

Navigating Financial Performance and Firm Value in State-Owned Enterprises: The Moderating Role of Dividend Payouts During Uncertainty Period

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ABSTRACT

This study aims to examine and analyze the effect of firm performance (ROE) and firm characteristics (size) on firm value (PBV). The study involves two control variables: situation and industry type. Additionally, this research uses the Dividend Payout Ratio (DPR) variable as a moderator for the relationship between ROE and PBV, as well as for the relationship between Size and PBV. This study includes 21 state-owned enterprises (SOEs) listed on the Indonesia Stock Exchange (IDX), with a total of 345 firm-year observations. The findings of this study show that the ROE and Size variables have a negative and significant effect on PBV. Meanwhile, the DPR variable positively moderates the relationship between ROE and PBV, as well as between Size and PBV. The situation and industry-type variables were found to have no effect on PBV. The implications are that companies need to be cautious in relying on ROE or large size as indicators to increase PBV. An appropriate dividend policy can be an important strategy to enhance or maintain firm value, particularly for large companies facing challenges in sustaining PBV. Companies need to balance dividend policies with investments for growth and manage organizational complexity to improve PBV.

Keywords: Dividend Payouts Ratio; Financial Performance; Firm Performance; Firm Value; State-Owned Enterprise

INTRODUCTION

State-owned enterprises (BUMN or SOEs) play a critical role in Indonesia's economy, particularly during periods of economic uncertainty. These enterprises are significant contributors to national revenue and serve essential functions in stabilizing the economy and promoting social welfare (Satutikirono & Sunitiyoso, 2021). The ownership of SOEs remains largely under government control and continues to be viewed as a key driver of the national economy (Soejono & Heriyanto, 2018). Their multifaceted roles include market regulation, infrastructure development, and provision of public services, which become even more pronounced in times of crisis. Firstly, SOE is pivotal in maintaining economic stability. During economic downturns, such as those experienced during the COVID-19 pandemic, the government has relied heavily on these enterprises to sustain economic activity. The Ministry of SOEs has encouraged mergers among SOEs to enhance competitiveness and operational efficiency, thereby ensuring that these entities can better support the national economy (Dewi et al., 2023). This strategic consolidation aims to create stronger entities capable of weathering economic shocks and contributing to recovery efforts (Prastiyono, 2024).

Moreover, SOEs have been instrumental in executing large-scale infrastructure projects, which are vital for stimulating economic growth and creating jobs, particularly in challenging economic climates (Utomo, 2022). Secondly, the financial performance of SOE is crucial for their operational sustainability and their ability to fulfill their roles effectively. Research indicates that the financial health of these enterprises directly impacts their capacity to contribute to national development (Prastiyono, 2024). The government has recognized this and has implemented policies to bolster the financial performance of SOE, including strategic investments and subsidies. However, there are concerns regarding the dependency on government support, which can hinder their independence and operational efficiency (Assagaf et al., 2017).

Signaling theory posits that firms communicate their quality and value through specific signals, particularly in environments characterized by information asymmetry. High financial metrics such as return on equity (ROE) serve as positive signals to investors, indicating strong operational efficiency and profitability (Colombo et al., 2019). For instance, firms that consistently report high ROE can attract investment by signaling their capability to generate returns, thereby enhancing their market value (Priani, 2023). This theory is particularly relevant in the context of dividend policies, where consistent and increasing dividend payouts can signal financial health and stability to investors, reinforcing their confidence in the firm's future prospects (Chauhan & Rao, 2022). Conversely, a lack of dividends or erratic dividend policies may signal financial distress or management inefficiency, potentially leading to a decline in firm value (Dawar, 2014).

Agency theory, on the other hand, addresses the conflicts of interest that arise between shareholders (principals) and managers (agents) (Lumapow, 2018). This theory suggests that managers may prioritize personal goals over shareholder wealth maximization, leading to agency costs that can detract from firm value (Ahmed et al., 2023). For example, if managers engage in excessive risk-taking or invest in projects that do not align with shareholder interests, this can negatively impact financial performance metrics and, consequently, firm value (Bhatt & Bhatt, 2017). The theory also highlights the importance of governance structures in mitigating these agency problems. Effective corporate governance helps align the interests of managers and shareholders, leading to improved performance and increased company value (Jiraporn et al., 2011; Wahyudin & Solikhah, 2017).

Additionally, agency costs play a role in shaping the relationship between capital structure and firm performance. Studies suggest that higher leverage can help minimize agency costs by aligning the interests of shareholders and managers, as increased debt levels demand greater accountability and closer monitoring of performance (Bhatt & Bhatt, 2017). However, excessive leverage can also lead to financial distress, which may harm firm value, illustrating the delicate balance that firms must maintain in their capital structure decisions (Muller-Kahle et al., 2014). In terms of firm characteristics, factors such as ownership structure and board composition can significantly influence performance outcomes. For instance, firms with a more diverse board may benefit from a wider range of perspectives, leading to better decision-making and enhanced firm performance (Lisboa, 2015).

This study seeks to investigate the impact of firm performance, measured by ROE, and firm characteristics, specifically firm size, on firm value, as reflected by the price-to-book value (PBV). It incorporates two control variables—economic situation and industry type—to account for external influences. Additionally, the research introduces the dividend payout ratio (DPR) as a moderating variable to explore its effect on the relationships between ROE and PBV, as well as between firm size and PBV. The study analyzes 21 SOEs listed on the Indonesia Stock Exchange (IDX), utilizing 345 firm-year observations to ensure robust findings. The significance of this research lies in its focus on SOEs, which play a critical role in Indonesia's economy, providing insights into how performance and size influence firm value in this unique context. By incorporating DPR as a moderator, the study contributes to the understanding of how dividend policies can shape these relationships, offering valuable implications for corporate decision-making and financial strategy in emerging markets.

LITERATURE REVIEW

The positive relationship between profitability and firm value is supported by studies indicating that firms with higher asset efficiency tend to attract more investors and achieve better market valuations (Putri et al., 2023). Similarly, ROE is often viewed as a key indicator of financial health, with higher values signaling effective management and profitability, thus enhancing firm value (Rahmadi, 2020).

H1: Firm performance, measured by ROE, has a positive correlation with firm value, as reflected in the PBV.

Firm size is frequently associated with economies of scale and increased market presence, which can lead to higher firm valuations. Studies have shown that larger firms are often perceived as less risky and more stable, thereby commanding higher market valuations (Suriawinata & Nurmalita, 2022). Larger firms typically have more resources and market power, which can lead to higher valuations (Suriawinata & Nurmalita, 2022).

H2: The size of company positively influences its value, as indicated by the PBV ratio.

Based on the context of dividend signaling theory and the potential references provided, the following hypotheses can be formulated regarding the moderating effect of the DPR on the relationship between financial performance (ROA, ROE), firm characteristics (size and age), and firm value (PBV).

Specifically, higher DPR enhances the positive effects of ROE on firm value, as it signals financial stability and future profitability to investors. According to signaling theory, an increase in dividends is perceived as a positive signal regarding a firm's future earnings potential and financial health Brío & Miguel (2010). When firms with strong financial

performance (high ROE) also maintain a high DPR, it reinforces the message of stability and profitability, leading to a more pronounced increase in firm value (Chakkravarthy, 2023). This aligns with findings from Nguyen & Tran (2016), which suggest that firms that smooth dividends during economic uncertainty are viewed favorably by the market. Dividends serve as a signal of a firm's financial health and future profitability. The ability to sustain dividends can reinforce the positive effects of financial performance on firm value, making DPR a critical moderating factor.

H3: The DPR positively moderates the relationship between financial performance (ROE) and firm value (PBV).

Specifically, larger firms with higher DPR will exhibit a stronger positive relationship with firm value compared to those with lower DPR. Larger firms are often perceived as more stable and capable of sustaining dividend payments, which can enhance their market value (Chakkravarthy, 2023). When these firms also maintain a high DPR, it signals to investors that they are committed to returning profits to shareholders, further enhancing their perceived value (Chakkravarthy, 2023). This is supported by research indicating that firm size moderates the relationship between dividend policies and firm value, suggesting that larger firms benefit more from maintaining high dividend payouts (Chakkravarthy, 2023). Larger firms are generally perceived as more stable and capable of sustaining dividend payments. When these firms also maintain a high DPR, it signals to investors that they are committed to returning profits to shareholders, which can enhance their perceived value. Agency costs can be particularly pronounced in larger firms, where the separation of ownership and management may lead to inefficiencies.

H4: The DPR positively moderates the relationship between firm characteristics (firm size) and firm value (PBV).

RESEARCH METHOD

Moderation Regression Analysis (MRA) will be employed to examine the moderating effect of DPR on the relationships between financial performance, firm characteristics, and firm value. The following steps will be involved: The regression model can be specified as follows:

- (1) $PBV = a + b_1ROE + b_2Size + e.$
- (2) $PBV = a + b_1ROE + b_2Size + b_3DPR + e.$
- (3) $PBV = a + b_1ROE + b_2Size + b_3DPR + b_4Industry + b_5Situation + b_6(ROE * DPR) + b_7(Size * DPR) + e.$

Where: a is the intercept, b1 – b7 are the coefficients to be estimated, and e is the error term. The interaction terms (ROE*DPR, & Size*DPR) will be included to assess how the impact of financial performance on firm value changes at different levels of DPR.

Research Variables

Dependent Variable

Firm value is assessed using the PBV ratio, obtained by dividing the market price per share by the book value per share. This ratio indicates the amount investors are willing to pay for each unit of net assets, serving as a measure of the market's perception of the firm's worth compared to its actual asset value. PBV is a measure of firm value in the context of dividend policy (Saputri & Bahri, 2021).

Independent Variable

- (1) ROE as a measure of Financial Performance. It is determined by dividing net income

by shareholder equity. This metric evaluates a company's profitability relative to equity provided by shareholders, reflecting how efficiently management utilizes equity financing to produce profits. Putri and Kisman (2022) emphasize the relevance of ROE in evaluating firm performance and its correlation with firm value. Other Independent Variable: (2) Firm size will be measured using the natural logarithm of total assets as a measure of Firm Characteristics.

Moderating Variable

The DPR is calculated as dividends per share divided by earnings per share as a moderating variable. This ratio indicates the proportion of earnings distributed to shareholders as dividends, reflecting the firm's dividend policy. Saputri and Bahri (2021) provide a clear definition of DPR and its relevance in the context of firm value.

Control Variable

Industry type (Industry) will be categorized based on the classification of firms listed on the IDX as a control variable. The types of industries are divided into 7 groups, namely: 1= finance, 2= energy, 3= transportation & logistics, 4= infrastructure, 5= technology, 6= raw material, & 7= healthcare. This variable will control for the effects of industry-specific factors on firm value, as different industries may exhibit varying characteristics and performance metrics. Rusgowanto and Panggabean (2021) highlight the importance of considering industry type when analyzing firm value. The other control variable is the situation. The situation reflects a period of uncertainty that specifically impacts the Indonesian capital market. The situation variable is categorized into two: 1 = uncertain situation, and 0 = other situations. The cut-off period for the uncertain situation is the years 2008-2009, during which the global crisis occurred, significantly impacting the IHSG (Indonesian Stock Exchange Composite Index) with the lowest point in October 2008. The second period is 2020-2022, during which the COVID-19 pandemic occurred, significantly affecting stock prices in the capital market, with the lowest point in March 2020.

RESULTS

The data used in this study consists of 21 SOEs or 345 firm-year observations. Below are the descriptive statistics for each variable used in this study.

Table 1. Descriptive Statistics (N =345)

	Minimum	Maximum	Mean	Std. Deviation
PBV	0.01	46.24	1.9063	3.42600
ROE	-4.96	0.59	0.1089	0.32568
DPR	0.00	1.58	0.3228	0.24518
Size	26.97	35.23	31.0588	1.93902
Situation	0.00	1.00	0.2580	0.43815
Industry	1.00	7.00	3.9536	2.16826

Source: Processed Secondary Data (2024)

Table 1 shows that the PBV value has an average of 1.9063 with a standard deviation of 3.42600. The lowest PBV value is 0.01 (TINS in 2002) and the highest is 46.24 (INAF in 2022). The ROE value has an average of 0.1089 with a standard deviation of 0.32568. The lowest ROE value is -4.96 (INAF in 2022) and the highest is 0.59 (ANTM in 2007). The DPR value has an average of 0.3228 with a standard deviation of 0.24518. The lowest DPR value is 0.00 (JSMR in 2021) and the highest is 1.58 (PGAS in 2008). The Size value (logarithm of total assets) has an average of 31.0588 with a standard deviation of 1.939032. The lowest Size value is 26.97 (INAF in 2005) and the highest is 35.23 (BMRI in 2022).

Hypothesis testing was subsequently conducted using regression with bootstrap on all three models in this study. Bootstrap methods are particularly valuable in statistical analysis as they do not rely on assumptions about the underlying distribution of residuals, making them applicable even when classical assumptions fail. This characteristic allows for the estimation of uncertainty in various statistical models, including those with heteroscedasticity, where traditional methods may falter (Thai et al., 2013; Mokhtar et al., 2023). The flexibility of bootstrap methods enables their use in scenarios where the distribution of errors is unknown or non-normal, thus enhancing the reliability of statistical inferences (Hassan & Ali, 2022; Mokhtar et al., 2023).

Table 2. Results of Model 1, Model 2, & Model 3

Variable	Bootstrap for Coefficients (Beta)		
	Model 1	Model 2	Model 3
Constanta	7.306	7.739	26.768
ROE	-6.064**	-6.545**	-6.783***
Size	-0.273*	-0.304*	-0.802**
Industry	0.049	0.069	0.024
Situation	-0.044	-0.054	-0.104
DPR		2.267	-47.221**
ROE*DPR			14.348*
Size*DPR			1.492**
Adjusted R Square	0.382	0.404	0.476

Note: Y= Firm value (PBV). Prob. sig. value: ***1%, **5%, & *10%

Table 2 presents the results of testing the three research models. Model 1 examines the connection between the dependent variable, firm value (measured by PBV) and the independent variables (ROE, Size, Industry, Situation). Model 2 includes the moderating variable (DPR) alongside the variables from Model 1. Model 3 further includes interaction terms (ROE x DPR and Size x DPR) to examine whether the relationship between the independent variables and the dependent variable is influenced by the moderating effect of DPR. In both Model 1 and Model 2, the coefficient of ROE is negative and statistically significant at the 5% level ($p = 0.05$), indicating that higher ROE is associated with a decrease in firm value (PBV). In Model 3, the negative coefficient for ROE remains statistically significant, but at a stronger 1% level ($p = 0.01$). This means that H1 is not supported.

In both Model 1 and Model 2, Size has a negative effect on firm value at the 10% level ($p = 0.10$), suggesting that larger companies have lower PBV. In Model 3, the negative relationship becomes stronger and statistically significant at the 5% level ($p = 0.05$), meaning size has a more pronounced negative effect on firm value when interacting with DPR. This means that H2 is not supported.

The coefficient for Industry is not significant in any of the models, suggesting that the type of industry does not have a meaningful impact on firm value (PBV). Similarly, the coefficient for the situation is also not significant, indicating that the market conditions (whether uncertain or controlled) do not significantly influence firm value in these models. All the control variables in this study do not have a significant effect on firm value (PBV). In Model 2, the coefficient for DPR is positive but not statistically significant. However, in Model 3, the coefficient for DPR is negative and statistically significant at the 5% level, implying that DPR could have a negative effect on firm value when interacting with other variables. Additionally, in Model 3, the interaction term ROE*DPR is positive and statistically significant at the 10% level ($p = 0.10$), indicating that the relationship between ROE and firm value is influenced by DPR—to put it differently, the negative impact of

ROE on PBV is stronger when DPR is higher. This means that H3 is supported. In Model 3, the Size*DPR interaction term is positive and statistically significant at the 5% level ($p = 0.05$), indicating that the negative effect of Size on firm value becomes stronger when DPR is higher. This means that H4 is supported.

DISCUSSION

Firm performance (ROE) significantly affects firm value, with ROE having a negative effect (Model 1). High ROE is often generated by companies that take on higher risks in their operations (e.g., increasing leverage or relying heavily on debt). While this boosts profits, it can also increase financial and operational risks, which may make investors more cautious in assessing the company's value. In this case, a lower PBV might reflect investor concerns about high risks that may not be fully reflected in the ROE figures. Investors tend to focus more on long-term risks and future uncertainties than on short-term financial performance. Another explanation for the negative effect of ROE on PBV could be that companies with high ROE may choose not to pay dividends or pay very low dividends, opting to retain profits and reinvest them. While this strategy may support the company's growth, investors who prefer dividends or direct returns may value the company lower (reducing PBV). In this case, despite high ROE indicating good performance, low dividend payouts could reduce the market perception of the company's value, as investors tend to see stable dividends as an indicator of value and long-term health. Another possibility is that high ROE is often generated by high leverage (debt), which increases net income but also raises financial risk. In this case, even though the company reports high profits (high ROE), investors may perceive that the company's market value (PBV) does not reflect the existing risks, especially if the company's debt is high-risk or difficult to manage. Investors may feel that high leverage will not be sustainable in the long term, which could lead to a decrease in PBV despite the high ROE.

Research indicates a complex relationship between firm performance, specifically ROE, and firm value, measured by PBV. Several studies suggest that while ROE is often positively correlated with PBV, there are instances where ROE may not have a significant impact on PBV. For example, Romansyah et al. found that profitability (ROE) tends to fluctuate, which can lead to variations in PBV, indicating a nuanced relationship (Romansyah et al., 2021). However, the study by Putri concludes that profitability (ROE) has a significant positive effect on firm value (PBV), contradicting the notion of a negative impact (Putri, 2023). Theories such as signaling theory can help explain these findings, suggesting that firms with lower ROE may signal poor performance to investors, potentially reducing their perceived value (Bergh et al., 2014). Additionally, the Capital Structure Theory posits that higher leverage can lead to increased financial risk, which may negatively influence both ROE and PBV (Hajisaaid, 2020).

Firm characteristics (Size) significantly affect firm value, with Size showing a marginal negative effect (Model 1). Large companies often have more complex organizational structures, which can lead to poor management, poor decision-making, or leadership issues. On the other hand, smaller companies may be more agile and able to make decisions more quickly and effectively. Managerial mistakes or leadership problems in large companies can reduce the company's market value (PBV) because investors may perceive them as signs of instability or inability to adapt to market or economic changes. Large companies tend to have higher leverage, meaning they are more reliant on debt to finance their expansion and operations.

Larger firms often experience inefficiencies in CEO ownership allocation, which can detrimentally affect firm value (Imasuen et al., 2022). Firm size has a negligible and

positive impact on firm value (Sarsiti, 2024). Furthermore, a study by Sheikh and Khan reported a consistent negative relationship between firm size and firm value, reinforcing the notion that larger firms may face challenges that diminish their market valuation (Sheikh & Khan, 2016). Theoretical frameworks such as agency theory can elucidate these findings, as larger firms often encounter more complex agency problems, leading to inefficiencies that can negatively impact firm value (Imasuen et al., 2022). Additionally, the Resource-Based View posits that larger firms may struggle with resource allocation and management, further contributing to a decline in perceived value (Syakirra, 2023).

DPR does not show significant effects on its own but is considered a moderator in Model 3. Interaction terms (ROE x DPR and Size x DPR) suggest that DPR moderates the effects of ROE and Size on firm value. The interactions are significant, showing that DPR plays a role in enhancing or weakening the relationships between the independent variables and firm value. Higher DPR strengthens the positive relationship between ROE and firm value by signaling financial stability and future profitability to investors, as outlined in signaling theory (Brío & Miguel, 2010). When firms with high ROE also maintain a high DPR, it reinforces their stability, boosting firm value (Chakkravarthy, 2023). This is supported by Nguyen & Tran (2016), who found that firms that smooth dividends during uncertain times are viewed positively by the market. DPR signals a firm's confidence in its future earnings, enhancing investor perception and increasing market value. Additionally, agency theory suggests that paying dividends reduces agency costs by aligning the interests of managers and shareholders, further boosting firm value, especially when ROE is high.

Larger firms with higher DPR show a stronger positive relationship with firm value than those with lower DPR. These firms are seen as more stable and capable of sustaining dividends, which boosts their market value (Chakkravarthy, 2023). A high DPR signals commitment to returning profits to shareholders, further enhancing their perceived value. Research supports that firm size moderates the relationship between dividend policies and firm value, with larger firms benefiting more from high dividends. DPR also helps reduce agency costs in large firms, aligning shareholder and management interests, which increases firm value. For larger firms, maintaining dividends during tough times strengthens the positive impact of firm characteristics on firm value, making DPR a key moderating factor.

ROE and Size both have negative effects on firm value, with DPR moderating these effects in Model 3. The interaction between Size and DPR suggests that the relationship between company size and firm value is stronger when the DPR is higher, which could imply that larger companies are penalized more in terms of firm value when the DPR is higher. The more appropriate type of moderation for the results of this study is the interaction-only moderator. This is evident from the moderating variable (DPR), which only serves to moderate or influence the strength or direction of the relationship between the independent variables (ROE and Size) and the dependent variable (Firm Value), but does not affect the direct relationship between the independent and dependent variables. The results of this study show that DPR does not have a significant direct effect on firm value in Model 2, but plays a role as a moderator in Model 3 by influencing the relationship between the independent variables (ROE and Size) and firm value. The interactions between ROE x DPR and Size x DPR indicate that DPR only modifies the relationship between ROE/Size and firm value without becoming a primary predictor in the model. The lack of significance for Industry and Situation suggests that these variables do not have a major impact on firm value in this study, or their effects are not captured well by the model.

The implications suggest that companies should be cautious about using ROE or large size as primary indicators for increasing PBV. Implementing an effective dividend policy can be a crucial strategy for boosting or maintaining firm value, especially for large companies that face difficulties in sustaining PBV. Companies should strike a balance between dividend payouts and investment in growth, while also managing organizational complexity to enhance PBV.

CONCLUSION

This study, involving 21 publicly listed SOEs with 345 firm-year observations, reveals several key findings. Firm performance, measured by ROE, has a negative and significant impact on firm value, as indicated by PBV. Similarly, firm characteristics, specifically firm size (measured by the natural logarithm of total assets, \ln_TA), also show a negative and significant effect on firm value. However, DPR plays a moderating role, positively influencing the relationship between both ROE and firm size with PBV. These results highlight the complex interplay between firm performance, characteristics, and dividend policies in shaping firm value.

LIMITATION

This study uses variables such as ROE, Size, and DPR to explain their relationship with firm value. However, there may be other relevant variables that were not included in the model. Future research could consider additional variables that could improve the model, such as industry growth rates, investment in innovation, or macroeconomic conditions. This study focuses solely on listed SOEs, while private companies and non-direct SOEs (those with government ownership of less than 51%) were not thoroughly analyzed. Future research could broaden the sample to include private companies and non-direct SOEs to provide a more comprehensive picture of the relationship between ROE, Size, DPR, and PBV across different types of companies.

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DECLARATION OF CONFLICTING INTERESTS

I declare that there are no conflicts of interest related to this research. The study was conducted independently, with no external influences from Universitas Sriwijaya (Unsri), Universitas Katolik Musi Charitas (Unika Musi Charitas), or any other parties that could affect the integrity of the findings. All financial and non-financial interests have been appropriately disclosed in line with ethical research standards.

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