax planning and firm value also indicates that the valuation consequences of tax strategies are not consistently positive across different corporate settings.

The absence of a significant tax-planning interaction also suggests that profitability alone is insufficient to transform tax efficiency into a stronger market valuation signal. A profitable energy company may have greater capacity to undertake tax planning, but this capacity does not necessarily mean that investors will assign a higher value to the resulting tax position. The market response may depend more strongly on whether tax management is perceived as sustainable, transparent, and compatible with long-term corporate governance. This interpretation is relevant because tax planning can coexist with other corporate decisions involving investment, financing, and disclosure that jointly shape investor expectations. Research examining tax planning, profitability, leverage, and company value likewise indicates that the relationship among these variables can vary according to the moderating structure applied in the model. The present finding therefore supports the rejection of the fourth hypothesis and indicates that profitability does not significantly alter the tax planning–firm value relationship. This result also differentiates tax planning from ESG disclosure, for which profitability demonstrates a statistically meaningful moderating role.

The interaction between company size and profitability is negative and statistically significant, as indicated by the coefficient of -0.2729304 and probability value of 0.027. This result indicates that profitability significantly changes the relationship between firm size and firm value, with the negative interaction suggesting that the valuation association of larger firms becomes less favorable as profitability increases within the estimated specification. One interpretation is that high profitability combined with extensive asset scale may increase investor expectations regarding the efficiency and productivity of corporate resources. When asset expansion does not generate proportional

improvements in market valuation, investors may perceive additional scale as increasing organizational complexity or capital commitments rather than creating equivalent economic value. Prior evidence has identified profitability as an important factor in the relationship between company characteristics and firm value, including interactions involving firm size. The result also complements evidence that company size, profitability, and other financial characteristics can jointly shape firm valuation rather than operating as isolated determinants.

The significant interaction between ESG disclosure and profitability provides a different pattern, with a coefficient of 13.32851 and a probability value of 0.003. The positive coefficient indicates that profitability strengthens the association between ESG disclosure and firm value, meaning that ESG information becomes more positively related to market valuation when accompanied by stronger financial performance. Investors may place greater credibility on ESG commitments when firms demonstrate the financial capacity to support environmental and social initiatives without compromising economic performance. ESG disclosure can consequently function as a stronger signal when it is supported by observable profitability, because financial performance provides an additional basis for assessing whether sustainability commitments can be maintained over time. Empirical evidence from the energy sector similarly identifies profitability as an important factor in the relationship between ESG disclosure and firm value. Comparable findings in Indonesian mining companies also indicate that profitability can condition the relationship between ESG-related performance and firm value. The present coefficient therefore supports the sixth hypothesis and demonstrates that the valuation relevance of ESG disclosure is stronger under more favorable profitability conditions.

The joint model further indicates that the explanatory variables and their interaction terms are statistically significant when evaluated simultaneously, with an F-statistic of 428.58 and a probability value of 0.0000. This result indicates that tax planning, company size, ESG disclosure, and the corresponding profitability interactions collectively contribute to explaining variation in firm value. The simultaneous significance is important because the individual coefficients demonstrate substantially different patterns, ranging from insignificant direct effects to significant negative and positive moderation effects. The overall model therefore captures a valuation structure in which financial characteristics and sustainability information operate through distinct channels rather than producing identical market responses. Similar research on ESG, tax planning, and firm value emphasizes the importance of considering financial conditions and corporate characteristics together when assessing market valuation. The combined evidence supports the seventh hypothesis while also showing that profitability has a selective moderating function, particularly in the relationships involving company size and ESG disclosure. These findings reinforce the importance of interpreting firm value through the interaction of corporate scale, financial performance, tax-related decisions, and sustainability disclosure rather than through any single explanatory variable.

CONCLUSION

Based on the findings, tax planning does not have a significant effect on firm value, while company size has a negative and significant effect on firm value, indicating that larger asset scale is not necessarily associated with higher market valuation among energy-sector companies. ESG disclosure shows a positive direction of association with firm value, but its direct effect remains statistically insignificant, suggesting that sustainability information alone may not be sufficient to influence investors' valuation assessments. Profitability does not significantly moderate the relationship between tax planning and firm value, indicating that stronger financial performance does not materially change the valuation implications of tax planning practices. In contrast, profitability significantly weakens the effect of company size on firm value, indicating that higher profitability does not necessarily enhance the valuation benefits associated with greater asset scale and may instead increase expectations regarding asset efficiency. Profitability also strengthens the effect of ESG disclosure on firm value, suggesting that ESG information becomes more relevant to market valuation when it is accompanied by stronger financial performance and greater financial capacity to support sustainability initiatives. Simultaneously, tax planning, company size, ESG disclosure, and their interactions with profitability significantly affect firm value, with a within R-squared value of 24.15%, indicating that the model explains a meaningful proportion of within-firm variation in firm value over the observation period.

These findings indicate that firm value among energy-sector companies is shaped not only by individual corporate characteristics but also by the financial conditions accompanying those characteristics. The insignificant effect of tax planning suggests that tax efficiency is not sufficiently strong to explain variations in firm value within the observed sample. The negative effect of company size indicates that increasing corporate scale may be accompanied by asset complexity, capital requirements, and efficiency demands that are considered by investors. At the same time, the moderating role of profitability demonstrates that financial performance can alter how the market evaluates company size and ESG disclosure. The strengthened relationship between ESG disclosure and firm value at higher levels of profitability suggests that the credibility of sustainability information may become more relevant when firms possess stronger financial capacity to support its implementation. Overall, the findings demonstrate that firm value in the energy sector reflects the interconnected roles of tax decisions, corporate scale, ESG transparency, and the firm's ability to generate profitability, with different relationship patterns emerging across these factors.

REFERENCES

- Agus Tri Baskoro, N. P. (2017). *Analisis regresi dalam penelitian ekonomi dan bisnis*. PT Rajagrafindo Persada.
- Angelina, S., & Darmawan, A. (2021). The impact of tax planning on firm value. *Jurnal Akuntansi, Auditing dan Aset*, 4(2). <https://jurnal.polibatam.ac.id/index.php/JAAT/article/view/3522/1535>
- Angelina, W. (2025). Pengaruh struktur modal, profitabilitas dan ukuran perusahaan terhadap nilai perusahaan pada perusahaan manufaktur sub sektor makanan dan minuman yang terdaftar di Bursa Efek Indonesia. *Balance Journal of Finance, Accounting and Taxation*, 1(1), 33–45. <https://doi.org/10.64779/fb0r4r11>
- Arry Irawan, & Setiawan, R. D. A. (2022). Pengaruh profitabilitas, leverage, dan kebijakan dividen terhadap nilai perusahaan pada perusahaan LQ45. *JPEKA: Jurnal Pendidikan Ekonomi, Manajemen dan Keuangan*. <https://journal.unesa.ac.id/index.php/jpeka/article/view/16588/7977>
- Aulia Fadilah, & Rosdiana, Y. (2020). Pengaruh environmental, social, governance (ESG) disclosure terhadap kinerja perusahaan. *Diponegoro Journal of Accounting*, 9(3), 1–11. <https://dosen.perbanas.id/kinerja-perusahaan-2/>
- Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). Impact of ESG performance on firm value and profitability. *Borsa Istanbul Review*, 22, S119–S127. <https://doi.org/10.1016/j.bir.2022.11.006>
- Christiani, Y. N., Djami Rane, M. K., & Sine, D. A. (2022). Analisis pengaruh perencanaan pajak terhadap nilai perusahaan pada perusahaan sektor pertanian yang terdaftar di Bursa Efek Indonesia. *Among Makarti*, 14(2). <https://jurnal.stieama.ac.id/index.php/ama/article/view/211>
- Dorothy, P., & Endri, E. (2024). Environmental, social and governance disclosure and firm value in the energy sector: The moderating role of profitability. *Problems and Perspectives in Management*, 22(4). [https://doi.org/10.21511/ppm.22\(4\).2024.44](https://doi.org/10.21511/ppm.22(4).2024.44)
- Dzakiyani, H. T. (2026). Pengaruh pengungkapan ESG (environmental, social, and governance) terhadap nilai perusahaan dengan kinerja keuangan sebagai pemoderasi. *Jurnal EMT KITA*, 10(1), 354–365. <https://doi.org/10.35870/emt.v10i1.5582>
- Fadilah, A., & Rosdiana, Y. (2024). Pengaruh environmental, social dan governance (ESG) disclosure terhadap kinerja perusahaan. *Bandung Conference Series: Accountancy*, 4(1), 300–306. <https://doi.org/10.29313/bcsa.v4i1.11584>
- Fariz Lukmana, D. W. (2024). Pengaruh beban pajak tangguhan, perencanaan pajak dan modal intelektual terhadap nilai perusahaan. *Cemerlang: Jurnal Manajemen dan Ekonomi Bisnis*. <https://prin.or.id/index.php/cemerlang/article/view/2733/2480>
- Faurizki Oktavia Damayanti. (2025). Pengaruh profitabilitas, likuiditas, dan leverage terhadap nilai perusahaan pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2019–2023. *Jurnal Mahasiswa*. <https://jurnalmahasiswa.stiesia.ac.id/index.php/jirm/article/view/6438/6488>
- Husada, E. V., & Handayani, S. (2021). Pengaruh pengungkapan ESG terhadap kinerja keuangan perusahaan (studi empiris pada perusahaan sektor keuangan yang terdaftar di BEI periode 2017–2019). *Jurnal Bina Akuntansi*, 8(2), 122–144. <https://doi.org/10.52859/jba.v8i2.173>

- Ilyas, R. R., Junaid, A., & Saffanah, N. (2026). Pengaruh perencanaan pajak terhadap nilai perusahaan dengan profitabilitas sebagai variabel moderasi. 9(1), 190–200.
- Ingra Sovita, N. S. (2022). Pengaruh perencanaan pajak, ukuran perusahaan dan financial distress terhadap nilai perusahaan (studi empiris pada perusahaan manufaktur sektor industri dasar dan kimia yang terdapat di Bursa Efek Indonesia periode 2016–2020). *Jurnal Ekonomi dan Bisnis Dharma Andalas*. <https://garuda.kemdiktisaintek.go.id/documents/detail/3067587>
- Lani Alfianti Dewi, S. P. (2022). Pengaruh ukuran perusahaan, profitabilitas, dan leverage terhadap nilai perusahaan. *Jurnal Ilmu dan Riset Akuntansi*. <https://jurnalmahasiswa.stiesia.ac.id/index.php/jira/article/view/4474/4478>
- Limajatini, L., Tambun, S., & Natapunta, R. (2025). Pengaruh tax planning, prudence accounting dan company growth terhadap firm value dengan ESG performance sebagai pemoderasi pada perusahaan FMCG di BEI. *Media Akuntansi Perpajakan*, 10(1), 87–98. <https://doi.org/10.52447/map.v10i1.8341>
- Meini, Z., & Setijaningsih, H. T. (2024). The impact of ESG on firm value: Empirical study on Indonesia and Singapore companies. *Jurnal EQUITY*, 27(2), 128–141. <https://doi.org/10.34209/equ.v27i2.9183>
- Muchlisin Riadi. (2021). Ukuran perusahaan (pengertian, jenis, kriteria dan indikator). *KajianPustaka.com*. <https://www.kajianpustaka.com/2020/04/ukuran-perusahaan-pengertian-jenis-kriteria-dan-indikator.html>
- Muhammad, R. (2022). Pengaruh service convenience terhadap loyalitas nasabah tabungan wadiah di BSI. *Jurnal Ekonomi dan Manajemen Syariah*, 14(2), 60–68.
- Novita Sari, I. S. S. (2022). Pengaruh perencanaan pajak, ukuran perusahaan dan financial distress terhadap nilai perusahaan (studi empiris pada perusahaan manufaktur sektor industri dasar dan kimia yang terdapat di Bursa Efek Indonesia periode 2016–2020). *Jurnal Ekonomi dan Bisnis Dharma Andalas*, 24(2), 242–261.
- Oktadewi, A. M. A., & Diantini, N. N. A. (2025). ESG and firm value: The moderating role of environmental performance and profitability in Indonesia's mining sector. *International Research Journal of Management, IT and Social Sciences*, 12(4), 217–229. <https://doi.org/10.21744/irjmis.v12n4.2536>
- Patimah, Zulpan, Alfansuri, D. U., El Munawaroh, & Ilyas, M. (2025). Memahami dan menerapkan uji korelasi dalam analisis data penelitian pendidikan. *Journal Education Innovation (JEI)*, 3(4), 740–752. <https://doi.org/10.65474/F7VD8Y11>
- Pradana, A. F. (2024). The effect of environmental, social, & governance (ESG) disclosure and tax avoidance on cost of capital with firm size as a moderating variable. *Journal of Research and Community Service*. <https://devotion.greenvest.co.id/index.php/dev/article/view/13226/1277>
- Pramesti, W. C., Sudarma, M., & Ghofar, A. (2024). Intellectual capital and firm value: The moderating role of financial performance. *Jurnal Reviu Akuntansi dan Keuangan*, 14(1), 103–121. <https://doi.org/10.22219/jrak.v14i1.32849>
- Puspa Intan Shal Syabila, & Bawono, A. D. B. (2025). The effect of tax planning, profitability, and leverage on company value with company size as a moderating variable (empirical study of manufacturing companies listed on the Indonesia Stock Exchange in the period 2021–2023). *Indonesian Interdisciplinary Journal of Sharia Economics*. <https://e-journal.uac.ac.id/index.php/iijs/article/view/6048/2394>
- Rabiah Ramadani Ilyas, Asriani Junaid, & N. S. (2026). Pengaruh perencanaan pajak terhadap nilai perusahaan dengan profitabilitas sebagai variabel moderasi. <https://jurnal.fe.umi.ac.id/index.php/CSEJ/article/view/1453/892>
- Rahmah, N. A., Purwohedi, U., & Handarini, D. (2024). The moderating role of profitability and firm size in ESG disclosure towards firm value. *International Journal of Education, Social Studies, and Management*, 4(2), 700–719. <https://doi.org/10.52121/ijessm.v4i2.345>
- Riana, L. (2022). Pengaruh likuiditas, umur perusahaan, ukuran perusahaan dan ukuran dewan komisaris terhadap corporate social responsibility disclosure (studi empiris pada perusahaan energi yang terdaftar di Bursa Efek Indonesia periode 2018–2020). Universitas Muhammadiyah Purwokerto. <http://repository.ump.ac.id/id/eprint/13196>

- Septiriana, A., & Wulandari, R. (2025). Pengaruh perencanaan pajak, beban pajak tangguhan dan ESG terhadap nilai perusahaan. *RIGGS: Journal of Artificial Intelligence and Digital Business*, 4(3), 1478–1485. <https://doi.org/10.31004/riggs.v4i3.2143>
- Siwi Nur Khotimah, Mustikowati, R. I., & A. R. S. (2020). Pengaruh ukuran perusahaan dan leverage terhadap nilai perusahaan dengan profitabilitas sebagai variabel moderasi. *Jurnal Riset Mahasiswa Akuntansi*. <https://ejournal.unikama.ac.id/index.php/jrma/article/view/5232/2965>
- Sugiyono. (2013). *Metode penelitian kuantitatif, kualitatif dan R&D*. Alfabeta.
- Susanto, C. N. (2025). *Pengaruh ESG terhadap nilai perusahaan energi di Indonesia: Profitabilitas sebagai variabel moderasi*. Universitas Ma Chung. <http://repository.machung.ac.id/id/eprint/1009/>
- Tansil, V. F., & Tangke, P. (2025). The impact of environmental, social, and governance disclosure on firm value with profitability as a moderating variable. *AJAR*, 8(2), 211–233. <https://doi.org/10.35129/T3XK6S74>
- Tiranda, Y. P., Sembiring, F. M., & Simatupang, F. S. (2025). Environmental, social, and governance (ESG) disclosure and firm size as firm value estimators: The role of investment return. *Amkop Management Accounting Review (AMAR)*, 5(2), 906–915. <https://doi.org/10.37531/amar.v5i2.3171>
- Wulandari, et al. (2025). The role of profitability in moderating the relationship between environmental, social, governance (ESG) and company value. *Research Horizon*, 5(4), 1787–1800. <https://doi.org/10.54518/rh.5.4.2025.781>