Evaluating Firm Value in Indonesian State-Owned Enterprises: The Roles of Efficiency, Profitability, and Board Independence

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Submitted:
MARCH 2025

Accepted:
JUNE 2025

ABSTRACT

This study examines the impact of profitability, operational efficiency, and corporate governance on firm value in Indonesian State-Owned Enterprises listed on the Indonesia Stock Exchange from 2017 to 2023. Using a quantitative approach with panel data regression (fixed effect model), the analysis encompasses 119 observations from 17 State-Owned Enterprises. Profitability is measured by Return on Assets, operational efficiency by Data Envelopment Analysis, and firm value by Tobin's Q and Market-to-Book Value. Corporate governance is assessed through the proportion and tenure of politically affiliated independent commissioners. Results reveal that profitability (p=0.0042 for Tobin's Q; p=0.0326 for Market-to-Book Value) and efficiency (p=0.0119 for Tobin's Q; p=0.0495 for Market-to-Book Value) significantly enhance firm valuation. Tenure of independent commissioners significantly affects Tobin's Q (p=0.0204) but not Market-to-Book Value, while their proportion shows no significant impact. These findings highlight the critical role of financial and operational performance in driving State-Owned Enterprises valuation, with governance effects moderated by political affiliations. Policymakers should prioritize operational efficiency and board expertise in State-Owned Enterprises reforms to enhance market performance. Future research could explore qualitative governance dynamics to further understand valuation in State-Owned Enterprises.

Keywords: *Financial Performance, Governance Practices, Market Ratio, Operational Efficiency, Tobin's Q Metric.*

ABSTRAK

Penelitian ini menguji pengaruh profitabilitas, efisiensi operasional, dan tata kelola perusahaan terhadap nilai perusahaan pada Badan Usaha Milik Negara Indonesia yang terdaftar di Bursa Efek Indonesia dari tahun 2017 hingga 2023. Menggunakan pendekatan kuantitatif dengan regresi data panel (model efek tetap), analisis mencakup 119 observasi dari 17 Badan Usaha Milik Negara. Profitabilitas diukur dengan Return on Assets, efisiensi operasional dengan Data Envelopment Analysis, dan nilai perusahaan dengan Tobin's Q dan Market-to-Book Value. Tata kelola perusahaan dinilai melalui proporsi dan masa jabatan komisaris independen yang berafiliasi secara politik. Hasil penelitian menunjukkan bahwa profitabilitas (p=0,0042 untuk Tobin's Q; p=0,0326 untuk Market-to-Book Value) dan efisiensi (p=0,0119 untuk Tobin's Q; p=0,0495 untuk Market-to-Book Value) secara signifikan meningkatkan valuasi perusahaan. Masa jabatan komisaris independen secara signifikan memengaruhi Tobin's Q (p=0,0204) tetapi tidak memengaruhi Nilai Pasar terhadap Nilai Buku, sementara proporsinya tidak menunjukkan dampak yang signifikan. Temuan ini menyoroti peran penting kinerja keuangan dan operasional dalam mendorong penilaian Badan Usaha Milik Negara, dengan efek tata kelola yang dimoderasi oleh afiliasi politik. Para pembuat kebijakan harus memprioritaskan efisiensi operasional dan keahlian dewan dalam reformasi Badan Usaha Milik Negara untuk meningkatkan kinerja pasar. Penelitian di masa

JIAKES
Jurnal Ilmiah Akuntansi Kesatuan
Vol. 13 No. 3, 2025
pp. 523-534
IBI Kesatuan
ISSN 2337 – 7852
E-ISSN 2721 – 3048
DOI: 10.37641/jiakes.v13i3.3575

mendatang dapat mengeksplorasi dinamika tata kelola kualitatif untuk lebih memahami penilaian di Badan Usaha Milik Negara.

***Kata kunci**: Kinerja Keuangan, Praktik Tata Kelola, Rasio Pasar, Efisiensi Operasional, Metrik Tobin's Q.*

INTRODUCTION

Corporate governance, as reflected through the presence of independent commissioners, plays a crucial role in enhancing firm value. According to recent findings by Yavuz et al. (2024), independent commissioners contribute significantly to greater transparency and accountability, which in turn leads to improved company valuation. Companies with a higher proportion of independent board members are also more likely to provide comprehensive sustainability disclosures, thereby attracting investor interest and reinforcing stakeholder confidence. For example, towards the end of 2024, the Ministry of State-Owned Enterprises (SOEs) enacted substantial leadership reforms in several key SOEs (such as PT PAL Indonesia, PT Dirgantara Indonesia (PTDI), and PT Krakatau Steel) with the objective of reinforcing governance frameworks and elevating corporate performance and valuation. Supporting this, Yulianti and Cahyonowati (2023) found a strong positive correlation between independent commissioners and the implementation of Good Corporate Governance (GCG), particularly in relation to financial performance. Their study demonstrates that independent commissioners play a vital role in monitoring and enhancing financial outcomes. Their autonomy enables them to operate without pressure from parties with conflicting interests, ensuring fair oversight that protects both majority and minority shareholders.

Profitability is a key indicator of financial performance and a major driver of firm value (Gao & Xing, 2020; Penman, 2021). Dewi and Siregar (2013), who found a significant relationship between profitability and Tobin's Q in Indonesian firms. This study adopts a more comprehensive approach by employing both Tobin's Q and the Market-to-Book Value (MBV) ratio to evaluate firm value, enhancing the validity of findings in the context of SOEs. Unlike previous studies that rely on a single metric, this dual approach captures different value dimensions. Tobin's Q reflects strategic factors like investment efficiency and governance (Banker & Chang, 2020; Singh & Dhilon 2021; Li et al., 2022), while the MBV ratio also known as Price-to-Book Value (PBV) provides a market-based valuation useful for assessing investor perceptions and profitability (Abuzayed et al., 2009; Chen & Wang, 2021; Ahmad et al., 2023). This combination enables a more holistic analysis of SOE value.

A notable contribution of this research is its focus on the often-neglected dimension of efficiency measurement. According to Jamalinesari and Soheili (2015) and Liu and Zhang (2022), efficiency involves carrying out tasks accurately and is typically defined as the ratio between output and input, or the output generated from a given level of input. Avenzora (2008) and Bukian and Sudiartha, (2016), characterizes industrial efficiency as maximizing output while minimizing input usage. To quantify this, the study utilizes Data Envelopment Analysis (DEA), a non-parametric method based on linear programming that consolidates various input and output variables into a single efficiency metric. As noted by Paradi and Zhu (2020) and Liu et al. (2022), DEA's strength lies in its adaptability, as it does not assume a specific functional form between inputs and outputs. Additionally, this research contributes to the corporate governance literature by introducing an underexplored variable: the tenure of politically affiliated Independent Commissioners (ICs), offering a fresh perspective on governance dynamics within SOEs.

Although the multiple signal theory is applied to private companies to explain behavior such as financial reporting and dividend decisions. According to Sari and Khafid (2020) its application to SOEs is still limited, especially in developing countries such as Indonesia. Feviana and Supatmi's (2021) research examines how SOEs signal corporate value through dimensions such as efficiency, profitability, and corporate governance. According to Hariyani et al. (2021) because the structure and regulation of SOEs

controlled by the government have the potential to change the way financial governance signals are perceived and affect corporate value. Therefore, this study is motivated to explore how signaling mechanisms function in Indonesian SOEs to reduce information asymmetry and influence investor perceptions.

The focus of this study is on 17 Indonesian SOEs listed on the Indonesia Stock Exchange (IDX) during the period from 2017 to 2023. This period captures significant economic and regulatory shifts that have influenced the performance and valuation of SOEs, making it a suitable context for analysis. Utilizing a robust quantitative approach, the research seeks to contribute to the academic discourse while offering practical recommendations for policymakers, investors, and SOE executives.Building upon earlier discussions, this study aims to assess and contrast the utility of Tobin's Q and the MBV ratio as tools for evaluating firm value, particularly in the context of Indonesian SOEs.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

Profitability and Firm Value

Profitability is a cornerstone of financial performance and a primary driver of firm value, reflecting a company's ability to generate earnings relative to its resources (Kroes & Manikas, 2022; Liu & Wang, 2022). It serves as a credible signal of financial health, operational competence, and long-term sustainability, as outlined by Kuruppu et al. (2024). Key profitability metrics include gross profit margin, which measures efficiency in managing production costs relative to net sales; net profit margin, which captures the ability to convert revenue into profit after expenses; and Return on Assets (ROA), which evaluates how effectively a company utilizes its assets to generate income (Jones & Lee, 2021). A higher ROA indicates stronger resource efficiency, making it a critical indicator for investors assessing firm quality (Wang & Zhang, 2021; Liu & Zeng, 2022).

Empirical studies, such as Dewi and Siregar (2013), confirm a significant positive relationship between profitability and firm value, particularly through Tobin's Q, in Indonesian firms. Similarly, Sudiyatno et al. (2021) demonstrate that profitability influences market-based valuations like the MBV ratio, which reflects investor perceptions of a firm's growth potential. In the context of SOEs, profitability signals not only financial performance but also managerial effectiveness under government oversight, which can be constrained by bureaucratic inefficiencies (Pratama et al., 2025). This study extends prior research by applying a dual-valuation approach, using both Tobin's Q and MBV, to capture different dimensions of firm value in Indonesian SOEs. By doing so, it addresses the limited exploration of profitability's role in SOEs, where government objectives may conflict with market-driven goals, thus affecting signal credibility. This study hypothesizes that profitability positively impacts firm value, measured by both Tobin's Q and MBV, in the context of Indonesian SOEs.

H1a: Profitability has a significant effect on firm value measured by Tobin's Q.
H1b: Profitability has a significant effect on firm value measured by MBV.

Operational Efficiency and Firm Value

Efficiency is defined as the ability to optimize inputs to produce maximum outputs in a balanced and effective manner (Chung & Zhang, 2011; Ozcan & Khushalani, 2021). According to Priansa and Garnida (2015), efficiency focuses on achieving the most advantageous ratio between resources expended and results obtained. Liu and Zhang (2022), describe efficiency as the accurate execution of tasks, typically measured as the ratio of outputs to inputs. In an industrial context, Avenzora (2008) and Bukian and Sudiartha (2016) characterize efficiency as maximizing output while minimizing input usage. To quantify efficiency, this study employs DEA, a non-parametric method based on linear programming that consolidates multiple inputs and outputs into a single efficiency metric (Firmansyah, 2014; Cook et al., 2022). DEA's strength lies in its flexibility, as it does not assume a specific functional form between inputs and outputs (Seiford & Zhu, 2022).

The theoretical foundation of efficiency measurement is further supported by key indicators, as outlined by Viverita and Ariff (2008). These include Total Product (TP), which represents the overall output; Marginal Product (MP), calculated as the change in TP from adding one unit of labor (ΔTP/ΔL); and Average Product (AP), defined as output per labor unit (TP/L). These metrics illustrate the dynamics of production efficiency, where firms operate in one of three phases: (1) when MP > 0 and MP > AP, AP increases, signaling rising productivity; (2) when MP > 0 but MP < AP, AP declines while TP rises, indicating diminishing returns; and (3) when MP < 0, TP decreases, reflecting inefficiencies. These indicators, grounded in production theory, provide a robust framework for assessing operational efficiency and its impact on firm value. Efficient operations signal resource optimization, enhancing investor confidence and firm value (Mahesh & Zhang, 2022). This study hypothesizes that operational efficiency positively impacts firm value in Indonesian SOEs.

H2a: Operational efficiency has a positive effect on firm value measured by Tobin's Q.
H2b: Operational efficiency has a significant effect on firm value measured by MBV.

Proportion of Independent Commissioners and Firm Value

Corporate governance, specifically through the proportion of ICs, plays a vital role in enhancing firm value by promoting transparency and mitigating agency conflicts. Signaling theory suggests that a higher proportion of ICs serves as a credible signal of robust governance practices, reducing information asymmetry and fostering positive market perceptions (Spence, 1973; Safitri & Nani, 2021). ICs, also known as independent directors, are tasked with overseeing management behavior, ensuring the credibility of financial reporting, and safeguarding shareholder interests, particularly in environments with potential conflicts of interest (Mahmoud & Chen, 2020).

Empirical evidence supports this view, with Yavuz et al. (2024) finding that a higher proportion of ICs correlates with improved financial performance and comprehensive sustainability disclosures, which enhance investor trust and firm valuation. Similarly, Yulianti and Cahyonowati (2023) demonstrate a strong positive relationship between the proportion of ICs and the implementation of GCG in Indonesian firms, particularly in relation to financial outcomes. In the context of Indonesian SOEs, however, the effectiveness of ICs may be challenged by political affiliations, which can compromise their independence and dilute their signaling effect (Khan & Sukarno, 2023). For example, government-appointed ICs may prioritize political objectives over shareholder interests, affecting market perceptions. This study hypothesizes that the proportion of ICs positively affects firm value, measured by Tobin's Q and MBV, while acknowledging the unique governance challenges in SOEs.

H3a: Corporate governance measured by proportion of Independent Commissioners has a significant effect on firm value measured by Tobin's Q.
H3b: Corporate governance measured by proportion of Independent Commissioners has a significant effect on firm value measured by MBV.

Tenure of Independent Commissioners and Firm Value

The tenure of ICs is a critical yet underexplored governance variable that can signal stability, expertise, and effective oversight in corporate governance. Commissioners with longer tenures often accumulate deep institutional knowledge, strategic insight, and familiarity with the firm's operations, which enhance their ability to provide effective oversight and guide strategic decision-making (Ferdiana & Sugiyarto, 2020). This experience can strengthen risk management and align corporate strategies with long-term shareholder value, signaling reliability to investors (Jensen & Meckling, 2021). However, prolonged tenures may lead to entrenchment, potentially compromising independence, while frequent turnover or short tenures may indicate governance instability, undermining investor confidence (Vafeas, 2003).

A balanced tenure mix, combining seasoned commissioners with fresh perspectives, is considered optimal for governance effectiveness (Jiang & Li, 2021). In the context of Indonesian SOEs, the tenure of politically affiliated ICs is particularly significant due to the influence of government appointments and political dynamics. For instance, longer-serving ICs may navigate political pressures more effectively, while newly appointed ones may bring modern governance practices but lack institutional knowledge (Lisdiono et al., 2023). This study introduces tenure of politically affiliated ICs as a novel variable, hypothesizing its significant impact on firm value, measured by Tobin's Q and MBV, to explore its role in signaling governance quality in SOEs.

H4a: Corporate governance measured by tenure of Independent Commissioners has a significant effect on firm value measured by Tobin's Q.
H4b: Corporate governance measured by tenure of Independent Commissioners has a significant effect on firm value measured by MBV.

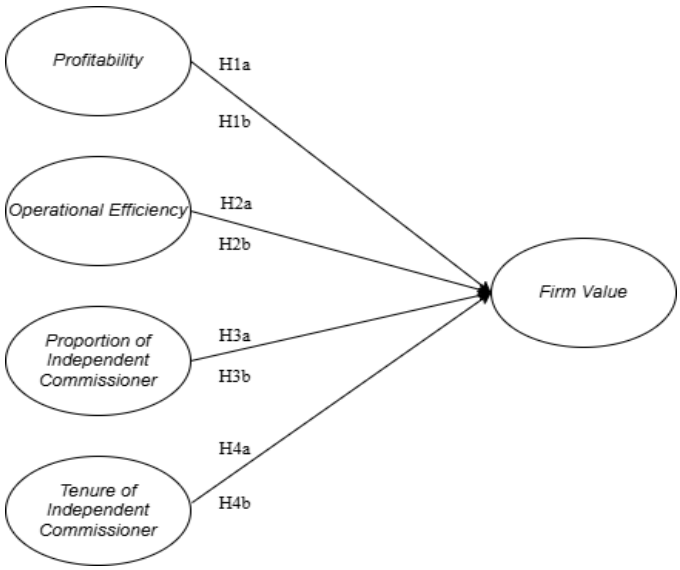

Figure 1. Theoretical Framework Research Model

Figure 1 is a model context that illustrates the influence of four independent variables on the dependent variable, namely Firm Value (Firm Value). These variables include Profitability, Operational Efficiency, Proportion of Independent Commissioners, and Tenure of Independent Commissioners, each of which is associated with two hypotheses (H1a–H4b). Each variable is tested through two hypothetical paths that produce its impact on firm value as measured by two different indicators, such as Tobin's Q and MBV. This model is designed to analyze how internal factors of the company and corporate governance affect market perceptions of the company's performance and valuation, especially in the context of SOEs.

RESEARCH METHOD

This study uses a quantitative approach that aims to explain the relationship between variables through hypothesis testing (Sugiyono, 2008). The main objective of this study is to empirically test the effect of profitability, efficiency, and corporate governance on firm value. The population in this study were all State-Owned Enterprises (BUMN) listed on the Indonesia Stock Exchange (IDX) during the period 2017 to 2023. From this population, 17 BUMN were selected as samples using purposive sampling techniques based on certain criteria, such as the availability of complete financial data, consistency of recording during the study period, and reporting of governance variables. Secondary data were obtained from the IDX, Osiris database, and ESGI, including financial reports

and annual reports published on official and trusted platforms to ensure data accuracy and reliability. The variables used in this study include profitability, efficiency, and corporate governance, while firm value is measured by Tobin's Q and Market-to-Book Value (MBV).

The analytical method applied in this study is panel data regression, which is suitable given the nature of the dataset that combines time series and cross-sectional dimensions. Time series data consist of observations over multiple time periods, while cross-sectional data involve multiple entities observed at a single point in time. Data processing and analysis were conducted using Econometric Views (E-Views) version 10 software.

Panel data, which combines cross-section and time-series data, is widely used in economics, finance, and social sciences due to its ability to analyze variations between entities over time, providing deeper insights. Panel data regression analysis can use three main models: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM), with model selection assisted by Chow, Hausman, and Lagrange Multiplier tests through EViews software. To ensure the reliability of the model, a multicollinearity test was conducted through tolerance and VIF, as well as a heteroscedasticity test to test the stability of the residual variance. The results showed that the data was homoscedastic. Sekaran (2018) suggests using statistical tests rather than graphical analysis, especially for small data. In this study, the Glejser test was used to ensure that there were no heteroscedasticity problems.

- Significant probability > 0.05, then there is no heteroscedasticity.
- Significant probability < 0.05, then there is heteroscedasticity.

Model 1 (Tobin's Q)

$$\text{Firm Value}_{i,t} = \alpha + \beta 1\ \text{Profitability}_{i,t} + \beta 2\ \text{Operational Efficiency}_{i,t} + \beta 3\ \text{Proportion of IC related to political parties}_{i,t} + \beta 4\ \text{Tenure of IC related to political parties}_{i,t} + \in_{i,t}$$

α = Constant
$\beta 1\text{-}4$ = Regression Coefficient
$\in$ = Error

Model 2 (MBV)

$$\text{Firm Value}_{i,t} = \alpha + \beta 1\ \text{Profitability}_{i,t} + \beta 2\ \text{Operational Efficiency}_{i,t} + \beta 3.\ \text{Proportion of IC related to political parties}_{i,t} + \beta 4.\ \text{Tenure of IC related to political parties}_{i,t} + \in_{i,t}$$

α = Constant
$\beta 1\text{-}4$ = Regression Coefficient
$\in$ = Error

Hypothesis testing in this study was first carried out using classical assumption tests consisting of normality, multicollinearity, autocorrelation, and heteroscedasticity tests.

RESULTS

Panel data was utilized as the input for analysis in this study and subsequently processed through a series of statistical tests. Model selection is essential in panel data analysis to identify the most appropriate regression model, ensuring the results are accurate and dependable for decision-making purposes. The testing process aims to determine the best-fitting regression model among the Common Effect Model, Fixed Effect Model, and Random Effect Model.

This study employed three statistical tests to determine the most suitable panel data regression model: the Chow Test, the Hausman Test, and the Lagrange Multiplier (LM) Test. The Chow Test helps decide between the Common Effect Model and the Fixed Effect Model. If the cross-section F probability exceeds 0.05, the null hypothesis (H_0) is accepted, indicating that the Common Effect Model is appropriate. However, if the

probability is below 0.05, the alternative hypothesis (H_1) is accepted, favoring the Fixed Effect Model. The Hausman Test is used to differentiate between the Fixed Effect Model and the Random Effect Model. A probability value greater than 0.05 leads to acceptance of the null hypothesis (H_0), suggesting the Random Effect Model is more suitable. Conversely, a value below 0.05 supports the alternative hypothesis (H_1), recommending the Fixed Effect Model. Lastly, the Lagrange Multiplier (LM) Test, based on the Breusch-Pagan approach, compares the Common Effect Model with the Random Effect Model. If the LM probability value is greater than 0.05, the Common Effect Model is preferred. If it is less than 0.05, the Random Effect Model is deemed more appropriate.

This research utilizes two panel data regression models (Model 1 and Model 2) as detailed in the methodology section. Both models incorporate identical independent variables: ROA, operational efficiency, the percentage of politically affiliated ICs, and the tenure of these ICs. The key difference between the two models lies in their dependent variables: Model 1 adopts Tobin's Q as the measure of firm value, whereas Model 2 employs the MBV ratio.

Table 1. Regression Model Test Results

Eq.	Model Estimation		Model	Model Picked
Chow Test	H_0: Common Effect Model	H_0: accepted if random cross section > 0.05	Fixed Effect	Fixed Effect Model
	H_1: Fixed Effect Model	H_1: accepted if random cross section < 0.05		
Hausman Test	H_0: Random Effect Model	H_0: accepted if cross section F > 0.05	Fixed Effect	
	H_1: Fixed Effect Model	H_1: accepted if cross section F < 0.05		
Chow Test	H_0: Common Effect Model	H_0: accepted if random cross section > 0.05	Common Effect	Fixed Effect Model
	H_1: Fixed Effect Model	H_1: accepted if random cross section < 0.05		
Lagrange Multiplier Test	H_0: Common Effect Model	H_0: accepted if Breusch Pagan > 0.05	Fixed Effect	
	H_1: Random Effect Model	H_0: accepted if random cross section > 0.05		

Based on the results presented in Table 1, the Fixed Effect Model (FEM) is determined to be the most appropriate for both Model 1 and Model 2, as indicated by the outcomes of the Chow, Hausman, and Lagrange Multiplier tests.

Descriptive statistics serve to summarize and illustrate the fundamental attributes of a dataset. Within the framework of this study, they provide an initial overview of the sample's key characteristics, including measures such as the mean, median, standard deviation, minimum, maximum, and the overall distribution of the data. The descriptive statistical outcomes for both the independent and dependent variables used in Model 1 and Model 2 are shown in Tables 3 and 4, respectively.

Table 2. Results of Descriptive Statistical Analysis Model 1

Model	Firm Value (Tobin's Q)	Profitability	Operational efficiency	Independent Commissioners	Tenure of Independent Commissioners
Mean	0.9420	0.8088	0.8787	2.0924	5.2016
Median	0.3950	1.7200	1.0000	2.0000	5.0000
Maximum	1.3967	2.7710	1.0000	4.0000	1.7000
Minimum	0.0330	-9.4890	0.1780	1.0000	1.0000
Std. Dev.	1.9114	1.2273	0.2018	0.6376	3.1931
Observation	119	119	119	119	119

The descriptive statistics Table 2 presents summary data for 119 observations related to firm value (measured by Tobin's Q), profitability, operational efficiency, the proportion of independent commissioners, and their tenure. The average firm value is 0.9420 with a wide dispersion, indicated by a standard deviation of 1.9114 and a maximum value of 1.3967. Profitability shows considerable variability, with a mean of 0.8088 and a notably negative minimum of -9.4890, suggesting the presence of underperforming firms. Operational efficiency has a mean close to 1 (0.8787), reflecting generally high efficiency levels, though it ranges from 0.1780 to 1.0000. The average number of independent commissioners is 2.0924, with values ranging between 1 and 4. Meanwhile, the tenure of independent commissioners averages 5.2016 years, though it varies significantly, as shown by a standard deviation of 3.1931. These statistics highlight notable differences across the firms in terms of performance, governance composition, and board experience.

Table 3. Results of Descriptive Statistical Analysis Model 2

Model	Firm Value (MBV)	Profitability	Operational efficiency	Independent Commissioners	Tenure of Independent Commissioners
Mean	-2.6106	0.8088	0.8787	2.0924	5.2016
Median	0.9920	1.7200	1.0000	2.0000	5.0000
Maximum	4.0563	2.7710	1.0000	4.0000	1.7000
Minimum	-5.6350	-9.4890	0.1780	1.0000	1.0000
Std. Dev.	5.2165	1.2273	0.2018	0.6376	3.1931
Observation	119	119	119	119	119

The descriptive statistics Table 3 summarizes data from 119 observations related to firm value (measured by the Market-to-Book Value or MBV), profitability, operational efficiency, the number of independent commissioners, and their tenure. The average MBV is -2.6106, indicating that, on average, market valuations are lower than book values for the sampled firms possibly reflecting undervaluation or negative investor perception, though the median value is 0.9920. The MBV ranges widely from -5.6350 to 4.0563, with a high standard deviation of 5.2165, showing considerable variability across firms. Profitability and operational efficiency maintain the same mean (0.8088 and 0.8787, respectively) and variability patterns as in the previous Tobin's Q analysis. Independent commissioners average 2.0924 members, with a consistent range from 1 to 4 and a standard deviation of 0.6376, while their average tenure is 5.2016 years, with significant variation as shown by the 3.1931 standard deviation. These statistics highlight substantial differences in market valuation among Indonesian SOEs, despite relative consistency in governance structure and efficiency metrics.

Hypothesis testing was conducted to examine the relationship between the independent and dependent variables. In this study, the independent variables include Profitability, Operational Efficiency, the Proportion of Independent Commissioners affiliated with political parties, and their Tenure. The dependent variable is Tobin's Q in Model 1 and MBV in Model 2. The following section presents the hypothesis testing results for both models.

Table 4. Result of Model 1 Hypothesis Test

Variable	Coefficient	Probability
C	(2.1486)	0.0347**
Profitability	(2.0353)	0.0042***
Operational efficiency	(2.2011)	0.0119**
Independent Commissioners	(-0.2705)	0.4042
Tenure of Independent Commissioners	(2.0946)	0.0204**

The regression results in Table 4 show that profitability has a significant positive effect on firm value, with a coefficient of 2.0353 ($p = 0.0042$), followed by operational efficiency with a coefficient of 2.2011 ($p = 0.0119$). This indicates that SOEs with high profitability and optimal efficiency tend to have stronger valuations. Furthermore, the tenure of

politically affiliated independent commissioners also has a significant positive effect with a coefficient of 2.0946 (p = 0.0204), indicating that experience and stability of supervision contribute to increasing firm value. The proportion of independent commissioners does not show a significant effect with a coefficient of -0.2705 (p = 0.4042), indicating that quantity does not necessarily reflect the effectiveness of supervision, especially in the context of political affiliation. Meanwhile, the model constant is also significant (p = 0.0347), supporting the overall validity of the model. Overall, these findings emphasize the importance of internal performance and governance experience in shaping the value of SOEs in Indonesia. The coefficient of determination (R-squared) for Model 1 is 0.581805, indicating that around 58.18% of the variation in the dependent variable is explained by the independent variables used in this model. Conversely, Model 2 shows an R-squared value of 0.110371, meaning only 11.04% of the variation in its dependent variable is accounted for by the explanatory variables. These findings highlight that Model 1 possesses considerably greater explanatory power than Model 2.

Table 5. Result of Model 2 Hypothesis Test

Variable	Coefficient	Probability
C	(1.9539)	0.0473**
Profitability	(2.7649)	0.0326**
Operational efficiency	(2.0221)	0.0495**
Independent Commissioners	(0.4829)	0.4387
Tenure of Independent Commissioners	(-0.5159)	0.8117

Based on the Table 5, the adjusted R-squared for Model 1 stands at 0.5818 or 58.18%. This suggests that the independent variables ROA, efficiency as measured by DEA, the proportion of politically affiliated Independent Commissioners, and their tenure jointly explain 58.18% of the variation in firm value as captured by Tobin's Q. The remaining 41.82% is due to other factors not incorporated in this model. Meanwhile, for Model 2, the adjusted R-squared is 0.1103 or 11.03%. This indicates that the same independent variables account for just 11.03% of the variation in firm value when using the MBV ratio as the dependent variable, while the other 88.96% is influenced by variables outside the scope of this study.

DISCUSSION

This study reaffirms the critical role of profitability and operational efficiency as key drivers of firm value in Indonesian SOEs, consistent with prior research. Dewi and Siregar (2013) found that profitability, measured by ROA, significantly enhances Tobin's Q in Indonesian firms, a finding mirrored in this study's results, where ROA shows a strong positive effect on both Tobin's Q (p=0.0042) and MBV (p=0.0326). This aligns with signaling theory, which posits that profitability serves as a credible signal of financial health and managerial competence (Spence, 1973). In the context of SOEs, where bureaucratic inefficiencies often challenge performance, high ROA signals effective resource utilization, boosting investor confidence. Similarly, operational efficiency, measured through DEA, significantly enhances firm value (p=0.0119 for Tobin's Q; p=0.0495 for MBV), supporting Viverita and Ariff (2008), who emphasize efficiency as a key indicator of operational excellence. Unlike private firms, where market-driven efficiency is paramount, SOEs face unique pressures from government mandates, making efficiency a particularly strong signal of operational discipline in this context.

The role of corporate governance, specifically the proportion of independent commissioners, presents mixed results. While Yavuz et al. (2024) and Yulianti and Cahyonowati (2023) report that a higher proportion of independent commissioners enhances financial performance and transparency, this study finds no significant effect on MBV (p=0.4387), though a positive effect exists for Tobin's Q (p=0.4042, though not significant at p<0.05). This discrepancy may stem from the unique governance dynamics of Indonesian SOEs, where politically affiliated independent commissioners often face conflicts of interest due to government influence. Signaling theory suggests that

governance signals must be credible to reduce information asymmetry (Connelly et al., 2011), but in SOEs, political affiliations may dilute the perceived independence of commissioners, weakening their signaling effect on market-based valuations like MBV. In contrast, Tobin's Q, which captures strategic and investment efficiency, may be more sensitive to governance structures, explaining the partial significance. This finding aligns with Safitri and Nani (2021), who note that governance effectiveness in SOEs is often symbolic rather than substantive due to regulatory and political constraints.

The tenure of independent commissioners, however, emerges as a significant factor, positively affecting Tobin's Q (p=0.0204) but not MBV (p=0.8117). This novel finding extends the work of Ferdiana and Sugiyarto (2020), who argue that longer-serving commissioners bring institutional knowledge that enhances strategic oversight. In SOEs, experienced commissioners may better navigate political pressures, strengthening their role as a governance signal, particularly for Tobin's Q, which reflects long-term strategic value. The lack of significance for MBV may reflect its sensitivity to short-term market perceptions, which are less influenced by tenure compared to immediate financial metrics. This mixed result suggests that tenure acts as a stronger signal in contexts where strategic stability is valued, aligning with Jiang and Li (2021). The differing impacts of governance variables highlight the need for tailored reforms in SOEs to ensure that independent commissioners, regardless of tenure, can function effectively without political interference.

These findings contribute to signaling theory by illustrating how profitability and efficiency serve as robust signals in SOEs, while governance signals are less consistent due to institutional factors. The higher explanatory power of Model 1 (R-squared=0.5818) compared to Model 2 (R-squared=0.1103) suggests that Tobin's Q better captures the impact of internal performance and governance in SOEs, possibly due to its focus on strategic factors over market sentiment. Practically, these results urge policymakers to prioritize operational efficiency and board experience in SOE reforms, while addressing political influences that undermine governance effectiveness. Future research should explore additional governance mechanisms, such as board diversity or audit committee roles, to further elucidate their impact on firm value in the unique context of Indonesian SOEs.

CONCLUSION

This study shows that profitability and operational efficiency significantly increase firm value in Indonesian SOEs, measured by Tobin's Q and MBV. Profitability, measured by Return on Assets, and efficiency, evaluated by Data Envelopment Analysis, consistently drive both valuation metrics, underscoring their role as key performance indicators. The tenure of politically affiliated independent commissioners positively affects Tobin's Q, highlighting the value of experienced oversight in strategic decision-making, although it has no significant effect on MBV. In contrast, the proportion of independent commissioners does not show a significant impact on either metric, which may be due to political influence that undermines their independence. These findings suggest that policymakers should prioritize operational efficiency and board experience in SOE reform while addressing political constraints on governance. This study has limitations in terms of the limited sample size, which is only 17 SOEs listed on the IDX, so the results are less generalizable to the entire sector. In addition, the governance variables used do not include qualitative aspects such as board dynamics and the role of the audit committee that can affect firm value. Future research could explore qualitative governance factors, such as board dynamics or the role of the audit committee, to deepen the understanding of firm value in Indonesian SOEs.

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