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Effects of Export Proceeds Retention and Exchange Rate Movement on the Profitability of Indonesian Coal Mining Companies

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Abstract

This study looks into how the profitability of coal mining businesses listed on the Indonesia Stock Exchange is impacted by fluctuations in the rupiah exchange rate and Indonesia's export proceeds (DHE) retention policy. Using an explanatory quantitative approach, the analysis employs a balanced panel of 90 firm-year observations from 18 coal mining issuers during 2021-2025, drawn from public financial statements and Bank Indonesia's JISDOR data. We define profitability as EBIT to total assets, reconstructed using a bottom-up method, with annual exchange rate change, DHE exposure, and cash liquidity as explanatory variables. Model specification tests (Chow, Hausman, and Breusch-Pagan LM) indicate that the Random Effects Model estimated with EGLS is most appropriate. The findings reveal that profitability is negatively and significantly influenced by exchange rate movement ($\beta = -0.362$; $p < 0.01$), positively influenced by DHE exposure at the 10% significance level ($\beta = 0.550$; $p = 0.096$), and not significantly affected by cash liquidity ($\beta = 0.040$; $p = 0.190$). About 34.9% of the difference in profitability can be explained by the model. These findings show that currency fluctuations are the primary pressure on operating profitability, as operating and capital costs are predominantly denominated in foreign currencies, while DHE retention has no evidence of reducing profitability. Policymakers should continue monitoring strategies and improve firm management, while also monitoring stricter DHE regulations. Even so, the findings need to be read with caution given the short observation period, limited sample size and lack of control variables.

Keywords:
Exchange Rate; Export Proceeds Retention (DHE); Profitability; Coal Mining; Panel Data Regression.

1. INTRODUCTION

Geopolitical uncertainty together with fluctuations in commodity prices has had a major impact on financial stability in emerging markets (International Monetary Fund, 2026). Businesses today have to operate in an efficient manner and be capable of coping with external economic shocks. The energy and mining sectors, which are important components of the global supply chain, are particularly susceptible to changes in international markets. Alterations in global trade and monetary policy have a direct effect on the cash flow forecasts and asset values in these industries.

Coal mining in Indonesia contributes heavily to foreign exchange and has an important impact on economic growth (Liandy & Pane, 2024). Since it is among the biggest global exporters of thermal coal, the sector adds considerably to government revenue as well as to the Balance of Payments (BOP). The fact, though, that the industry is oriented towards exports and that prices are set in U.S. dollars means that companies are exposed to swings in commodity prices and in the Rupiah-to-USD exchange rate (Heriqbaldi et al., 2023).

Exchange rate volatility is still a major concern in the field of international financial management since flows of capital across borders may contribute to increased instability (Chen et al., 2024; Heriqbaldi et al., 2023). Unexpected changes in the currency interfere with trade and cause profit margins for firms engaged in foreign exchange to decline (Akinyemi & Uthmman, 2026; B. R. Mishra & Baisil, 2025). For coal mining companies, currency devaluation and volatility have an impact on export income and may result in higher operating and capital costs, since these costs are generally denominated in foreign currencies.

In order to reduce the economy's vulnerability and to enhance the ability of the country's foreign exchange reserves to withstand external shocks, the Indonesian government has adopted regulatory-based monetary policy measures. It introduced Government Regulation (PP) No. 36 of 2023 concerning the foreign exchange proceeds from exports (DHE) obtained from the exploitation, management, and/or processing of natural resources, subsequently making the regulation more stringent with PP No. 8 of 2025 (Peraturan Pemerintah (PP) Nomor 8 Tahun 2025 Tentang Perubahan Atas Peraturan Pemerintah Nomor 36 Tahun 2023 Tentang Devisa Hasil Ekspor Dari Kegiatan Pengusahaan, Pengelolaan, Dan/Atau Pengolahan Sumber Daya Alam, 2025; Peraturan Pemerintah (PP) Nomor 36 Tahun 2023 Tentang Devisa Hasil Ekspor Dari Kegiatan Pengusahaan, Pengelolaan, Dan/Atau Pengolahan Sumber Daya Alam, 2023). This monetary policy mandates that exporters in the natural resources sector, such as those in the coal mining industry, should deposit and keep at least 30% of their export proceeds within the domestic financial system for a minimum period of three months (Panggabean et al., 2025a).

Agency Theory, as Jensen (1986) pointed out when examining how managers use free cash flow, may be applied to explain the effects of the DHE regulation. The government's policy on DHE retention serves as an external constraint on the amount of capital that managers can allocate. By ordering managers to keep part of their free cash flow in domestic bank accounts, the policy decreases their ability to make investments, meet their obligations, and manage their liquidity, thereby resulting in less efficient working capital management.

On the contrary, Signaling Theory offers an explanation of how the market perceives exchange rate volatility (Ross, 1977): high volatility is regarded as a bad sign, indicating uncertainty regarding macroeconomic risks. In response, investors and creditors alter the company's risk profile, thereby increasing the cost of capital and the likelihood of foreign exchange losses, which in turn may indicate potential weaknesses in the company's financial performance to the public (Akinyemi & Uthmman, 2026).

While several economic studies have found DHE policy effective in stabilizing exchange rates and reducing capital flight (Indrasari et al., 2025), implementing it in practice presents significant challenges. Restricting export proceeds has indirectly caused persistent cash flow mismatches in corporate operations (Wiratama & Pawestri, 2026). As a result, limited liquidity compels corporations to seek high-interest commercial external financing to support daily operational working capital, thereby increasing financial burdens and substantially reducing profit margins (Siringoringo & Sadiawati, 2026).

The majority of earlier studies have assessed of exchange rate volatility either on macro-level export performance or on the financial performance of non-financial firms as a whole (Akinyemi & Uthmman, 2026; B. R. Mishra & Baisil, 2025). In addition, studies on the DHE policy predominantly rely on normative regulatory analyses or focus on its influence on national foreign exchange reserves (Indrasari et al., 2025; Panggabean et al., 2025b). A notable empirical gap remains regarding the combined effects of DHE foreign exchange retention requirements and exchange rate fluctuations on the generation of real operating profits in the coal mining sector.

This study fills this gap by examining how the Foreign Exchange from Export Proceeds (DHE) policy and Rupiah exchange rate volatility affect the profitability of coal mining companies listed on the Indonesia Stock Exchange. To ensure an accurate assessment of profitability, we measure financial performance using Earnings Before Interest and Taxes (EBIT) relative to Total Assets, calculated using a bottom-up approach. This method isolates pure operating profit by adding back tax and interest expenses to net income, enabling a precise evaluation of the impact of foreign exchange regulations and exchange rate volatility on operating performance, independent of capital structure costs or tax liabilities.

This study contributes to financial management in both theoretical and practical ways. Theoretically, it advances the integration of Agency Theory and Signaling Theory by demonstrating how monetary regulatory interventions constrain managerial discretion over free cash flow and how investors interpret exchange rate fluctuations as indicators of market risk. Practically, the findings provide strategic guidance for corporate management in developing hedging strategies and adaptive working capital management. Additionally, the results offer evidence-based policy recommendations for monetary authorities to ensure future foreign exchange reserve regulations support profitability and maintain national industry competitiveness. The article is structured into sections on Research Methodology, Results and Discussion, and Conclusion.

2. RESEARCH METHOD

The study adopts an explanatory quantitative method in order to examine, confirm, and carry out a statistical analysis of the effects of the Export Proceeds Foreign Exchange (DHE) policy and exchange rate volatility on the profitability of coal mining companies in Indonesia (Liandy, 2024; S Putra, 2026). A

quantitative approach has been selected since it allows the precise measurement of the interactions between the various variables by making use of secondary data from the issuers' public financial statements and from official monetary indicators (Akinyemi & Uthmman, 2026; Heriqbaldi et al., 2023). This study's design relies on panel data regression in order to combine time-series and cross-sectional data (Baltagi, 2005; Gujarati & Porter, 2009).

Compared with ordinary multiple linear regression, estimation using panel data has several important methodological benefits. It increases the degrees of freedom, reduces the likelihood of multicollinearity, and is able to take account of unobserved heterogeneity among firms that changes over time (Chairunnisa & Fauzan, 2023; Chen et al., 2024; B. R. Mishra & Baisil, 2025). For this reason, the panel data approach is appropriate for capturing the dynamics of changes in foreign exchange regulations and in exchange rate volatility which vary from year to year among individual coal mining companies.

The target population comprises all the firms that were part of the coal mining subsector and officially registered with the (Indonesia Stock Exchange, n.d.), throughout the period under review, that is from 2021 to 2025 (Siringoringo & Sadiawati, 2026). The researchers did not select their sample at random; instead, they used purposive sampling according to particular criteria to guarantee the relevance and consistency of the data. The conditions applied in choosing the sample are the following: (1) coal mining companies that had been listed on the IDX for the entire 2021–2025 period; (2) companies that have always issued audited annual reports closing on December 31; (3) companies possessing complete data regarding export sales, interest expenses, tax expenses, and total assets; and (4) companies which did not suffer any trading suspension or delisting during the study period.

Based on these sample selection criteria, 18 coal mining companies met all the testing requirements. Over the 5-year observation period (2021 to 2025), we obtained a balanced panel data structure of 90 firm-year observations (18 companies × 5 years). This balanced structure avoids bias that could arise from missing observations during the analysis period (Liandy, 2024). Table 1 lists the coal mining issues that were included in the research sample.

Table 1. Sample of Coal Mining Companies

Emiten Code	Company Name
ABMM	PT ABM Investama Tbk.
ADRO	PT Alamtri Resources Indonesia Tbk., sebelumnya PT Adaro Energy Indonesia Tbk.
BSSR	PT Baramulti Suksessarana Tbk.
BUMI	PT Bumi Resources Tbk.
BYAN	PT Bayan Resources Tbk.
DOID	PT BUMA Internasional Grup Tbk., sebelumnya PT Delta Dunia Makmur Tbk.
FIRE	PT Alfa Energi Investama Tbk.
GEMS	PT Golden Energy Mines Tbk.
HRUM	PT Harum Energy Tbk.
INDY	PT Indika Energy Tbk
ITMG	PT Indo Tambangraya Megah Tbk.
KKGI	PT Resource Alam Indonesia Tbk.
MBAP	PT Mitrabara Adiperdana Tbk.
MCOL	PT Prima Andalan Mandiri Tbk.
PTBA	PT Bukit Asam Tbk.
SGER	PT Sumber Global Energy Tbk.
SMMT	PT Golden Eagle Energy Tbk.
TOBA	PT TBS Energi Utama Tbk.

Source: Indonesia Stock Exchange (IDX), 2026

The dependent variable is corporate profitability, operationalized as the ratio of operating profit to total assets (PROFITABILITAS_ROA) To control for distortions from tax accounting, capital structure, and debt-cost decisions, EBIT is calculated using a bottom-up approach that reconstructs Net Income by adding back Income Tax Expense and Interest or Finance Cost (Putra & Putra, 2026; Siringoringo & Sadiawati, 2026). The independent variables comprise three components. The first is Exchange Rate Volatility (DELTA_KURS), defined as the percentage fluctuation in the annual change in the Rupiah/U.S. Dollar (USD/IDR), exchange rate based on Bank Indonesia's JISDOR data (Akinyemi & Uthmman, 2026; Heriqbaldi et al., 2023) The second is Foreign Exchange Exposure from Export Proceeds (EKSPOSE_DHE), measured as the ratio of export sales intensity to total sales, multiplied by the regulatory retention obligation weight for natural resource export proceeds (DHE SDA) in accordance with Government Regulation No. 36/2023 and Government Regulation No. 8/2025 (Indrasari et al., 2025; Panggabean et al., 2025b; Peraturan Pemerintah (PP) Nomor 8 Tahun 2025 Tentang Perubahan Atas Peraturan Pemerintah Nomor 36 Tahun 2023 Tentang Devisa Hasil Ekspor Dari Kegiatan Pengusahaan, Pengelolaan, Dan/Atau Pengolahan Sumber Daya Alam, 2025; Peraturan Pemerintah (PP) Nomor 36 Tahun 2023 Tentang Devisa Hasil Ekspor Dari Kegiatan Pengusahaan, Pengelolaan, Dan/Atau Pengolahan Sumber Daya Alam, 2023; Wiratama & Pawestri, 2026). The third is Cash

Liquidity (LIKUIDITAS_CASH), measured using the cash ratio to indicate the availability of net cash and cash equivalents relative to current liabilities (Siringoringo & Sadiawati, 2026). Table 2 provides a detailed summary of how these research variables are operationalized and measured.

Table 2. Operational Definition and Variable Measurement

Variable	Notation	Operation Definition	Mathematical Formula
Profitability	$PROFITABILITAS_ROA_{it}$	A ratio measuring a company's operating assets' ability to generate net operating profit using a bottom-up approach.	$PROFITABILITAS_ROA_{it} = \left(\frac{\text{Net Income}_{it}+\text{Tax}_{it}+\text{Interest}_{it}}{\text{Total Assets}_{it}}\right) \times 100\%$
Exchange Rate Volatility	$Delta_Kurs_t$	The percentage fluctuation in the exchange rate of the Indonesian Rupiah against the U.S. Dollar (USD/IDR) in the observation year t.	$Delta_Kurs_t = \left(\frac{\text{Kurs}_t - \text{Kurs}_{t-1}}{\text{Kurs}_{t-1}}\right) \times 100\%$
Export Proceeds Exposure	$EKSPOSURE_DHE_{it}$	The degree of intensity of export engagement for companies subject to the export foreign exchange retention requirement scheme.	$EKPOSURE_DHE_{it} = \left(\frac{\text{Export Sales}_{it}}{\text{Total Sales}_{it}}\right) \times \text{Retention Weight}_t$
Cash Liquidity	$LIKUIDITAS_CASH_{it}$	The ratio indicating the adequacy of cash and cash equivalents to cover the company's short-term liabilities.	$LIKUIDITAS_CASH_{it} = \left(\frac{\text{Cash and Cash Equivalents}_{it}}{\text{Current Liabilities}_{it}}\right)$

Source: Operationalization synthesized from research literature, 2026

An empirical test of the effect of interactions among independent variables on corporate profitability was conducted using a panel data regression model (Chen et al., 2024; Gujarati & Porter, 2009) . The systematic econometric equation is presented in Equation:

PROFITABILITAS_〖ROA〗_it=α+β_1 DELTA_KURS_it+β_2 EKSPOSE_DHE_it+β_3 LIKUIDITAS_CASH_it+ε_it

Where i denotes a mining issuer ($i = 1,2, \dots,18$), t represents the observation year ($t = 2021, \dots,2025$), α represents the regression constant, β_1 and β_2 are the parameter coefficients for each independent variable, and ε_{it} denotes the error term for the panel data.

The statistical analysis was conducted in sequential stages using econometric software (Akinyemi & Uthmman, 2026; Putra & Putra, 2026). The initial stage employed descriptive statistics to summarize the data distribution, including mean, maximum, minimum, and standard deviation. Model selection for panel data regression comprised several testing phases. As Madany et al. (2022) note, appropriate model selection ensures the estimation method matches the data characteristics. The first phase involved the Chow test to assess whether the Common Effects Model (CEM) or Fixed Effects Model (FEM) was more suitable. A cross-sectional F-test p-value less than 0.05 indicated that FEM was preferred. The second phase utilized the Hausman for deciding whether FEM or the REM fit better. According to Gomes (2022), the choice between fixed and random effects should reflect how the model accounts for variation across observational units. If the Hausman test p-value exceeded 0.05, we selected REM, as the coefficients differed significantly between FEM and REM (Gujarati & Porter, 2009). The third phase applied the Lagrange Multiplier Test (Breusch-Pagan LM Test) to select between CEM and REM. A Breusch-Pagan p-value below 0.05 indicated that REM was more appropriate (B. R. Mishra & Baisil, 2025; Siringoringo & Sadiawati, 2026). This systematic procedure aligns with the requirements of panel data regression, which require rigorous model selection before interpreting regression results (Chairunnisa & Fauzan, 2023). The final model was determined based on the outcomes of the Hausman Test, Chow Test, and Lagrange Multiplier Test. If REM was the most suitable model, we estimated it using Panel Feasible Generalized Least Squares (EGLS) with a random-effects cross-section approach (Wiratama & Pawestri, 2026). This approach evaluated the connection between exchange rate volatility, DHE exposure, cash

liquidity, and firm profitability, while controlling for firm-specific heterogeneity over the observation period. We then evaluated the selected estimation model using the coefficient of determination (R^2), overall model fit (F-statistic test), and the significance of individual predictors (t-statistic test) to assess the validity of hypotheses H_1, H_2, and H_3.

3. RESULTS AND DISCUSSION

3.1. Results

We conducted hypothesis testing and econometric estimation using panel data regression, drawing on 90 firm-year observations from 18 coal mining companies in Indonesia for 2021–2025. Before interpreting the regression coefficients and testing the hypotheses, we systematically selected the model specification using the Chow test, the Hausman test, and the Breusch-Pagan Lagrange Multiplier (LM) test ((Chairunnisa & Fauzan, 2023; Madany et al., 2022). Table 3 summarizes the results of the panel data model specification tests.

Table 3. Panel Data Model Selection Test Results

Testing Protocol	Statistical Test Value	p-value	Decision / Selection
Chow Test	Cross-section F: 8.5029	0.0000	Fixed Effect Model (FEM) preferred over CEM
Hausman Test	Correlated Random Effects: 0.0000	1.0000	Random Effect Model (REM) preferred over FEM
Lagrange Multiplier Test	Breusch-Pagan Cross-section: 61.3607	0.0000	Random Effect Model (REM) preferred over CEM

Source: Output Data Processing, 2026

Table 3 demonstrates that the Chow test produced a p-value of 0.0000 (<0.05), statistically rejecting the null hypothesis and signaling that the FEM is more appropriate than the Common Effects Model (CEM). The Hausman test yielded a p-value of 1.0000 (>0.05), indicating no systematic differences in coefficients between the FEM and the REM; thus, the REM is asymptotically more efficient and preferred over the FEM (Gomes, 2022). In the final stage, the Lagrange Multiplier (LM) test yielded a Breusch-Pagan p-value of 0.0000 (<0.05), confirming that the REM is significantly superior to the CEM in addressing inter-firm data heterogeneity (B. R. Mishra & A. Baisil, 2025; Siringoringo & Sadiawati, 2026). Therefore, we selected the panel-based Random Effects Model using Feasible Generalized Least Squares (EGLS) as the optimal model. The EGLS approach within the REM framework is advantageous because it applies weights that minimize heteroscedasticity risk across coal issuers with varying asset scales.

Before the regression analysis, we used descriptive statistics in Table 4 to assess the general characteristics of the data distribution and the sample's fundamental conditions during the observation period

Table 4. Descriptive Statistics of Research Variables

Variable	Mean	Maximum	Minimum	Std. Dev.	Observations
PROFITABILITAS_ROA	0.237194	0.803282	-0.312875	0.218968	90
EKSPOSURE_DHE	0.036000	0.100000	-0.020000	0.040525	90
DELTA_KURS	0.193667	0.850000	0.000000	0.238895	90
LIKUIDITAS_CASH	0.902473	3.155716	0.011925	0.805798	90

Source: Output Data Processing, 2026

Table 4 shows that average profitability ($PROFITABILITAS_ROA$) is 0.237194, with a maximum of 0.803282, corresponding to peak conditions during the global commodity supercycle. The exchange rate volatility variable ($DELTA_KURS$) averages 0.193667, while export proceeds exposure ($EKSPOSE_DHE$) averages 0.036000. Cash liquidity ($LIKUIDITAS_CASH$) demonstrates considerable variation, with a mean of 0.902473 and a maximum value of 3.155716, indicating substantial disparities in cash reserves among issuers. Table 5 presents the regression esusingresults obtained using the Random Effects Mod

Table 5. Panel Data Regression Results (Random Effect Model - EGLS)

Variable	Coefficient	Std. Error	t-Statistic	Prob. (p-value)
C (Constant)	0.251475	0.050889	4.941654	0.0000
DELTA_KURS	-0.362164	0.057120	-6.340377	0.0000
EKSPOSURE_DHE	0.550389	0.327174	1.682252	0.0961
LIKUIDITAS_CASH	0.039939	0.030230	1.321184	0.1899
Weighted R-squared	0.370972	F-statistic	16.90631	
Adjusted R-squared	0.349029	Prob(F-statistic)	0.000000	

Source: Output Data Processing, 2026

Equations should be placed at the center of the line and provided consecutively with equation numbers in parentheses flushed to the right margin, as in.

$$PROFITABILITAS_ROA_{it} = 0.2514 - 0.3621(DELTA_KURS_{it}) + 0.5503(EKSPOSE_DHE_{it}) + 0.0399(LIKUIDITAS_CASH_{it})$$

The model feasibility test yields an F-statistic of 16.9063 with a probability of 0.0000 (<0.05), indicating that exchange rate volatility, DHE exposure, and cash liquidity simultaneously explain firm profitability. The Adjusted R-squared of 0.3490 shows that this model explains 34.90% of the variance in profitability (PROFITABILITAS_ROA).

3.2. Discussion

The results indicate that exchange rate movement (DELTA_KURS) exerts a negative and statistically significant effect on the profitability of coal mining companies ($\beta = -0.362$; $p < 0.01$). Specifically, a 10-percentage-point rise in the annual rupiah change corresponds to an approximate 3.6 percentage point decline in operating return on assets. This outcome challenges the prevailing assumption that currency depreciation inherently benefits export-oriented firms. While coal sales are denominated in U.S. dollars, operating and capital expenditures in the sector are also largely incurred in foreign currencies, which may offset revenue gains through increased costs and foreign exchange losses.

In this study, we reconstruct EBIT from net income, thereby capturing foreign exchange differences recognized in the income statement. This methodological approach helps explain the observed negative effect. The result aligns with findings by Akinyemi & Uthmman (2026) and B. R. Mishra & A. Baisil (2025) , who report that exchange rate volatility diminishes the financial performance of non-financial firms, as well as with Putra & Putra (2026), who associates rupiah depreciation with increased foreign exchange difference expenses.

According to Signaling Theory (Ross, 1977), investors and creditors may interpret high volatility as indicative of macroeconomic risk, potentially increasing the cost of capital. However, because EBIT is measured before interest expenses, this channel is unlikely to affect current results directly. It is more appropriately considered a complementary mechanism that may further impact net returns.

DHE exposure has a positive coefficient ($\beta = 0.550$) that is statistically significant only at the 10% level ($p = 0.096$), indicating weak evidence. This positive sign contrasts with Agency Theory (Jensen, 1986), which posits that retention requirements constrain managerial discretion over free cash flow and reduce efficiency. Furthermore, it diverges from prior studies that report retention policies create liquidity mismatches and increase financing costs in the coal sector (Siringoringo & Sadiawati, 2026; Wiratama & Pawestri, 2026).

Several explanations may account for this result, although this study does not empirically test any of them. First, EKSPOSURE_DHE combines export intensity with the retention weight, so the positive coefficient may partly reflect the advantages of highly export-oriented firms, which are typically larger and have greater scale and financial flexibility. Second, retaining a portion of proceeds domestically may cost little relative to total export revenue. Third, Panggabean et al., (2025a, 2025b) propose that retention policies can help stabilize exchange rates, which may indirectly ease cost pressures on exporters. Overall, the findings provide no evidence that DHE retention reduces profitability, but they also do not support the conclusion that the policy enhances it. Cash liquidity has a positive but statistically insignificant effect ($\beta = 0.040$; $p = 0.190$), indicating that a higher cash ratio alone does not increase operating profitability. This outcome aligns with Jensen's (1986) assertion that cash generates value only when allocated to productive investment or working capital. The positive coefficient and the model's limited detail on cash use suggest this result should not be interpreted as evidence of managerial inefficiency. Additionally, some cash holdings may be reserved to meet DHE retention requirements, thereby limiting their deployability (Siringoringo & Sadiawati, 2026).

For managers, the significant impact of exchange rate movements underscores the need to implement hedging strategies and align the currency denomination of revenues and costs. Active working capital management is recommended over relying on large cash balances. For policymakers, the findings do not indicate that the current DHE scheme adversely affects operating profitability; however, the evidence remains limited, necessitating continued monitoring, especially following the implementation of stricter regulations in PP No. 8/2025.

Several limitations warrant consideration. First, the sample is small (18 firms, 90 observations) and limited to 2021–2025. Second, DELTA_KURS and the retention weight vary only annually, so the model identifies their effects from five time points and may reflect other time-specific shocks, such as coal price cycles, that it does not control for. Third, DELTA_KURS captures annual changes rather than conditional volatility. Fourth, the model omits control variables such as firm size, leverage, and hedging practices. Finally, the Adjusted R^2 of 0.349 means that approximately 65% of the variation in profitability remains unexplained. Future research could incorporate additional control variables and time effects, employ volatility measures such as GARCH or the standard deviation of monthly returns, and examine whether firm size moderates the effect of DHE.

4. CONCLUSION

This study examined the effects of exchange rate movements, DHE exposure, and cash liquidity on the profitability of coal mining companies listed on the Indonesia Stock Exchange, using panel data from 18 firms from 2021 to 2025. The Random Effects Model estimated with EGLS was selected based on the Chow, Hausman, and Breusch-Pagan LM tests.

The results indicate that exchange rate movement has a negative and significant effect on profitability; larger annual rupiah fluctuations are associated with lower operating returns, even when coal revenue is denominated in US dollars. This finding implies that foreign-currency costs and exchange differences can offset revenue gains from currency depreciation. DHE exposure exhibits a positive coefficient, but it is significant only at the 10% level, indicating weak evidence. Consequently, the results do not indicate that DHE retention reduces profitability, nor do they support the conclusion that the policy enhances it. Cash liquidity has no significant effect, suggesting that higher cash holdings alone do not increase operating profitability. Collectively, about 34.9% of the variation in profitability may be explained by these three variables taken together.

Theoretically, the findings partly support the Signaling Theory view that currency instability is a source of risk for firms. Still, they do not support the Agency Theory expectation that retention requirements reduce efficiency. Practically, firms should manage currency risk through hedging and by aligning revenue and cost currencies, and should actively deploy working capital rather than relying on large cash balances. For policymakers, the findings do not show that the current DHE scheme harms operating profitability. Still, because the evidence is weak, policymakers should monitor its effects, especially after the stricter rules in PP No. 8 of 2025.

There are several limitations to this study. The sample is small and the period is short. DELTA_KURS and the retention weight vary only by year, so their effects rest on five time points and may reflect other time-specific shocks such as coal price cycles. DELTA_KURS measures annual change rather than conditional volatility, and the model omits controls for firm size, leverage, and hedging use. Future research could add these controls and time effects, use volatility measures such as GARCH, extend the observation period, and test whether firm size moderates the effect of DHE. Overall, this study provides early evidence that, for Indonesian coal producers, exchange rate movement is a more evident threat to operating profitability than the DHE retention requirement.

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