AKUNTANSI 45
FAKULTAS EKONOMI
UNIVERSITAS 45 SURABAYA
Jurnal Ilmiah Akuntansi

Tax Planning and Business Entity Market Value: Insights from the Mining Sector in Indonesia

Berwin Anggara
Program Studi Akuntansi Syariah, Fakultas Ekonomi dan Bisnis Islam,
Universitas Islam Negeri Jurai Siwo Lampung, Indonesia
**Penulis Korespondensi: berwinanggara@metrouniv.ac.id*

Abstract. *This research endeavors to scrutinize the implication of tax planning strategies upon firm valuation within the mining sector enterprises listed on the Indonesia Stock Exchange throughout the observational period of 2018–2022. The study addresses the challenges precipitated by commodity price volatility and stringent fiscal regulations, particularly the Tax Regulation Harmonization Law of 2021, which profoundly impacts cash flow dynamics and investment attractiveness. The research methodology employs multiple linear regression analysis on a stratified sample of 28 corporations drawn from a comprehensive population of 62 entities, utilizing secondary data procured from annual financial statements accessed through www.idx.co.id. The independent variables encompassing tax planning efficacy are quantified through the Effective Tax Rate (ETR) and Tax Retention Rate (TRR), while firm valuation is assessed via the Price-to-Book Value (PBV) metric. The analytical findings demonstrate that ETR exerts a statistically significant negative influence upon PBV (p=0.016), whereas TRR exhibits no significant impact (p=0.541). Concurrently, ETR and TRR collectively influence PBV with statistical significance (p=0.001) and substantial explanatory power (R^2=0.837). These empirical discoveries substantiate signalling theory, wherein efficient tax planning strategies function as positive market signals to investors, while simultaneously underscoring the critical importance of aggressive tax optimization approaches for enhancing market valuation within high-risk sectoral contexts. This research furnishes significant implications for regulatory authorities in fiscal oversight mechanisms and for corporate entities in post-pandemic financial optimization endeavors.*

Keywords*: Effective Tax Rate; Firm Value; Mining Sector; Tax Planning; Tax Retention Rate.*

1. INTRODUCTION

Firm valuation constitutes a critical indicator that epitomizes market perceptions regarding the performance and prospects of business entities, bearing substantial implications for investors, creditors, and management stakeholders. Within the context of Indonesia's mining sector, which contributes approximately 5-7% to the Gross Domestic Product (GDP)("Produk Domestik Bruto Atas Dasar Harga Berlaku Menurut Lapangan Usaha (Miliar Rupiah), 2024 - Tabel Statistik - Badan Pusat Statistik Indonesia," n.d.), firm valuation becomes increasingly pertinent due to global commodity price volatility and stringent fiscal regulations. One strategic approach to enhance firm value involves tax planning, which endeavors to optimize tax burdens legally to augment cash flows and investment attractiveness. This research explores the relationship between tax planning strategies, measured through Effective Tax Rate (ETR) and Tax Retention Rate (TRR), and firm valuation, quantified via Price-to-Book Value (PBV), among mining corporations listed on the Indonesia Stock Exchange (IDX) during 2018-2022.

Tax planning represents a strategic initiative in corporate financial management, facilitating tax burden reduction without regulatory violations, as stipulated in Indonesia's Tax Regulation Harmonization Law (UU HPP) of 2021. Within the mining sector, taxation

Naskah Masuk: 17 September 2025; Revisi: 21 Oktober 2025; Diterima: 28 November 2025; Terbit: 30 November 2025

challenges such as tax evasion and transfer pricing—exemplified by the PT Kaltim Prima Coal case that resulted in IDR 2.1 trillion in state losses ("KPC Files Pretrial Petition to Stop Investigation - Tue, February 2, 2010 - The Jakarta Post," n.d.)— demonstrate the critical importance of efficient tax strategies. ETR, calculated as the ratio of tax expense to pre-tax earnings, reflects corporate effectiveness in managing tax obligations, while TRR, representing ETR's complement (TRR = 1 - ETR), measures the proportion of profit remaining after taxation for operational or investment purposes. PBV, as a firm valuation indicator, captures the comparison between market share price and book equity value, providing insights into market assessment of corporate net assets.

Grounded in signaling theory, effective tax planning can function as positive market signals to investors, demonstrating managerial competence in financial resource management, ultimately enhancing firm valuation. However, previous research demonstrates varied findings. Hanifah & Ayem (2021) discovered that ETR significantly influences firm value within the manufacturing sector, while Yuliandana, Junaidi, & Ramadhan (2021) reported that Cash Effective Tax Rate (CETR) does not consistently affect firm valuation. Alternative studies, such as Tambahani, Sumual, & Kewo (2021), focused predominantly on non-extractive sectors and pre-pandemic periods, thereby inadequately capturing mining sector dynamics influenced by commodity fluctuations and recent regulatory changes. Consequently, a research gap (research gap) exists regarding tax planning influence within the mining sector, particularly during post-pandemic periods and following UU HPP 2021 implementation.

This research introduces novelty by employing a combination of ETR and TRR as independent variables to measure tax planning within the IDX mining sector context during 2018-2022. Distinguished from previous studies that typically utilized ETR or singular tax metrics (e.g. Hanifah & Ayem (2021); Yuliandana et al. (2021)), this approach integrates dual metrics capturing tax efficiency and profit retention aspects, providing more holistic analysis of tax planning strategies. Furthermore, findings that ETR exerts significantly negative influence upon PBV while TRR does not challenge signaling theory assumptions within the mining sector, indicating that direct tax savings prove more relevant to investors than profit retention. The research period context, encompassing post-pandemic dynamics and UU HPP 2021 implementation, reinforces novelty by connecting these variables with regulatory changes and sectoral volatility.

Regarding the dependent variable, this research presents innovation by utilizing PBV as a firm valuation indicator within the mining sector, which possesses unique characteristics such as commodity volatility and stringent tax regulations. Unlike previous research frequently

employing PBV in manufacturing or banking sectors (e.g., Hermawan & Nurdhiana (2018); (Yuliandana et al., 2021)), PBV application within this sector captures market value sensitivity to tax strategies amid pandemic economic disruptions and post-2022 recovery. The PBV relationship with signaling theory provides novel insights, particularly through findings that ETR significantly affects PBV while TRR does not, indicating investor preference for direct tax savings in high-risk sectors.

This research aims to: (1) analyze ETR influence upon PBV, (2) examine TRR influence upon PBV, and (3) assess simultaneous ETR and TRR influence upon PBV in IDX mining companies during 2018-2022. The benefits encompass theoretical contributions to enrich tax planning and signaling theory literature, alongside practical advantages for investors in decision-making processes and regulators in tax policy formulation. Focusing on the mining sector and relevant temporal framework, this research is expected to provide novel insights for Indonesian stakeholders.

2. LITERATURE REVIEW

Previous research examining the relationship between tax planning strategies and firm valuation in mining sectors has increasingly drawn upon signaling theory as a primary analytical framework. Multiple scholars have demonstrated that signaling theory provides valuable insights into how information asymmetry between management and investors affects firm valuation outcomes ((Chen & Lin (2017), Lemayian & Yi (2018)). For instance, Koester, Shevlin, & Wangerin (2017) found that efficient tax planning strategies function as positive signals of managerial competence, particularly in resource-intensive industries where operational complexities create information gaps. Similarly, as investigation resulted on Brunel mention how tax optimization signals in the mining sector influence investor perceptions, noting that these strategies become especially significant under volatile commodity pricing conditions ("Brunel - Commodity Price Volatility," 2024).

Within the Indonesian context, several studies have explored how regulatory changes, including the Tax Regulation Harmonization Law of 2021, have influenced the signaling effects of corporate tax strategies (Sulastri & Sari, 2021). Research by (Sulistiyanti & Saputra, 2020) specifically examined mining companies' responses to Indonesia's evolving tax landscape, revealing that firms demonstrating superior tax planning capabilities successfully conveyed credible information about their operational efficiency to market participants. However, existing literature reveals conflicting findings regarding the magnitude and consistency of these signaling effects, with some studies questioning whether tax planning

always serves as a reliable indicator of managerial competence in highly regulated sectors like mining ((Ardelia, Irma Suryani, & Syahrudin, 2023), (Salman, Sutisna, & Sa'diyah, 2024))

Despite growing attention to signaling theory applications in corporate finance, significant gaps remain in understanding how tax planning signals specifically affect firm valuation in emerging market mining contexts. Current literature lacks comprehensive analysis of how Indonesia's unique regulatory environment moderates the relationship between tax strategy signals and investor confidence. Current literature lacks comprehensive analysis of how Indonesia's unique regulatory environment—characterized by the 2021 Tax Regulation Harmonization Law, mining-specific fiscal regimes (royalties, domestic processing obligations), and high commodity price volatility—moderates the relationship between tax strategy signals and investor confidence in the mining sector. Specifically, no studies have tested whether regulatory clarity, mining subsector differences, or commodity price cycles strengthen or weaken the signaling effectiveness of tax planning strategies on firm valuation in Indonesian mining companies.

Theoritical Framework

The theoretical framework in this research is constructed to elucidate the interaction between tax planning strategies and firm valuation within Indonesia's mining sector. This approach integrates signaling theory as the fundamental paradigm, wherein information asymmetry between management and investors is mitigated through positive financial signals. Signaling theory posits that corporations demonstrating superior performance convey credible information to the market, thereby enhancing investor confidence and overall firm valuation. Within the context of tax planning, efficient strategies function as signals of managerial competence in resource optimization, particularly within the mining sector, which remains vulnerable to commodity price volatility and stringent tax regulations, such as Indonesia's Tax Regulation Harmonization Law of 2021.

Theoretical Foundation and Development

Signaling theory, initially propounded by Spence in his seminal work on signaling in labor markets (Spence, 1973) and subsequently developed in financial structure by Ross, emphasizes the pivotal role of information in reducing market uncertainty (Ross, 1977). Management can convey quality signals through financial disclosure, such as efficient tax practices that preserve cash flows without transgressing legal boundaries. Within the mining industry, these signals become crucial as investors frequently evaluate corporations based on their resilience to external risks, including mineral price fluctuations and regulatory

compliance. This theory substantiates the hypothesis that tax planning not only minimizes costs but also enhances market perceptions of firm value, as reflected in financial ratios.

Dependent Variable Conceptualization

The dependent variable in this research is firm valuation, conceptualized as market perceptions regarding the performance and long-term prospects of a business entity. Firm valuation encompasses an entity's capability to generate stable cash flows and dividends, with principal characteristics including sustainable dividend distributions, elevated asset liquidity, and consistent profit growth. Influencing factors comprise leverage, wherein debt utilization can enhance value through tax savings while simultaneously increasing bankruptcy risk; corporate size, which provides greater stability for large entities despite reducing operational flexibility; profitability, which positively influences value through earnings enhancement; after-tax profit growth, indicating operational efficiency; and inflation, which exerts negative influence by eroding purchasing power and escalating operational costs.

Firm Valuation Measurement Mechanisms

Firm valuation measurement employs various ratios including the Price Earnings Ratio (PER), which calculates share price divided by earnings per share to assess growth expectations; Price-to-Book Value (PBV), which compares market share price with book equity value to detect undervaluation when the ratio falls below unity; and Tobin's Q, which compares market asset value with replacement value to evaluate resource allocation efficiency. PBV is selected herein due to its direct correlation between market value and book value, which proves particularly relevant for the mining sector where tangible assets such as mineral reserves dominate balance sheets. PBV demonstrates heightened sensitivity to financial strategies such as tax planning, which strengthens net equity through cost savings (Harmono, 2020). Price-to-Book Value represents a ratio that illustrates the extent to which the market values a corporation's book value per share. Higher ratios indicate greater market confidence in the company's prospects. Sound firm valuation will exhibit PBV values exceeding one (1) (Hermawan & Nurdhiana, 2018). This value demonstrates that the market valuation of the company's shares surpasses its book value. This ratio is calculated using the formula:

$$\text{PBV} = \frac{\text{Market Value per Share}}{\text{Book Value per Share}}$$

Description:

PBV (Book value per share) : Company book value

Market value per share : Market price per share

Book value per share : Book value per share

Independent Variable Conceptualization and Theoretical Framework

The independent variable, namely tax planning, is defined as a systematic process of data collection and analysis designed to minimize tax obligations legally and ethically. Its objectives encompass tax payment reduction, enhancement of after-tax profits, and efficient fulfillment of tax obligations in accordance with prevailing legislation. Tax planning is differentiated into two categories: national, which focuses on domestic tactics such as business entity selection or depreciation utilization; and international, which involves cross-border transactions such as transfer pricing to shift profits to jurisdictions with lower tax rates (Pohan, 2018).

Strategies encompass tax shifting forward (deferring payments) or backward (accelerating cost recognition), tax transformation (converting tax forms to more favorable alternatives), and selecting alternatives with the lowest tax burden, such as tax holiday incentives or reductions for intangible assets. This process commences with information analysis, plan formulation, implementation, and continuous evaluation to rectify deficiencies (Suandy, 2016). Measurement employs the Effective Tax Rate (ETR), calculated as tax expense divided by pre-tax profit, where low ETR indicates tax aggressiveness; and the Tax Retention Rate (TRR), representing ETR's complement (TRR = 1 - ETR), where high TRR demonstrates the proportion of profit remaining for reinvestment (Lestari et al., 2018). The formulas for ETR and TRR are as follows:

$$\text{ETR}(\%) = \frac{\text{Taxes Paid}}{\text{Pre} - \text{Tax Income (EBT)}}$$

Description:

ETR(%)	: Effective Tax Rate
Taxes Paid	: Tax Expense
Pre-Tax Income (EBT)	: Pre-Tax Profit

$$\text{TRRit} = \frac{\text{Net Incomeit}}{\text{Pre Tax Income EBITit}}$$

Description:

TRRit	: Tax retention rate of company i in year t.
Net income$_{it}$	: Net profit of company i in year t.
Pre-tax income (EBIT)$_{it}$	: Pre-tax profit of company i in year t.

Conceptual Framework and Theoretical Integration

The conceptual framework establishes the connection between tax planning and firm value through signaling theory. Low ETR and high TRR serve as signals of managerial efficacy, fostering investor confidence and enhancing PBV (Firm Value). Within the mining sector, this framework proves particularly appropriate as regulations such as export taxes and royalties influence ETR, while commodity volatility necessitates high profit retention to maintain firm value.

Research Hypotheses Formulation

The hypotheses are formulated as follows:

1) H_1 posits that ETR influences PBV, as low effective rates enhance cash flows and generate positive signals;
2) H_2 posits that TRR influences PBV, as high retention supports growth trajectories; and
3) H_3 posits the simultaneous influence of ETR and TRR upon PBV, considering their complementary roles in tax strategy.

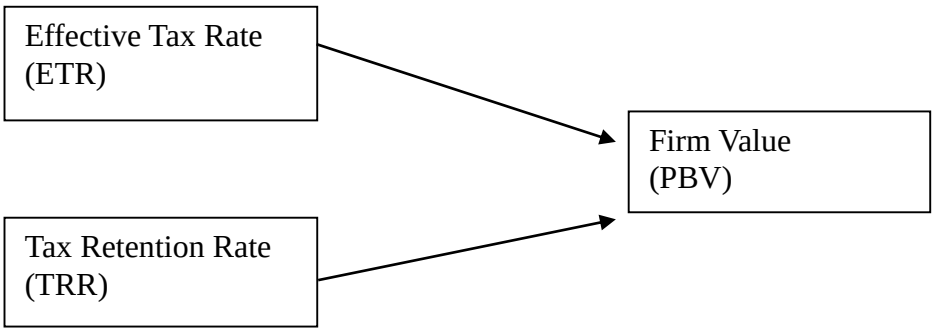

Image 1. Conceptual Framework.

Theoretical Contribution and Research Novelty

This framework provides an empirical foundation for examining causal relationships within Indonesia's mining sector during 2018-2022, amid pandemic disruptions and regulatory transformations. Its novelty lies in the integration of ETR and TRR within signaling theory for the extractive sector, where transfer pricing and tax incentives become crucial—an area that remains underexplored in Indonesian literature. This approach enriches scholarly understanding by conceptualizing tax planning not merely as a cost reduction instrument, but rather as a signaling mechanism for market value enhancement (Samrotun & Suhendro, 2014).

3. METHOD

This research implements a descriptive quantitative research methodology to scrutinize the influence of tax planning strategies upon firm valuation within the mining sector enterprises

listed on the Indonesia Stock Exchange (IDX) throughout the temporal framework of 2018-2022. The dependent variable, namely firm value, is operationalized through the Price-to-Book Value (PBV) ratio, computed as the market price per share divided by the book value per share. This metric epitomizes investor perceptions regarding the intrinsic value of corporations relative to their book equity foundations.

The independent variables comprise two distinct proxies for tax planning efficacy: the Effective Tax Rate (ETR), calculated as income tax expense divided by pre-tax earnings, which demonstrates administrative efficiency in tax burden management; and the Tax Retention Rate (TRR), derived from the complement of ETR, representing the proportion of pre-tax profits retained subsequent to taxation. These metrics encapsulate tax liability optimization strategies while maintaining adherence to the prevailing regulatory compliance framework.

Secondary data were procured from annual financial statements, encompassing balance sheets and comprehensive income statements, accessed through the official IDX portal (www.idx.co.id). The sampling methodology employed criterion-based selection procedures, yielding 28 mining corporations that satisfied stringent research prerequisites, including consistent market listing throughout the study duration, positive pre-tax profitability, and comprehensive financial disclosure availability. This methodological approach ensures optimal congruence between sample characteristics and research objectives.

Table 1. Research Samples.

No.	Company Name
1.	PT. Akbar Indo Makmur Stimec Tbk.
2.	PT. Alakasa Industrindo Tbk.
3.	PT. Alfa Energi Investama Tbk.
4.	PT. Aneka Tambang Tbk.
5.	PT. Batulicin Nusantara Maritim Tbk.
6.	PT. Betonjaya Manunggal Tbk.
7.	PT. Borneo Olah Sarana Sukses Tbk.
8.	PT. Bukit Asam Tbk.
9.	PT. Central Omega Resources Tbk.
10.	PT. Cita Mineral Investindo Tbk.
11.	PT. Dana Brata Luhur Tbk.
12.	PT. Dwi Guna Laksana Tbk.
13.	PT. Exploitasi Energi Indonesia Tbk.
14.	PT. Golden Eagle Energy Tbk.

No.	Company Name
15.	PT. Gunawan Dianjaya Steel Tbk.
16.	PT. HK Metals Utama Tbk.
17.	PT. Ifishdeco Tbk.
18.	PT. Indal Aluminium Industry Tbk
19.	PT. Lionmesh Prima Tbk.
20.	PT. Mitra Investindo Tbk.
21.	PT. Optima Prima Metal Sinergi Tbk.
22.	PT. Rig Tenders Indonesia Tbk.
23.	PT. Saranacentral Bajatama Tbk.
24.	PT. Steel Pipe Industry of Indonesia Tbk.
25.	PT. Sumber Global Energy Tbk.
26.	PT. Super Energy Tbk.
27.	PT. Transcoal Pacific Tbk.
28.	PT. Wilton Makmur Indonesia Tbk.

Data analysis commences with descriptive statistics to summarize variable distributions. Classical assumption tests are conducted, encompassing normality (Kolmogorov-Smirnov test), heteroscedasticity (Glejser test), autocorrelation (Durbin-Watson test), and multicollinearity (Variance Inflation Factor [VIF] and tolerance values). Multiple linear regression is modeled as: $\boldsymbol{PBV = \alpha + \beta_1 ETR + \beta_2 TRR + \varepsilon}$. Hypothesis testing includes partial t-tests for individual effects, simultaneous F-tests for joint effects, and the coefficient of determination (R^2) to assess explanatory power.

4. RESULTS AND DISCUSSION

Research Object Characteristics

This research scrutinizes the influence of tax planning strategies upon firm valuation, employing a cohort of 28 mining sector enterprises listed on the Indonesia Stock Exchange throughout the temporal framework of 2018-2022. The selection of the mining sector is predicated upon the distinctive characteristics inherent to this industry, which encompasses elevated business risk exposure, protracted operational processes, substantial uncertainties, and considerable capital requirements. The mining sector concurrently assumes a pivotal role as the cornerstone of national economic development through the provision of essential energy resources fundamental to macroeconomic growth trajectories.

From a comprehensive population of 62 mining enterprises registered on the IDX, this research employs purposive sampling methodology with stringent selection criteria, yielding 28 corporations that satisfy the requisite research parameters. The empirical data encompasses a quinquennial period comprising 140 discrete observations, thereby furnishing a robust analytical foundation for rigorous statistical examination that is representative of Indonesia's mining industry dynamics.

Descriptive Analysis of Research Variables

Descriptive statistics are employed to provide comprehensive information regarding the data overview, including sample size, minimum values, maximum values, mean values, and standard deviations of the research variables. The researchers utilize descriptive statistics for variables measured on a ratio scale and frequency analysis for variables measured on a nominal scale. The descriptive statistical results for tax planning using ETR and TRR measurement instruments, and firm value, can be observed in Table 2 below:

Table 2. Descriptive Statistic Analysis.

Variable	Mean	Std. Deviation	Minimum	Maximum
PBV	341.28	620.24	20	4,379
ETR	0.2404	0.2450	0	2.25
TRR	33.07	151.89	0	788.74

These descriptive statistics show substantial variability in PBV and TRR, with PBV ranging from 20 to 4,379 and TRR from 0 to 788.74. ETR exhibits much lower dispersion, reflecting a narrower range of effective tax rates among the sampled firms.

Firm Value

Analysis of firm value proxied through Price-to-Book Value (PBV) reveals intriguing dynamics during the observation period. The average PBV value experienced fluctuations with a declining trend from 18,40 in 2018 to 17,23 in 2022. This phenomenon indicates evolving market perceptions regarding mining industry prospects, potentially influenced by commodity price volatility, government regulations, and global economic conditions.

Descriptive statistics demonstrate significant variability in PBV values with minimum and maximum values of 20,0 and 4,379,0, respectively, along with a mean of 341,28 and standard deviation of 620,24. This high data dispersion reflects the heterogeneous characteristics of companies within the sample, where several companies exhibit substantial market valuations while others demonstrate more conservative investor assessments.

Tax Planning

Tax planning measurement was conducted through two primary proxies: Effective Tax Rate (ETR) and Tax Retention Rate (TRR). ETR analysis reveals patterns consistent with corporate tax planning strategies. The average ETR of 0,2404 or 24.04% indicates that in aggregate, sample companies successfully maintained effective tax rates below the statutory corporate tax rate of 25%.

Temporal ETR dynamics demonstrate interesting variations: during 2018-2020, average ETR exceeded the statutory rate (29%, 26%, and 29%), but declined in 2021-2022 (18% and 21%). This pattern indicates intensification of tax planning activities during the latter observation period, potentially driven by economic pressures resulting from the COVID-19 pandemic and the necessity for financial resource optimization.

TRR as an alternative proxy demonstrates an average value of 33,07 with extreme variability (standard deviation of 151,89). The value range from 0.00 to 788,74 reflects the diversity of earnings management and tax planning strategies among sample companies. High TRR values in several companies indicate the effectiveness of tax planning strategies in maximizing net profit relative to pre-tax profit.

Classical Assumption Validation

Prior to conducting regression analysis, this research performs a series of classical assumption tests to ensure the validity and reliability of the econometric model employed.

Data Normality

The statistical normality test is conducted to establish data validity by assessing significance values. If the significance value > 0.05, it is concluded that the residual data are normally distributed, and vice versa. Table 3 presents the normality test results as follows:

Table 3. Kolmogorov-Smirnov Test.

Test	Statistic	Sig.
Kolmogorov–Smirnov Test	.051	.200

The results demonstrate that residuals are normally distributed with an Asymp. Sig. (2-tailed) value of 0.200 > 0.05, confirming that the model satisfies the normality assumption. Normal distribution of residuals constitutes an essential prerequisite for the validity of statistical inference in regression analysis.

Heteroscedasticity

The heteroscedasticity test employing the Glejser method demonstrates the absence of heteroscedasticity problems within the model. If the significance value or Sig. (2-tailed) exceeds 0.05, it can be concluded that no heteroscedasticity problem exists. Conversely, if the

significance value or Sig. (2-tailed) is less than 0.05, then heteroscedasticity problems can be said to exist. The calculation results are presented in Table 4 below:

Table 4. Heteroscedasticity Test.

Coefficients[a]

Model	Beta	T	Sig.
(Constant)	—	16.044	.000
ETR	-.205	-1.325	.187
TRR	-.242	-1.570	.119

a. Dependent Variable: PBV

The significance values for ETR (0,187) and TRR (0,119) both exceed the 0.05 threshold, indicating that residual variance is homogeneous. This condition ensures that the resulting estimators exhibit BLUE (Best Linear Unbiased Estimator) properties.

Autocorrelation

This test is employed to examine whether correlation exists between disturbance errors in period t-1 (previous period) within a linear regression model. The method utilized to detect the presence or absence of autocorrelation is the Durbin-Watson (DW) test. According to Ghozali, no autocorrelation symptoms exist if the Durbin-Watson value lies between du and (4 – du) (Ghazali, 2021).

Table 5. Durbin-Watson Using Cochrane-Orcutt.

Model	R	R Square	Adjusted R Square	Std. Error	Durbin–Watson
1	.925	.856	.854	4.21754	1.964

Autocorrelation testing using Durbin-Watson statistics identified autocorrelation symptoms in the initial model (DW = 1,564). To address this issue, the research implemented the Cochrane-Orcutt method, which successfully eliminated autocorrelation, as demonstrated by the DW value of 1,964 falling within the acceptable range.

Multicollinearity

Multicollinearity evaluation through Tolerance values and Variance Inflation Factor (VIF) demonstrates the absence of problematic correlation among independent variables. Tolerance values for both variables (0.246) exceed 0.10, while VIF values (4.070) remain below the 10.00 threshold, confirming that the model is free from multicollinearity problems.

Table 6. VIF and Tolerance.

Variable	Tolerance	VIF
ETR	.246	4.070
TRR	.246	4.070

From the data above, it is known that:

1) Tolerance value for ETR is 0.246 > 0.100
2) Tolerance value for TRR is 0.246 > 0.100
3) VIF value for ETR is 4.070 < 10.00
4) VIF value for TRR is 4.070 < 10.00

Regression Model and Interpretation

Multiple linear regression analysis yields the equation:

$$Y = 3.312 - 0.004\ X_1 - 0.001\ X_2 + \varepsilon$$

This model demonstrates that when no tax planning activities occur (ETR and TRR = 0), the baseline firm value is 3.312. The negative coefficients for both independent variables indicate an inverse relationship between tax planning intensity and firm value, which contradicts theoretical expectations but provides valuable empirical insights.

Hypothesis Validation

Partial Assesment Using t-Test

The t-test is employed to determine whether tax planning measured using ETR and TRR individually or partially influences firm value.

Table 7. t-Test (Partial).

Coefficients[a]

Model	Beta	T	Sig.
(Constant)	—	15.665	.000
ETR	–.375	2.449	.016
TRR	–.094	–.614	.541

a. Dependent Variable: PBV

Based on Table 7 above, it can be observed that the significance value for ETR (Effective Tax Rate) obtained through the t-test is 0.016 (Sig 0.016 < 0.05). Consequently, it can be concluded that ETR influences firm value as measured using PBV. Based on this analysis, H1 is Accepted: Effective Tax Rate affects Firm Value.

Based on Table 7 above, it can be observed that the significance value for TRR (Tax Retention Rate) obtained through the t-test is 0.541 (sig 0.541 > 0.05). Consequently, it can be concluded that TRR does not influence firm value as measured using PBV. Based on this analysis, H2 is Rejected: Tax Retention Rate affects Firm Value.

Concurrent Statistical Assessment

The F-test is employed to elucidate whether all independent variables incorporated within the model collectively exert influence upon the dependent variable. The F-test results conducted are delineated as follows:

Table 8. F-test (Concurrent Analysis).

ANOVA[a]

Model	F	Sig.
Regression	6.835	.001

Predicated upon the research data presented in Table 8, it can be discerned that the F-test significance value yields 0.001 (sig 0.001 < 0.05). Consequently, it may be deduced that tax planning strategies, as quantified through ETR and TRR metrics, collectively manifest a statistically significant influence upon firm value as measured by PBV. Grounded in this analytical assessment, the third hypothesis is substantiated: effective tax rate and tax retention rate concurrently exert influence upon firm value.

Coefficient of Determination (R^2)

The coefficient of determination (R^2) elucidates the proportional magnitude of variance in the dependent variable that is attributable to all independent variables collectively. The explanatory power of all independent variables (considered individually) within the regression model regarding the dependent variable can be ascertained through variance decomposition analysis. The statistical instrument utilized for this assessment is the Analysis of Variance (ANOVA).

Table 9. Coefficient of Determination.

Model	R	R Square	Adjusted R Square	Std. Error
1	.915	.837	.834	4.31102

The empirical evidence presented in Table 9 demonstrates that the R-square value constitutes 0.837, thereby substantiating that ETR and TRR variables collectively account for 83% of the variance in firm value. The remaining 17% of variance is attributable to extraneous factors not encompassed within the scope of this investigation, including fundamental determinants that may influence capital structure (DER), profitability metrics, and liquidity indicators.

Implications of Effective Tax Rate on Firm Valuation

The empirical examination demonstrates that ETR exerts a statistically significant influence upon firm valuation, with a significance value of 0.016 < 0.05 and t-statistic of 2.449 > t-critical of 1.655. This finding substantiates the first hypothesis and corroborates signaling

theory, wherein tax planning efficacy through ETR conveys positive market signals regarding managerial competence in tax burden optimization.

This research aligns with investigations conducted by Tambahani et al. (2021), who ascertained that tax planning measured through ETR positively influences firm value. The findings are congruent with Christiani et al. (2022), demonstrating that tax planning quantified via Effective Tax Rate (ETR) exerts a significantly positive influence upon firm valuation. Conversely, research conducted by Tumanggor (2022) and Romadhina & Andhitiyara (2021) contends that tax planning does not influence firm value, suggesting that implemented tax planning strategies fail to impact corporate valuation.

ETR, functioning as a comprehensive tax planning indicator, provides holistic insights into tax burdens that impact accounting earnings. Investors and stakeholders can utilize ETR information to evaluate the effects of various tax incentives and tax planning strategies implemented by corporations. The statistical significance of ETR's influence upon firm value confirms the relevance of tax information in investment decision-making processes.

Implications of Tax Retention Rate on Firm Valuation

In contrast to ETR, TRR demonstrates no significant influence upon firm valuation (significance 0.541 > 0.05, t-statistic -0.614 < t-critical 1.655). This result refutes the second hypothesis and indicates that TRR, as a tax planning proxy, fails to provide incremental information relevant to market assessment of corporations. This finding corresponds with research conducted by Yulianti et al. (2023), demonstrating that TRR as a tax planning indicator does not significantly influence firm value (measured by PBV), exhibiting a positive beta coefficient but significance values exceeding 0.05. The analysis, conducted on IDX-listed company samples, emphasizes that tax avoidance is similarly insignificant.

The insignificance of TRR can be attributed to the interpretive complexity of this ratio, which simultaneously encompasses earnings management and tax planning aspects. Market participants may encounter difficulties interpreting signals conveyed by TRR due to uncertainty regarding whether ratio changes are driven by legitimate tax strategies or opportunistic earnings management practices.

Simultaneous Implications of ETR and TRR on Firm Valuation

Concurrent testing utilizing F-statistics demonstrates that ETR and TRR collectively exert significant influence upon firm valuation (F-statistic 6.835, significance 0.001 < 0.05). This result substantiates the third hypothesis and confirms that despite TRR's individual insignificance, the combination of both tax planning proxies provides substantial explanation for firm value variations.

The coefficient of determination (R-square) yields 0.837, signifying that 83% of firm value variability is determined by the two independent variables, ETR and TRR. The remaining 17% is attributable to extraneous factors not examined in this research, including fundamental determinants that may influence capital structure (DER), profitability metrics, and liquidity indicators.

This demonstrates that implemented tax planning strategies can influence firm valuation. Nevertheless, tax planning must remain compliant with established legislative frameworks, particularly Law Number 6 of 1983 concerning General Provisions and Tax Procedures (State Gazette of the Republic of Indonesia Year 1983 Number 49, Supplement to State Gazette of the Republic of Indonesia Number 3262), as subsequently amended by Law Number 7 of 2021 concerning Tax Regulation Harmonization (State Gazette of the Republic of Indonesia Year 2021 Number 246, Supplement to State Gazette of the Republic of Indonesia Number 6736).

5. CONCLUSION

This research scrutinizes the influence of tax planning strategies upon firm valuation within mining sector enterprises listed on the Indonesia Stock Exchange throughout the period 2018-2022. Employing multiple linear regression methodology and empirical data from 28 sample corporations, the analytical examination yields substantial findings. Primarily, The Effective Tax Rate (ETR) demonstrates a statistically significant negative influence upon firm value, as quantified through *Price-to-Book Value* (PBV). The t-test results with a significance value of 0.016 (below 0.05) corroborate that ETR reduction, as an indicator of aggressive tax planning, can enhance market perceptions regarding corporate valuation. This discovery aligns with signalling theory, wherein efficient tax strategies function as positive market signals to investors, particularly within the mining sector confronting elevated tax burdens due to stringent regulations and commodity volatility. Secondly, The Tax Retention Rate (TRR) exhibits no significant influence upon PBV, with a significance value of 0.266 (exceeding 0.05). This indicates that post-tax profit retention levels do not directly affect firm value within this sectoral context. These finding challenges signalling theory assumptions that all tax planning aspects automatically enhance market value, potentially attributable to external factors such as elevated operational costs or regulatory uncertainty, which predominate in mining compared to mere profit retention. Thirdly, concurrently, ETR and TRR influence PBV, with an F-value of 7.446 and significance of 0.001 (below 0.05). The coefficient of determination (R^2) of 0.083 indicates that 8.3% of firm value variation can be explained by tax

planning, while the remainder is influenced by alternative variables such as profitability or corporate size.

Theoretical and Practical Contributions

These discoveries enrich theoretical comprehension regarding tax planning's role in signalling theory, particularly within Indonesia's extractive sector. The comprehensive utilization of ETR and TRR addresses literature gaps, where previous research was frequently limited to singular metrics or non-mining sectors. Practically, these results emphasize the importance of aggressive tax strategies through reduced ETR to enhance investment attractiveness, especially post-pandemic when the mining sector experienced economic recovery. However, TRR's insignificance demonstrates that corporations must balance profit retention with alternative factors, such as innovation or diversification, to maintain market value.

Stakeholder Implications and Strategic Recommendations

Implications for stakeholders encompass recommendations for mining corporations to optimize tax planning to maximize value while maintaining compliance with regulations such as Income Tax Law. For investors, these findings provide guidance in evaluating corporations based on tax efficiency, while for regulators, these results highlight the necessity for stricter oversight of transfer pricing practices to prevent state losses. Research limitations include focus on the 2018-2022 period, which may not encompass post-2023 dynamics, and dependence on secondary data susceptible to reporting bias.

Future Research Directions and Methodological Advancement

For future research, model expansion with moderating variables such as profitability, corporate size, or environmental performance is recommended to enhance explanatory power. Additionally, inclusion of alternative tax metrics such as Cash Effective Tax Rate (CETR) or longitudinal panel data analysis implementation can provide deeper insights. Qualitative approaches, such as case studies on specific mining corporations, can complement these quantitative findings. Overall, this research contributes to accounting and finance literature by emphasizing tax planning's role as a catalyst for firm value in Indonesia's strategic sector, promoting sustainable and regulation-compliant practices.

Comprehensive Development Framework for Future Studies

Based on these research findings revealing the significant negative influence of Effective Tax Rate (ETR) upon firm value (measured through Price-to-Book Value/PBV), the insignificance of Tax Retention Rate (TRR), and their simultaneous influence within the Indonesia Stock Exchange mining sector during 2018-2022, future study development is

essential to expand scope and impact. This development will not only enrich financial accounting and taxation literature but also provide broader practical implications for national policy, corporate practice, and economic sustainability in developing nations such as Indonesia.

Primarily, future researchers are recommended to integrate moderating or mediating variables to deepen causal analysis. For instance, profitability (measured through Return on Assets or Return on Equity) can be incorporated as a mediating variable to examine whether tax planning influence upon firm value is mediated by profit generation capability. Furthermore, corporate governance (such as board independence indices or audit mechanisms) can function as moderating variables to explore how governance structures modulate relationships between ETR/TRR and PBV. This approach will reveal internal dynamics within the extractive sector, where tax ethics dilemmas frequently conflict with regulatory demands such as the Tax Regulation Harmonization Law of 2021.

Secondly, scope expansion through cross-sectoral or international comparative analysis will enhance generalizability. Studies can compare mining sectors with manufacturing or renewable energy, utilizing extended panel data (e.g., 2010-2025) to capture global regulatory change impacts such as the Paris Agreement upon sustainable tax strategies. Internationally, comparative research with commodity-producing nations such as Australia or Brazil can analyze bilateral tax agreement effects upon firm value, thereby contributing to transnational taxation literature and supporting ASEAN policy formulation.

Thirdly, methodological innovation is advocated through adopting mixed methods approaches or alternative metrics. Qualitative approaches, such as interviews with mining executives, can complement quantitative data to reveal motivations underlying transfer pricing practices. Utilizing Cash Effective Tax Rate (CETR) as additional proxy or Tobin's Q as PBV alternative will provide more holistic perspectives toward firm value, particularly within environmental sustainability contexts in the mining sector.

Transformative Impact and Scholarly Contribution

This development will generate extensive impacts, from government tax policy optimization to reduce fiscal leakage to investor guidance in evaluating tax risks within emerging markets. Academically, this strengthens signaling theory within transitional economies, while practically supporting sustainable tax practices aligned with Sustainable Development Goals. Consequently, researchers are expected to continue this exploration to create transformative contributions to science and society.

REFERENCES

Ardelia, D. D., Suryani, I., & Syahrudin, S. (2023). Tax avoidance in influencing the firm value. *Journal of Accounting Inaba, 2*(2), 99–111. https://doi.org/10.56956/jai.v2i02.249

Brunel. (2024, September 16). *Commodity price volatility*. https://www.brunel.net/en/blog/mining/commodity-price-volatility

Chen, T., & Lin, C. (2017). Does information asymmetry affect corporate tax aggressiveness? *Journal of Financial and Quantitative Analysis, 52*(5), 2053–2081. https://doi.org/10.1017/S0022109017000576

Christiani, Y. N., Rane, M. K. D., & 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://doi.org/10.52353/ama.v14i2.211

Ghazali, I. (2021). *Aplikasi analisis multivariate dengan program IBM SPSS 26* (Ed. ke-10). Badan Penerbit Universitas Diponegoro.

Hanifah, D. F., & Ayem, S. (2021). Pengaruh perencanaan pajak terhadap nilai perusahaan dengan kinerja keuangan sebagai variabel intervening. *Kajian Bisnis Sekolah Tinggi Ilmu Ekonomi Widya Wiwaha, 30*(1), 26–39. https://doi.org/10.32477/jkb.v30i1.265

Harmono. (2020). *Manajemen keuangan berbasis balanced scorecard: Pendekatan teori, kasus, dan riset bisnis* (Cetakan ke-8). Bumi Aksara.

Hermawan, F., & Nurdhiana, M. (2018). The influence of book value (BV), price to book value (PBV), earning per share (EPS), and price earning ratio (PER) on stock prices of food and beverage companies listed on the Indonesia Stock Exchange in 2007–2010. *[Nama jurnal/prosiding tidak tersedia]*.

Koester, A., Shevlin, T., & Wangerin, D. (2017). The role of managerial ability in corporate tax avoidance. *Management Science, 63*(10), 3285–3310. https://doi.org/10.1287/mnsc.2016.2510

KPC files pretrial petition to stop investigation. (2010, February 2). *The Jakarta Post*. https://www.thejakartapost.com/news/2010/02/02/kpc-files-pretrial-petition-stop-investigation.html

Lemayian, Z., & Yi, Y. (2018). *Tax avoidance and internal information asymmetry*. St. Louis, MO, United States.

Pohan, C. A. (2018). *Optimizing corporate tax management: Kajian perpajakan dan tax planning-nya terkini*. Bumi Aksara.

Produk domestik bruto atas dasar harga berlaku menurut lapangan usaha (miliar rupiah), 2024. (n.d.). *Badan Pusat Statistik Indonesia*. https://www.bps.go.id/id/statistics-table/3/UzFSTVVXUlliME5XYzBZNUwwNVFRa3h6Y1d3M1p6MDkjMw==/produk-domestik-bruto-atas-dasar-harga-berlaku-menurut-lapangan-usaha----miliar-rupiah---2021.html

Romadhina, A. P., & Andhitiyara, R. (2021). Pengaruh perencanaan pajak, pertumbuhan penjualan, dan kebijakan dividen terhadap nilai perusahaan. *Journal of Information System, Applied, Management, Accounting and Research, 5*(2), 358–366. https://doi.org/10.52362/jisamar.v5i2.455

Ross, S. A. (1977). The determination of financial structure: The incentive-signalling approach. *The Bell Journal of Economics, 8*(1), 23–40. https://doi.org/10.2307/3003485

Salman, K. R., Sutisna, E., & Sa'diyah, H. (2024). Assessing model of tax evasion and firm's value: Moderating role of corporate governance and company characteristics. *Journal of Economics, Business, and Accountancy Ventura, 27*(1). https://doi.org/10.14414/jebav.v27i1.3935

Samrotun, Y. C., & Suhendro. (2014). Strategi perencanaan pajak dalam corporate governance dan corporate social responsibility. Dalam *Proceedings of the 3rd Economics & Business Research Festival* (hlm. 1513–1524).

Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics, 87*(3), 355–374. https://doi.org/10.2307/1882010

Suandy, E. (2016). *Perencanaan pajak* (Edisi ke-6). Salemba Empat.

Sulastri, & Sari, N. D. K. (2021). Firm value factors in the mining sector in Indonesia Stock Exchange. *Advances in Economics, Business and Management Research*. https://doi.org/10.2991/aebmr.k.210616.081

Sulistiyanti, U., & Saputra, A. D. (2020). Determinants of tax avoidance: Evidence from Indonesian mining industry. *Journal of Contemporary Accounting, 2*(3), 165–174. https://doi.org/10.20885/jca.vol2.iss3.art5

Tambahani, G. D., Sumual, T. E. M., & Kewo, C. (2021). Pengaruh perencanaan pajak (tax planning) dan penghindaran pajak (tax avoidance) terhadap nilai perusahaan. *Jurnal Akuntansi Manado (JAIM)*, 2(2), 142–154. https://doi.org/10.53682/jaim.v2i2.1359

Tumanggor, A. H. (2022). Pengaruh perencanaan pajak (tax planning) terhadap nilai perusahaan pada perusahaan sektor non-keuangan yang terdaftar di BEI periode 2013–2015. *Juripol (Jurnal Institusi Politeknik Ganesha Medan), 5*(1), 141–154. https://doi.org/10.33395/juripol.v5i1.11319

Yuliandana, S., Junaidi, J., & Ramadhan, A. (2021). Pengaruh tax avoidance terhadap nilai perusahaan. *Jurnal Ilmiah Akuntansi Kesatuan, 9*(1), 31–42. https://doi.org/10.37641/jiakes.v9i1.436

Yulianti, V., Purba, J., & Ningrum, W. A. (2023). Tax planning and avoidance on firm value. *East Asian Journal of Multidisciplinary Research, 2*(9), 3753–3764. https://doi.org/10.55927/eajmr.v2i9.5834