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Corporate Governance and Financial Performance: The Moderating Role of Managerial Ownership

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ABSTRACT
This study investigates the role of managerial ownership as a primary internal governance mechanism in moderating the impact of growth dynamics on firm profitability within a capital-intensive industry. Focusing on Indonesian energy companies listed on the Indonesia Stock Exchange during 2022–2024, the study investigates the effects of the Investment Opportunity Set (IOS) and Asset Growth (AG) on financial performance (ROA) and tests Managerial Ownership (MOWN) as a moderating variable. Using a balanced panel of 39 firms (117 firm-year observations) and applying moderated regression analysis within a panel-data framework, the estimation indicates that IOS is negatively and significantly associated with ROA, suggesting that higher market-implied growth opportunities coincide with lower contemporaneous profitability in the sampled period. In contrast, AG shows a positive and significant effect on ROA, implying that realized asset expansion is, on average, associated with improved profitability. Managerial ownership does not exhibit a significant direct effect on ROA, however it plays a contingent role through interaction effects. Specifically, MOWN weakens the negative IOS–ROA relationship and dampens the positive AG–ROA relationship, indicating that managerial equity stakes condition how growth expectations and realized expansion translate into profitability. These findings extend agency-based insights on investment efficiency in high CAPEX settings and offer practical implications for boards and investors regarding the governance conditions under which growth becomes more or less profitable.

1. INTRODUCTION

Globally, the energy sector is undergoing a profound transformation, characterized by massive capital reallocation toward clean energy and efficiency amidst heightened regulatory scrutiny and market uncertainty (IEA, 2024; Xie et al., 2024). In this high-stakes environment, corporate governance has become the cornerstone of firm survival, with international standards increasingly emphasizing the integration of risk oversight into governance architecture (OECD, 2023). In Indonesia, this global shift is particularly salient as the country accelerates its energy transition, creating a unique tension between aggressive asset expansion and the need for sustained accounting profitability (World Bank, 2023).

Despite the strategic importance of growth, a critical empirical gap remains: how do growth opportunities and realized expansion affect profitability (ROA) when filtered through internal governance mechanisms? While the Investment Opportunity Set (IOS) represents future value (Myers, 1977), in capital-intensive industries like energy, it often signals heavy CAPEX cycles that can depress short-term returns (Dang, 2024). This study argues that the outcome of these growth dynamics is not automatic but is fundamentally shaped by Managerial Ownership (MOWN) as a primary internal governance mechanism.

From an Agency Theory perspective, the alignment of interests through managerial shareholding is crucial in emerging markets where institutional voids can lead to inefficient "empire-building" or suboptimal investment choices (Ararat et al., 2021; Boshnak, 2024). This research focuses on Indonesian energy firms (2022–2024) to examine whether MOWN serves as a critical boundary condition that disciplines the relationship between growth signals (IOS and Asset Growth) and realized performance (ROA).

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This study offers three key contributions. First, it isolates the energy sector during its most volatile transition period (2022–2024), providing context-specific evidence. Second, it distinguishes between market-based expectations (IOS) and realized accounting expansion (Asset Growth). Third, it treats Managerial Ownership as an active moderator rather than a mere control variable, addressing inconsistent findings in prior literature regarding investment efficiency. These findings provide practical insights for regulators (KNKG) and investors on the role of equity-based incentives in ensuring that growth ambitions translate into genuine corporate value.

A. Agency Theory

Agency theory explains conflicts that arise when ownership and control are separated: managers may not always maximize shareholder value due to private benefits, heterogeneous risk preferences, and information asymmetry between insiders and outside investors (Jensen & Meckling, 1976). These frictions become particularly salient in capital-intensive sectorssuch as energy where managers exercise discretion over large, often irreversible investments under uncertainty. When monitoring and incentive alignment are weak, agency conflicts can distort capital allocation through overinvestment (negative-NPV "empire-building") or underinvestment (foregoing value-creating projects), which subsequently undermines accounting profitability because costs are incurred earlier than stable cash flows and asset utilization may lag (Yadav & Yadav, 2025).

From an emerging-market perspective, agency conflicts are often amplified by concentrated ownership structures, complex control chains, and uneven effectiveness of external governance and enforcement, making internal governance mechanisms especially consequential for performance outcomes (Ararat et al., 2021). In Indonesia, this institutional context has been accompanied by a strengthening of capital-market rules and governance-related disclosure expectations in recent years, including reforms under Law No. 4/2023 and subsequent OJK regulations (e.g., OJK Regulation No. 45/2024), which reinforce the role of boards, transparency, and oversight as constraints on managerial discretion (OECD, 2025).

Within this setting, managerial ownership (MOWN) becomes a central internal governance lever. In line with agency logic, managerial shareholding can reduce agency costs by aligning managers' wealth with shareholder outcomes ("convergence of interests"), yet it may also create entrenchment once ownership confers greater control and weakens the disciplining role of boards and markets implying that the ownership–performance link is likely contingent rather than universal (Jensen & Meckling, 1976). This contingency is particularly relevant for Indonesian public companies where governance guidance and disclosure obligations for listed firms continue to evolve, and where the effectiveness of internal governance may substitute for weaker external enforcement in shaping investment efficiency and profitability (Yadav & Yadav, 2025).

B. Signaling Theory

Signaling theory posits that under information asymmetry, market prices embed investors' beliefs about firms' prospects; consequently, market-based valuation ratios can be interpreted as summary signals of perceived growth options and future rents. In corporate finance and accounting research, market-to-book type ratios are widely used to proxy growth opportunities because they reflect expectations beyond book fundamentals. Recent evidence also cautions that the market-to-book ratio increasingly captures an "intangible shift" and is not necessarily well explained by contemporaneous accounting performance implying that a high IOS (MVE/BVE) can coexist with weak short-run ROA when expectations are driven by anticipated future projects, intangible prospects, or repricing dynamics rather than current profitability (Cheng et al., 2025).

In capital-intensive and volatile settings, a high market-based IOS may also incorporate risk premia, optimism about long-horizon projects, or transition narratives that take time to materialize in earnings. Evidence from energy utilities, for example, shows that drivers associated with strategic transformation can relate differently to accounting profitability (ROA) versus market valuation, consistent with the idea that markets and accounting can "move on different clocks" during major investment cycles (Dorigoni & Anzalone, 2024). From a governance perspective, the credibility of signals and the degree of information asymmetry are not exogenous: stronger governance tends to dampen adverse information frictions and shape how markets interpret corporate policies, which is consistent with findings that governance quality weakens the negative consequences of information asymmetry in corporate outcomes and that "signals" matter for how information asymmetry translates into financing costs (Fathi et al., 2025).

The free cash flow perspective complements signaling and agency arguments by emphasizing the risk of inefficient expansion when managers have discretion over substantial internal funds. In this view, growth options and internal liquidity can encourage investment beyond optimal levels especially when external discipline is weak leading to overinvestment and weaker performance. Recent empirical work continues to

document that ownership and governance conditions are central in explaining overinvestment behavior for example, evidence shows that ownership structure interacts with governance-related mechanisms in shaping overinvestment incentives and outcomes (Chiang & Chang, 2022). More broadly, recent studies indicate that corporate governance quality and internal governance arrangements are associated with higher investment efficiency (Kashani et al., 2022; Zhang et al., 2024). In addition, managerial ownership has been linked to investment behavior and financing frictions and is frequently discussed as a key internal governance lever in emerging-market settings where ownership structures and enforcement differ from developed markets (Ararat et al., 2021; Boshnak, 2024).

C. Investment Opportunity Set and Financial Performance

IOS is frequently interpreted as a market-based proxy for firms' growth options; however, recent evidence indicates that market-to-book–type ratios increasingly reflect valuation effects and intangible-investment expectations that may not be supported by contemporaneous accounting profitability. For instance, the "intangible shift" in valuation multiples suggests that high market-to-book firms can exhibit weaker accounting performance even when markets price in future prospects, implying that a high IOS may coexist with pressured near-term profitability (Cheng et al., 2025). In capital-intensive settings such as energy, large up-front investments, long project lead times, and execution risk can further compress short-run returns on assets even when the strategic option value of growth remains positive (IEA, 2024). In addition, managerial discretion can magnify this trade-off: tone management in forward-looking disclosures has been linked to subsequent overinvestment outcomes, consistent with the idea that optimistic growth narratives can facilitate investment levels that are not fully value-accretive. More broadly, investment inefficiency particularly overinvestment in negative-value projects has been shown to adversely affect firm value and related performance channels, reinforcing the plausibility that aggressive growth options do not automatically translate into higher accounting returns. In Indonesia's energy context, governance and sustainability-related initiatives may also impose transition and compliance costs that weaken short-term profitability even when legitimacy and stakeholder alignment improve (Achmad & Widoretno, 2025). Based on the theoretical framework and previous arguments, the following hypotheses are formulated:

H1: Investment Opportunity Set (IOS) has a negative effect on financial performance (ROA).

D. Asset Growth and Financial Performance

Asset growth represents realized expansion that can improve performance through scale economies, improved capacity utilization, and better absorption of fixed costs particularly relevant in energy, where infrastructure scale can enhance operational efficiency (Dorigoni & Anzalone, 2024; Rizka & Ulfida, 2024). From a productivity perspective, expanding productive assets can raise earnings relative to total assets if management executes investment effectively and demand conditions support utilization (Rizka & Ulfida, 2024). Moreover, in growing markets, asset growth may reflect strategic positioning and improved resource deployment, leading to higher ROA (Dorigoni & Anzalone, 2024). While overinvestment remains a risk, the hypothesized direction assumes that, on average, asset expansion in the sample period supports operating outcomes (Rizka & Ulfida, 2024; Yu, 2024). Based on the theoretical framework and previous arguments, the following hypotheses are formulated:

H2: Asset Growth (AG) has a positive effect on financial performance (ROA).

E. Managerial Ownership and Financial Performance

Managerial ownership is widely viewed as an internal corporate governance mechanism that can improve firm performance by aligning managers' incentives with shareholders' interests (Iwasaki et al., 2022; Boshnak, 2024). Under agency theory, when managers hold equity stakes, they bear a direct share of both the upside and downside of corporate decisions, which reduces agency costs and discourages opportunistic behavior such as perquisite consumption, risk shifting, and value-destroying empire building (Jensen & Meckling, 1976). This incentive alignment can strengthen managerial effort, enhance investment discipline, and improve the quality of operational and financing decisions, thereby supporting higher accounting profitability, including ROA (Iwasaki et al., 2022). In addition, managerial ownership may complement board monitoring by increasing self-monitoring and accountability, particularly in environments where information asymmetry is high and

external governance mechanisms are imperfect (Ararat et al., 2021). Although the literature also acknowledges potential entrenchment effects at higher ownership levels, the present study focuses on the expected alignment channel in an emerging-market listed-firm setting where managerial shareholdings can serve as a governance lever and a credible commitment to value creation (Iwasaki et al., 2022). Therefore, we expect a positive association between managerial ownership and financial performance, while recognizing that the strength of this association may depend on institutional and firm-level governance conditions (Ararat et al., 2021). Based on the theoretical framework and previous arguments, the following hypotheses are formulated:
H3: Managerial Ownership (MOWN) has a positive effect on financial performance (ROA).

F. Managerial Ownership, Investment Opportunity Set and Financial Performance

Managerial ownership (MOWN) is positioned as a governance boundary condition that can shape how effectively firms translate market-perceived growth options into accounting profitability. Recent corporate governance research emphasizes that, in emerging-market settings, internal incentive alignment mechanisms may matter more because monitoring effectiveness and institutional protections vary across firms and time (Ararat et al., 2021). Meta-analytic evidence in emerging markets further indicates that managerial ownership tends to be associated with stronger firm performance outcomes, consistent with an incentive-alignment channel that supports more disciplined decision-making (Iwasaki et al., 2022). In the Indonesian context, managerial ownership is also discussed as a meaningful governance mechanism influencing key financial policies, implying that equity participation can alter managerial risk-taking and resource allocation behavior (Lubis et al., 2025). Under this view, when IOS is high, greater managerial ownership may sharpen project screening and execution discipline, making the (negative) IOS–ROA relationship more sensitive to governance incentives; at the same time, prior evidence shows ownership effects are not universally beneficial, highlighting the importance of testing moderation empirically rather than assuming monotonic impacts (Boshnak, 2024; Bhatta, 2025). Based on the theoretical framework and previous arguments, the following hypotheses are formulated:
H4: Managerial Ownership (MOWN) strengthens the effect of IOS on ROA.

G. Managerial Ownership, Asset Growth and Financial Performance

Although asset growth can enhance ROA, recent evidence suggests that when managers hold larger equity stakes, they may become more conservative under uncertainty because a greater share of their personal wealth is tied to firm outcomes. Evidence from a CFO-survey setting shows that higher managerial risk aversion especially when personal portfolios are less diversified tends to reduce investment in risky projects and encourage more risk-hedging behavior, which can translate into slower or more cautious asset expansion. Relatedly, CEO ownership has been shown to affect investment timing decisions, implying that owner-managers may delay, stage, or selectively pace capital deployment to protect downside exposure mechanisms that can weaken the marginal profitability contribution of rapid asset growth to ROA (Guthrie & Hobbs, 2021). In addition, governance research increasingly documents that higher insider/managerial ownership does not uniformly improve investment outcomes. Recent evidence indicates that increased insider ownership can be associated with lower investment efficiency, reflecting distortions such as overinvestment and misallocation that reduce the marginal returns generated by additional assets (Bhatta, 2025). Complementary work highlights that entrenched managerial behavior can impair investment efficiency, and that external monitoring mechanisms are particularly important in disciplining such tendencies again suggesting that the ROA gains from expanding the asset base may be dampened when internal power is concentrated (Duong et al., 2024). Moreover, international evidence implies that in weaker investor-protection environments, entrenchment channels may dominate alignment effects as insider ownership rises, weakening external discipline and reducing the performance payoff from expansion (Cheng & Wang, 2021). Based on the theoretical framework and previous arguments, the following hypotheses are formulated:

H5: Managerial Ownership (MOWN) weakens the effect of AG on ROA.

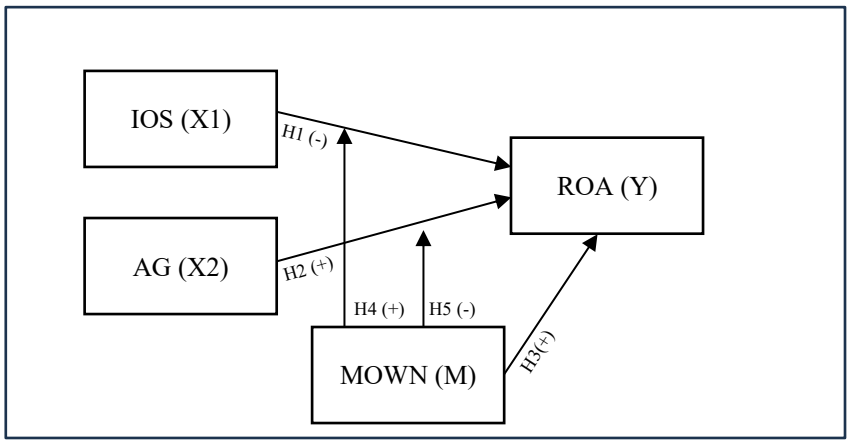

Figure 1. Conceptual Framework

In Figure 1, ROA is explained through two growth-related drivers investment opportunities and realized expansion while managerial ownership is positioned as a corporate governance boundary condition that shapes how these growth dynamics translate into profitability. The investment opportunity set (IOS), measured by MVE/BVE, reflects market-perceived growth options and anticipated future investment; in capital-intensive contexts, a high IOS may accompany aggressive CAPEX plans, expansion into new energy-related assets, or commodity-driven expectations, yet it can also depress contemporaneous ROA due to front-loaded costs, learning curves, and heightened risk, particularly when investment choices are influenced by agency motives. Asset growth (AG), in contrast, captures the realized expansion of the asset base and may enhance ROA when additional assets raise productive capacity and create economies of scale; however, very rapid growth can also weaken ROA if expansion is inefficient, financed at high cost, or leads to underutilized assets, making the net direction an empirical question. Managerial Ownership (MOWN) is modeled as a moderator because it affects incentives and monitoring intensity: higher MOWN can align managers with shareholders, encouraging tighter project screening and reducing overinvestment, thereby strengthening the IOS–ROA linkage, while also potentially inducing greater risk aversion or entrenchment that dampens the incremental profitability benefits of asset expansion.

2. METHOD

This study employs a quantitative research approach to examine the effect of growth-related corporate decisions and governance incentives on financial performance. Specifically, it investigates the impact of the investment opportunity set (IOS), proxied by the market-to-book equity ratio, and asset growth (AG) on return on assets (ROA), while testing managerial ownership (MOWN) as a moderating variable. Using panel data enhances the analysis by capturing variations across firms and over time, thereby improving estimation reliability and inference in a setting characterized by heterogeneous firm characteristics and period-specific shocks. The process of selecting the final sample based on the predetermined criteria is summarized in Table 1.

Table 1. Sample Selection Procedure

No	Sampling Criteria	Number of Firms
1	Energy-sector firms listed on the Indonesia Stock Exchange (IDX) during 2022–2024	71
2	Firms with incomplete or non-consecutive annual financial statements during 2022–2024	-4
3	Firms without managerial share ownership throughout the observation period (2022–2024)	-28
	Total Final Sample (Firms)	**39**
	Total Observations (39 firms x 3 years)	**117**

Table 1 shows that the population comprises all energy-sector firms listed on the Indonesia Stock Exchange (IDX) during 2022–2024, totaling 71 companies. A purposive sampling technique was applied to ensure data completeness and relevance to the moderation design. First, firms were required to be listed consecutively over the three-year period; no firms were excluded under this criterion. Second, four firms were

excluded because they did not publish complete annual financial statements on the IDX for one or more years during 2022–2024. Third, because managerial ownership is central to the governance mechanism tested, firms without managerial share ownership throughout the observation window were excluded, resulting in the removal of 28 firms. Accordingly, the final sample consists of 39 firms. Over a balanced three-year period, each firm contributes three observations, yielding 117 firm-year panel observations (39 firms × 3 years). This balanced panel structure allows the study to model both cross-sectional differences among firms and time-related variation across the 2022–2024 period.

To estimate the relationships, the study applies moderated regression analysis (MRA) within a panel-data framework. The baseline specification includes the direct effects of IOS, AG, and MOWN on ROA, followed by interaction terms to assess whether managerial ownership strengthens or weakens the profitability implications of growth opportunities and realized expansion. The models also incorporate relevant control variables (e.g., firm size, leverage, liquidity, and firm age) and year effects to mitigate omitted variable bias and absorb common macroeconomic shocks. The primary regression model is specified as follows:

$$ROA_{it} = \beta_0 + \beta_1 IOS_{it} + \beta_2 AG_{it} + \beta_3 MOWN_{it} + \beta_4 (IOS_{it} \times MOWN_{it}) + \beta_5 (AG_{it} \times MOWN_{it}) \quad (1)$$

Where i denotes firm and t denotes year. The interaction coefficients $\beta_4$and $\beta_5$capture the moderation effects of managerial ownership on the IOS–ROA and AG–ROA relationships, respectively. All estimations are conducted using EViews, with standard diagnostic checks (multicollinearity, residual assumptions, and influential observations) reported to support the robustness of the inference.

To ensure transparency and replicability, the study operationalizes each construct using widely accepted archival measures from IDX-listed firms' annual reports and market data. Table 2 summarizes the measurement approach, including variable definitions, formulas, scales, expected signs, and data sources.

Table 2. Operational Definitions and Measurement of Variables

Variable	Operational Definition	Formula	Scale
Financial Performance (ROA)	ROA is a standard accounting-based profitability indicator capturing firms' efficiency in generating earnings from their asset base (Brigham & Houston, 2022).	ROA_{it} = Net Income$_{it}$ / Total Assets$_{it}$	Ratio
Investment Opportunity Set (IOS)	IOS is proxied by a market-to-book type ratio (MVE/BVE) commonly used to represent market-perceived growth options in corporate finance and accounting studies (Myers, 1977).	IOS_{it} = MVE_{it} / BVE_{it} Where: MVE_{it} = Share Price$_{it}$ × Shares Outstanding$_{it}$ BVE_{it} = Total Equity$_{it}$	Ratio
Asset Growth (AG)	Asset growth is measured as the annual percentage change in total assets, a widely used indicator of realized expansion and scaling (Kong et al., 2022).	AG_{it} = (Total Assets$_{it}$ − Total Assets$_{it-1}$) / Total Assets$_{it-1}$	Ratio
Managerial Ownership (MOWN)	Managerial ownership is measured as the proportion of outstanding shares held by management, reflecting an internal governance mechanism that aligns managerial incentives with shareholder outcomes (Boshnak, 2024).	$MOWN_{it}$ = Managerial Shares$_{it}$ / Total Shares Outstanding$_{it}$	Ratio

Based on these operational definitions, the variables were computed for each firm-year observation and subsequently analyzed using the proposed moderated regression models. The next section reports the empirical results, beginning with descriptive patterns and diagnostic checks before presenting the main hypothesis tests.

3. RESULT AND DISCUSSION

To provide an overview of the data distribution and central tendencies, Table 3 reports the descriptive statistics for the main study variables based on 117 firm-year observations from Indonesian listed entities over 2022–2024.

Table 3. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
ROA	117	-3.540	0.780	0.067	0.374
IOS	117	-2.580	222.010	4.771	22.517
AG	117	-0.870	1.720	0.080	0.264
MOWN	117	0.000	0.800	0.118	0.195

As shown in Table 3, ROA exhibits substantial dispersion, ranging from −3.540 to 0.780 with an average of 0.067, indicating pronounced heterogeneity in profitability across the sample. IOS displays the widest spread (minimum −2.580; maximum 222.010; mean 4.771), suggesting large cross-firm differences in market-implied growth opportunities and the presence of highly valued outliers; accordingly, subsequent analyses should be interpreted with attention to scale and potential skewness. Asset growth averages 0.080 (range −0.870 to 1.720), implying that firms experienced both contraction and rapid expansion during the period. Managerial ownership is relatively low on average (mean 0.118) but varies meaningfully across observations (0.000 to 0.800), providing sufficient variation to test its direct and moderating roles in the regression models.

Table 4. Pearson Correlation Matrix

	IOS	AG	MOWN	IOS_MOWN	AG_MOWN
IOS	1.000000	-0.156841	0.030999	0.496067	0.005502
AG	-0.156841	1.000000	0.015680	0.001869	0.605918
MOWN	0.030999	0.015680	1.000000	0.564206	0.275783
IOS*MOWN	0.496067	0.001869	0.564206	1.000000	0.300707
AG*MOWN	0.005502	0.605918	0.275783	0.300707	1.000000

As shown in Table 4 (Pearson Correlation Matrix), there is no indication of serious multicollinearity among the predictors because all pairwise correlation coefficients are well below the commonly used cutoffs of 0.80–0.90 (Hair et al., 2019; Field, 2018). The strongest associations are observed between AG and AG_MOWN (r = 0.606) and between MOWN and IOS_MOWN (r = 0.564), but these values remain within acceptable bounds and are expected given that interaction terms are mechanically related to their component variables. Meanwhile, correlations among the core predictors (e.g., IOS and AG, r = −0.157) are very low, suggesting that each variable contributes distinct information to the model, this supports the conclusion that the regression estimates are unlikely to suffer from inflated standard errors due to high intercorrelations.

Table 5. Chow Test Result

Effects Test	Statistic	d.f	Prob.
Cross-section F	1.044404	(38,75)	0.4267
Cross-section Chi-Square	49.692432	38	0.0970

The Chow test is applied to determine whether the Fixed Effect Model (FEM) is more appropriate than the Common Effect Model (CEM) for estimating the panel data regression. This test evaluates whether there are significant individual (cross-sectional) effects across firms in the sample. As shown in Table 5, the Cross-section

F statistic is 1.044404 with a probability value of 0.4267, while the Cross-section Chi-Square statistic is 49.692432 with a p-value of 0.0970. Both p-values are greater than the conventional significance level of 0.05. This result implies that the null hypothesis cannot be rejected. In other words, there is no statistically significant difference between the common effect and fixed effect specifications, indicating that cross-sectional fixed effects are not required for this dataset. Therefore, based on the Chow test, the Common Effect Model (CEM) is preferred over the Fixed Effect Model (FEM). However, the Chow test represents only the first step in panel model selection. To confirm the most suitable specification, subsequent tests particularly the Hausman test and the Lagrange Multiplier (LM) test should also be considered to evaluate whether the Random Effect Model (REM) provides a better fit than the alternative models.

Table 6. Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f	Prob.
Cross-section random	20.752274	3	0.0001

The Hausman test is used to determine whether the Fixed Effect Model (FEM) or the Random Effect Model (REM) is more appropriate for panel data estimation. Specifically, this test assesses whether the unobserved individual effects are correlated with the explanatory variables; if such correlation exists, REM becomes inconsistent and FEM is preferred. As reported in Table 6, the Chi-square statistic is 20.752274 with 3 degrees of freedom, and the probability value is 0.0001. Because the p-value is far below 0.05, the null hypothesis which assumes that the Random Effect Model is appropriate (i.e., no correlation between individual effects and regressors) is rejected. This finding indicates that the cross-sectional (firm-specific) effects are correlated with the regressors, implying that the Random Effect Model would yield biased and inconsistent estimates. Therefore, the Fixed Effect Model (FEM) is statistically more appropriate than the Random Effect Model (REM) for this dataset. In other words, although the Chow test did not provide strong evidence favoring FEM over CEM, the Hausman test delivers stronger statistical support for using FEM when comparing FEM and REM, because the assumption required for REM is violated.

Table 7. Lagrange Multiplier Tests Result

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	2.022626	0.121735	2.144362
	(0.1550)	(0.7272)	(0.1431)
Honda	-1.422191	-0.348906	-1.252355
	(0.9225)	(0.6364)	(0.8948)
King-Wu	-1.422191	-0.348906	-0.658083
	(0.9225)	(0.6364)	(0.7448)
Standardized Honda	-1.213757	0.082537	-6.371888
	(0.8876)	(0.4671)	(1.0000)
Standardized King-Wu	-1.213757	0.082537	-3.269980
	(0.8876)	(0.4671)	(0.9995)
Gourieroux, et al.	--	--	0.000000
			(1.0000)

The Lagrange Multiplier (LM) test particularly the Breusch-Pagan version is employed to determine whether the Random Effect Model (REM) provides a better specification than the Common Effect Model (CEM). Conceptually, the LM test examines whether the variance of the random effects is statistically different from zero; if it is not, then the pooled (common effects) specification is sufficient. As reported in Table 7, the Breusch-Pagan LM statistics are 2.022626 for cross-section effects ($p = 0.1550$), 0.121735 for time effects ($p = 0.7272$), and 2.144362 for the joint (both) effects ($p = 0.1431$). All p-values exceed 0.05, indicating that the null hypothesis of no random effects cannot be rejected. Consistently, the alternative LM variants Honda and King-Wu tests, including their standardized forms also yield insignificant results, with p-values far above 0.05 for cross-section, time, and joint effects. Overall, these results suggest that random effects are not statistically

supported in the dataset, implying that the Common Effect Model (CEM) is adequate and preferable from a parsimony perspective when compared to REM.

Table 8. Hypothesis Test Results

The selected model is CEM, Dependent Variable = ROA					
Variable	Coefficient	Std. Error	t-Statistic	Prob.	Desc.
IOS	-0.0082	0.0015	-5.3223	0.0000	H1 Accepted
AG	0.7227	0.1376	5.2531	0.0000	H2 Accepted
MOWN	-0.0467	0.1853	-0.2520	0.8015	H3 Rejected
IOS*MOWN	0.0385	0.0152	2.5236	0.0130	H4 Accepted
AG*MOWN	-1.3408	0.5830	-2.2999	0.0233	H5 Accepted
R-squared	0.3915				
Adjusted R-squared	0.3640				

Table 8 reports the hypothesis testing results using the Common Effect Model (CEM), with ROA as the dependent variable. The overall explanatory power is moderate, with an R-squared of 0.3915 and an adjusted R-squared of 0.3640, indicating that approximately 36–39% of the variation in ROA is explained by the model's predictors and interaction terms.

For the direct effects, IOS shows a negative and statistically significant relationship with ROA ($\beta = -0.0082$; $t = -5.3223$; $p < 0.001$). This result supports H1, implying that higher market-implied growth opportunities are associated with lower contemporaneous accounting profitability. In contrast, asset growth (AG) has a positive and statistically significant effect on ROA ($\beta = 0.7227$; $t = 5.2531$; $p < 0.001$), supporting H2 and suggesting that, on average, firms experiencing higher asset expansion tend to exhibit higher profitability during the observation period. However, managerial ownership (MOWN) does not have a statistically significant direct association with ROA ($\beta = -0.0467$; $t = -0.2520$; $p = 0.8015$). Accordingly, H3 is rejected, indicating that managerial shareholding does not independently explain financial performance once IOS, AG, and the interaction terms are included.

Regarding the moderation hypotheses, the interaction term between IOS and managerial ownership (IOS×MOWN) is positive and significant ($\beta = 0.0385$; $t = 2.5236$; $p = 0.0130$), supporting H4. Substantively, because the main IOS coefficient is negative, a positive interaction indicates that higher managerial ownership weakens the negative effect of IOS on ROA (i.e., the adverse IOS–ROA association becomes less negative at higher levels of MOWN). This suggests that managerial ownership helps mitigate the profitability pressure associated with high growth opportunities, potentially through improved investment discipline and stronger incentive alignment. Meanwhile, the interaction between AG and managerial ownership (AG×MOWN) is negative and significant ($\beta = -1.3408$; $t = -2.2999$; $p = 0.0233$), supporting H5. This implies that managerial ownership dampens the positive effect of asset growth on ROA, meaning the marginal profitability gains from asset expansion are smaller when managerial ownership is higher, consistent with more conservative expansion behavior or greater sensitivity to downside risk among manager-owners.

A. Investment Opportunity Set and Financial Performance

The negative and significant IOS coefficient implies that firms with higher market-implied growth options tend to report lower contemporaneous accounting profitability. This finding is consistent with the interpretation that high IOS in capital-intensive settings reflects investment intensity and option value that may not translate into near-term earnings, particularly when projects involve long gestation periods, ramp-up inefficiencies, and higher operating uncertainty. In energy-related or transition-exposed environments, market expectations can rise faster than operational cash flows, producing a short-run profitability drag even if long-run value prospects appear favorable (IEA, 2024; OECD, 2023). The result also aligns with recent evidence that uncertainty and policy environments can shape corporate investment behavior and profitability outcomes, where aggressive growth expectations are not necessarily matched by immediate returns (Xie et al., 2024; Wang & Zhu, 2025). Moreover, IOS can embed optimistic narratives and valuation premia that are partially disconnected from accounting realization, particularly when firms face pressure to finance expansion under heightened

scrutiny (Al-Hiyari et al., 2024). Therefore, H1 is supported and can be interpreted as a "growth-option discount" on contemporaneous ROA: the market may price future opportunities while ROA reflects current execution costs.

B. Asset Growth and Financial Performance

Asset growth shows a positive and statistically significant association with ROA, indicating that realized expansion on average coincided with higher profitability during the study period. One plausible mechanism is that asset expansion in this sample reflects productive scaling, improved capacity utilization, and the absorption of fixed costs, which can raise operating efficiency when demand conditions and execution quality are favorable. Recent firm-level studies in emerging-market and corporate-finance contexts similarly report that growth-oriented investment or scaling can improve performance when resources are deployed effectively and managerial decisions support operational efficiency (Duong et al., 2024; Kong et al., 2022; Zhang et al., 2024). In addition, strategic expansion may strengthen firms' ability to capture opportunities in an evolving energy landscape where infrastructure build-out and system upgrading remain salient (World Bank, 2023; IEA, 2024). Taken together, the positive AG–ROA result supports H2 and suggests that, in the observed window, realized asset expansion was more often associated with productive growth than with value-destroying overexpansion.

C. Managerial Ownership and Financial Performance

Managerial ownership does not exhibit a statistically significant direct effect on ROA. This non-finding is substantively informative: it implies that managerial shareholding, by itself, does not automatically translate into higher accounting profitability once growth opportunities, realized expansion, and interaction effects are considered. One explanation is that managerial ownership can yield offsetting forces incentive alignment on the one hand, and risk aversion/entrenchment or heterogeneous governance quality on the other producing a net effect that is weak in pooled estimates. This is consistent with more recent literature suggesting that ownership–performance relationships are often context-dependent and can be statistically fragile when ownership levels vary widely and when governance effectiveness differs across firms (Boshnak, 2024; Iwasaki et al., 2022). Meta-analytic and cross-country evidence also points to non-linearities and boundary conditions in insider/managerial ownership effects, where the sign and magnitude depend on institutional setting and the ownership range being examined (Ararat et al., 2021). In the Indonesian listed-firm context where governance practices operate under evolving regulatory guidance and stakeholder pressure managerial ownership may be more consequential through how it conditions investment decisions, rather than as a direct determinant of profitability (KNKG, 2021; OECD, 2023). Thus, the rejection of H3 is compatible with the broader view that internal ownership mechanisms do not uniformly improve ROA unless they meaningfully affect investment discipline and monitoring.

D. Managerial Ownership, Investment Opportunity Set and Financial Performance

The positive and significant IOS×MOWN interaction indicates that higher managerial ownership attenuates the negative IOS–ROA relationship. Given that IOS has a negative main effect, a positive interaction means the adverse profitability implication of high growth options becomes less severe when managers hold more equity. This finding is consistent with the governance-as-boundary-condition argument: when managers have ownership stakes, they may screen projects more carefully, prioritize value-relevant investments, and reduce the tendency to pursue expansion justified mainly by market narratives. Recent evidence supports the idea that governance quality and managerial incentives can reduce information asymmetry and temper inefficient investment behaviors, improving the conversion of expectations into operational outcomes (Al-Hiyari et al., 2024). Studies focusing on investment efficiency similarly suggest that insider ownership and governance features can strengthen discipline in capital allocation, especially when firms face uncertainty and market pressure (Bhatta, 2025; Xie et al., 2024). In practical terms, the result implies that managerial ownership helps "translate" growth options into a less damaging short-run profitability profile consistent with incentive alignment operating through investment selection and execution rather than through an unconditional uplift in ROA.

E. Managerial Ownership, Asset Growth and Financial Performance

The negative and significant AG×MOWN interaction suggests that managerial ownership weakens the positive relationship between asset growth and ROA. This pattern can be interpreted through a conservative-investment channel: when managers hold equity, they may become more sensitive to downside risk and prefer stability over aggressive scaling particularly in volatile sectors so the marginal profitability gain from additional asset expansion becomes smaller at higher MOWN. Recent work highlights that ownership structures can influence corporate risk-taking, investment pace, and the effectiveness of growth strategies, implying that "more growth" is not uniformly beneficial under all incentive configurations (Yu, 2024; Wang & Zhu, 2025). Importantly, this finding does not imply that managerial ownership is harmful; rather, it suggests that manager-owners may moderate expansionary strategies, emphasizing selective investments and risk control that reduce the incremental ROA contribution of rapid asset expansion. In emerging markets and regulated environments, this dampening effect can reflect governance-related trade-offs between growth and prudence, especially when firms face transition pressures and stakeholder monitoring (OECD, 2023; World Bank, 2023).

4. CONCLUSION

This study investigates the relationship between growth-related factors and financial performance in Indonesia, focusing on IDX-listed energy firms over 2022–2024 and incorporating managerial ownership as a corporate governance boundary condition. Using a balanced panel of 39 firms (117 firm-year observations) and the selected Common Effect Model (CEM), the findings show that the investment opportunity set (IOS) is negatively and significantly associated with ROA, indicating that higher market-implied growth opportunities coincide with lower contemporaneous accounting profitability. In contrast, asset growth (AG) is positively and significantly related to ROA, suggesting that realized expansion of the asset base tends to improve profitability during the observed period. Managerial ownership (MOWN) has no significant direct effect on ROA, implying that managerial shareholding does not independently explain profitability once growth variables and interactions are considered. However, MOWN plays a meaningful contingent role: it attenuates the negative IOS–ROA relationship (positive IOS×MOWN interaction) and weakens the positive AG–ROA relationship (negative AG×MOWN interaction). Collectively, the results suggest that in capital-intensive settings, growth expectations and realized expansion have distinct profitability consequences, and ownership-based incentives shape how these growth dynamics translate into accounting performance.

Theoretical implications. First, the evidence reinforces agency-based arguments that growth options do not automatically enhance accounting profitability in high-CAPEX industries; instead, they may exert short-term profitability pressure due to front-loaded investment costs, execution risk, and ramp-up inefficiencies. Second, the non-significant direct effect of MOWN highlights an important boundary condition: managerial ownership may not function as a standalone driver of profitability, but rather as a governance mechanism that conditions the outcomes of strategic investment and growth decisions. Third, the opposing signs on the moderation terms imply that incentive alignment can simultaneously (i) discipline the conversion of market-perceived opportunities into profitable decisions (mitigating the IOS penalty) while (ii) constraining the marginal profitability of rapid asset expansion, consistent with a more cautious investment posture among manager-owners. Practical and policy implications. For boards and executives, the negative IOS–ROA association suggests that firms should manage market-implied growth narratives carefully through disciplined capital budgeting, staged investment, and post-investment performance evaluation, particularly when growth opportunities are high. For investors, the results indicate that high IOS should not be interpreted as an unambiguous signal of near-term profitability, especially in energy firms where project cycles are long. For regulators and market institutions, the findings support the importance of governance transparency particularly ownership disclosures and investment-related reporting—so that stakeholders can better assess whether growth strategies are matched with adequate internal incentives and monitoring.

This study has several limitations. First, the observation window (2022–2024) is relatively short, which restricts the ability to capture long-lag investment payoffs that are typical in energy projects. Second, IOS is proxied by MVE/BVE, which may embed market sentiment and risk premia in addition to growth options, potentially introducing measurement noise. Third, the analysis focuses on managerial ownership as the primary governance mechanism; other governance dimensions (e.g., board independence, audit committee effectiveness, ownership concentration, or institutional ownership) may also shape profitability but are not explicitly modeled

here. Fourth, while the selected model is CEM, unobserved heterogeneity and time-varying strategic factors (e.g., project portfolio quality, hedging practices, or commodity exposures) may still affect ROA beyond the included controls and interaction terms.

Future studies can extend this work in several ways. First, researchers should examine longer horizons and incorporate lag structures to test whether IOS becomes beneficial for ROA over time as investments mature. Second, alternative proxies for IOS (e.g., Tobin's Q, market-to-book assets) and performance (e.g., operating ROA, ROE, or cash-flow-based metrics) can be used to validate robustness across measurement choices. Third, future research may explore non-linear effects of managerial ownership (alignment versus entrenchment) by testing quadratic specifications or ownership thresholds. Fourth, incorporating broader governance "bundles" including board characteristics, institutional ownership, and ownership concentration could clarify which combinations of mechanisms most effectively translate growth into profitability. Finally, comparative designs across sectors or across energy sub-industries (e.g., coal, oil and gas, renewables, infrastructure) may identify heterogeneous governance–growth–performance mechanisms and strengthen generalizability.

5. REFERENCES

Achmad, F. S. P., & Widoretno, A. A. (2025). Sustainability disclosure, governance, and financial performance in determining firm value. *Jurnal Akademi Akuntansi*, *8*(4), 552-575. https://doi.org/10.22219/jaa.v8i4.42744

Al-Hiyari, A., Kolsi, M. C., Lutfi, A., & Shakkour, A. S. (2024). Information asymmetry and dividend payout in an emerging market: Does corporate governance quality matter?. *Journal of open innovation: technology, market, and complexity*, *10*(1), 100188. https://doi.org/10.1016/j.joitmc.2023.100188

Amiraslani, H., Deller, C., Ittner, C. D., & Keusch, T. (2025). Board risk oversight and environmental and social performance. *Journal of Accounting and Economics*, *79*(2-3), 101754. https://doi.org/10.1016/j.jacceco.2024.101754

Ararat, M., Claessens, S., & Yurtoglu, B. B. (2021). Corporate governance in emerging markets: A selective review and an agenda for future research. *Emerging Markets Review*, *48*, 100767. https://doi.org/10.1016/j.ememar.2020.100767

Bhatta, B. (2025). Insider ownership and investment efficiency. *International Journal of Finance & Economics*, 1–17. https://doi.org/10.1002/ijfe.70084

Boshnak, H. A. (2024). Ownership concentration, managerial ownership, and firm performance in Saudi listed firms. *International Journal of Disclosure and Governance*, *21*(3), 462-475. https://doi.org/10.1057/s41310-023-00209-0

Brigham, E. F., & Houston, J. F. (2022). *Fundamentals of financial management* (16th ed.). Cengage Learning.

Cheng, L. T., & Wang, J. W. (2021). Equity ownership and corporate transparency: International evidence. *International Review of Economics & Finance*, *76*, 143-165. https://doi.org/10.1016/j.iref.2021.03.005

Cheng, P., Li, L., Tong, W. H., & Tsai, C. (2025). The intangible shift: Redefining the dynamics of market-to-book ratios. *Journal of Corporate Finance*, 102850. https://doi.org/10.1016/j.jcorpfin.2025.102850

Chiang, Y. M., & Chang, P. R. (2022). Overinvestment, ownership structure, and directors' and officers' liability insurance. *International review of economics & finance*, *78*, 38-50. https://doi.org/10.1016/j.iref.2021.11.002

Dang, T. H. N., Balli, F., Balli, H. O., & Nguyen, H. (2024). Firm productivity in the Energy-electricity sector over the last two decades with crisis: The role of cross-listing. *Energy Economics*, *130*, 107309. https://doi.org/10.1016/j.eneco.2024.107309

Dorigoni, S., & Anzalone, G. A. (2024). Production of energy from renewable sources and financial performance of European utilities: A panel-data analysis. *Energy Policy*, *194*, 114323. https://doi.org/10.1016/j.enpol.2024.114323

Duong, H. K., Wu, Y., Schiehll, E., & Yao, H. (2024). Environmental and social disclosure, managerial entrenchment, and investment efficiency. *Journal of Contemporary Accounting & Economics*, *20*(3), 100435. https://doi.org/10.1016/j.jcae.2024.100435

Fathi, S., Mohammadin, Z., & Azarbayjani, K. (2025). Corporate finance signaling theory: an empirical analysis on the relationship between information asymmetry and the cost of equity capital. *International Journal of Disclosure and Governance*, *22*(3), 629-643. https://doi.org/10.1057/s41310-024-00261-4

Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). SAGE.

Guthrie, G., & Hobbs, C. (2021). How managerial ownership and the market for corporate control can improve investment timing. *Journal of Banking & Finance*, *128*, 106154. https://doi.org/10.1016/j.jbankfin.2021.106154

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage.

International Energy Agency. (2023). *Navigating Indonesia's power system decarbonisation with the Indonesia Just Energy Transition Partnership*. IEA.

International Energy Agency. (2024). *World Energy Investment 2024*. IEA.

Iwasaki, I., Ma, X., & Mizobata, S. (2022). Ownership structure and firm performance in emerging markets: A comparative meta-analysis of East European EU member states, Russia and China. *Economic Systems*, *46*(2), 100945. https://doi.org/10.1016/j.ecosys.2022.100945

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review*, *76*(2), 323-329. https://www.jstor.org/stable/1818789

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Kashani, S. M., & Mousavi Shiri, M. (2022). The role of corporate governance in investment efficiency and financial information disclosure risk in companies listed on the Tehran stock exchange. *Journal of risk and financial management*, *15*(12), 577. https://doi.org/10.3390/jrfm15120577

Komite Nasional Kebijakan Governance. (2021). *Pedoman Umum Governansi Korporat Indonesia (PUGKI)*. KNKG.

Kong, Q., Li, R., Wang, Z., & Peng, D. (2022). Economic policy uncertainty and firm investment decisions: Dilemma or opportunity?. *International Review of Financial Analysis*, *83*, 102301. https://doi.org/10.1016/j.irfa.2022.102301

Lubis, R. K., Darmadi, S., Pratiwi, T. A., Windara, P. F., Lutvian, S., & Firas, R. (2025). Managerial ownership as a corporate governance mechanism in shaping leverage decisions: insights from Indonesia. *Cogent Business & Management*, *12*(1), 2473043. https://doi.org/10.1080/23311975.2025.2473043

Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of financial economics*, *5*(2), 147-175. https://doi.org/10.1016/0304-405X(77)90015-0

Natto, D., & Mokoaleli-Mokoteli, T. (2025). Short- and long-term impact of governance on firm performance in emerging and developed economies: A comparative analysis. *International Journal of Disclosure and Governance, 22*, 831–848. https://doi.org/10.1057/s41310-024-00271-2

Nyiwul, L., Hu, Z., Koirala, N. P., & Wasson, H. (2025). Economic uncertainty and renewable energy investment. *International Economics and Economic Policy*, *22*(3), 48. https://doi.org/10.1007/s10368-025-00675-7

Organisation for Economic Co-operation and Development. (2023). *G20/OECD principles of corporate governance 2023*. OECD Publishing.

Organisation for Economic Co-operation and Development. (2025). *OECD Corporate Governance Factbook 2025: Indonesia (Country Note)*. OECD Publishing.

Rizka, N. R., & Ulfida, D. (2024). Asset Growth and Firm Performance: The Moderating Role of Asset Utilization. *BAJ: Behavioral Accounting Journal, 7*(2), 88–105. https://doi.org/10.33005/baj.v7i2.352

Wang, J., & Zhu, S. (2025). Impact of economic policy uncertainty on corporate investment efficiency: Moderating roles of financing constraints and financialisation. *International Review of Economics & Finance*, *98*, 103897. https://doi.org/10.1016/j.iref.2025.103897

World Bank. (2023). *Indonesia's electricity network: Strengthening and transforming for a better future*. World Bank.

Xie, Z., Ali, H., Kumar, S., Naz, S., & Ahmed, U. (2024). The impact of energy-related uncertainty on corporate investment decisions in China. *Energies*, *17*(10), 2368. https://doi.org/10.3390/en17102368

Yadav, A. S., & Yadav, I. S. (2025). The impact of country-and firm-level governance on capital allocation efficiency: New evidence from India. *Journal of Financial Stability*, *78*, 101407. https://doi.org/10.1016/j.jfs.2025.101407

Yu, J. (2024). Factors affecting return on assets in the renewable energy sector during supply chain disruptions. *Journal of Risk and Financial Management*, *17*(6), 253. https://doi.org/10.3390/jrfm17060253

Zhang, Y., Kong, D., & Liu, H. (2024). Internal governance and investment efficiency: The role of non-CEO executives. *International Review of Financial Analysis*, *96*, 103764. https://doi.org/10.1016/j.irfa.2024.103764