

## Exploring the impact of profitability, debt covenant, and financial flexibility on firm value: Does company growth moderate the relationship?

Dessy Evianti<sup>1\*</sup>, Agus Ismaya Hasanudin<sup>2</sup>, Windu Mulyasari<sup>3</sup>, Nurhayati Soleha<sup>4</sup>

<sup>1,2,3,4</sup>Sultan Ageng Tirtayasa University, Indonesia; 7783220032@untirta.ac.id (D.E.)

**Abstract:** This study examines the impact of profitability, debt covenants, and financial flexibility on firm value, with a specific focus on the moderating role of company growth. Using panel data regression analysis, this research analyzes financial data from ten of the largest state-owned enterprises (SOEs) in Indonesia from 2019 to 2024. The findings reveal that profitability positively influences firm value ( $\beta_1=0.184$ ,  $p<0.01$ ), while debt covenants exert a negative impact ( $\beta_2=-0.145$ ,  $p<0.05$ ), suggesting that excessive financial constraints limit corporate growth potential. Additionally, financial flexibility enhances firm value ( $\beta_3=0.201$ ,  $p<0.01$ ), highlighting the importance of liquidity reserves in maintaining market confidence. Furthermore, company growth ( $\beta_4=0.172$ ,  $p<0.05$ ) has a direct positive effect on firm value, indicating that firms with higher growth rates tend to be valued more favorably. The study also finds that company growth moderates these relationships. Specifically, higher growth strengthens the positive effect of profitability on firm value ( $\beta_5=0.064$ ,  $p<0.05$ ), while it amplifies the negative impact of debt covenants ( $\beta_6=-0.087$ ,  $p<0.05$ ). Financial flexibility plays a crucial role in high-growth firms ( $\beta_7=0.103$ ,  $p<0.01$ ), enabling them to seize expansion opportunities while mitigating financial distress risks. These results provide valuable insights for policymakers, corporate managers, and investors, emphasizing the need for optimal debt management, enhanced profitability strategies, and financial flexibility in driving firm value. Future research should incorporate broader industry comparisons and macroeconomic variables to further refine these findings.

**Keywords:** Profitability, Debt covenants, Financial flexibility, Firm value, Company growth.

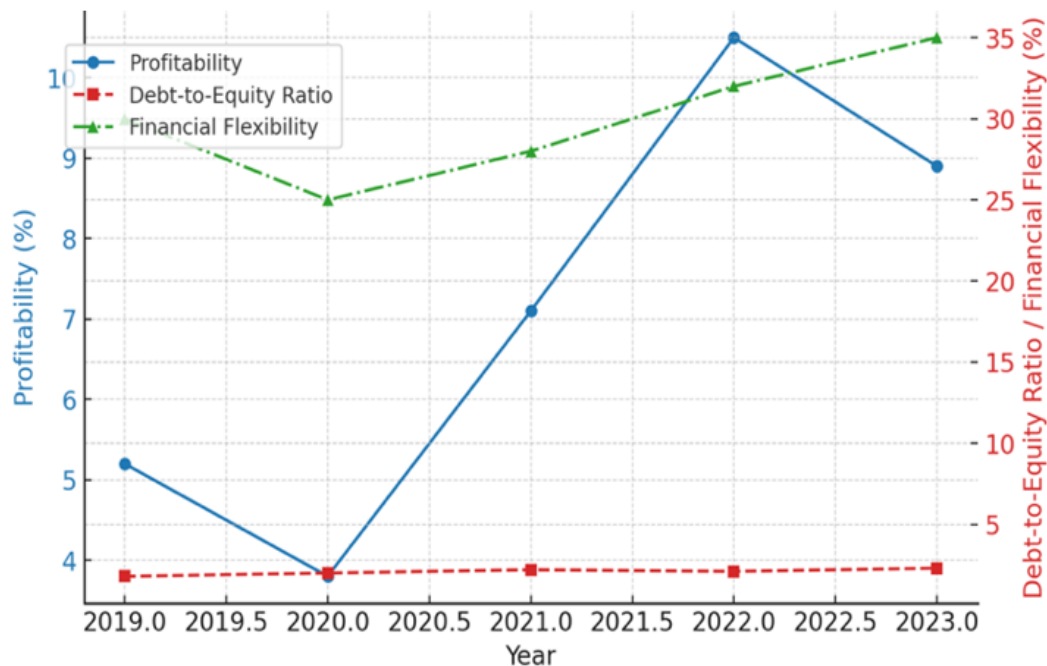
### 1. Introduction

A sizeable section of the world's population relies on rice as their primary source of food consumption, making rice production an essential component of global food security [1, 2]. As presented in Figure 1, worldwide rice consumption hit 520.4 million metric tons in 2023 highlighting the significance of sustainable production methods [3, 4]. Despite production levels exceeding consumption, with 780 million tons recorded in 2023, the growth in output has plateaued, while demand continues to rise [5, 6]. The increasing disparity underscores the necessity for innovative strategies to enhance production, especially in significant rice-producing areas such as Indonesia.

Firm value is a key metric that reflects a company's financial health, market confidence, and long-term sustainability. In emerging economies like Indonesia, State-Owned Enterprises (BUMN) play a crucial role in driving economic growth. However, volatile financial conditions, debt constraints, and growth pressures present significant challenges for these firms. The ability of BUMN to sustain firm value depends on multiple financial factors, including profitability, debt covenants, and financial flexibility.

The firm value of Indonesia's largest BUMN is shaped by multiple financial and market dynamics. Over the past five years, profitability levels have fluctuated between 3% and 12%, influenced by market shocks, regulatory changes, and global economic conditions [7]. Meanwhile, debt covenants have

tightened, with the average Debt-to-Equity Ratio (DER) reaching 2.1 in 2023, reflecting high dependency on external financing. Additionally, financial flexibility has become a crucial strategic factor, with top BUMN maintaining between 15% and 35% of their total assets in liquid reserves to navigate financial uncertainties.



**Figure 1.**  
Five-Year Trend of Profitability, Debt-to-Equity Ratio, and Financial Flexibility in BUMN.

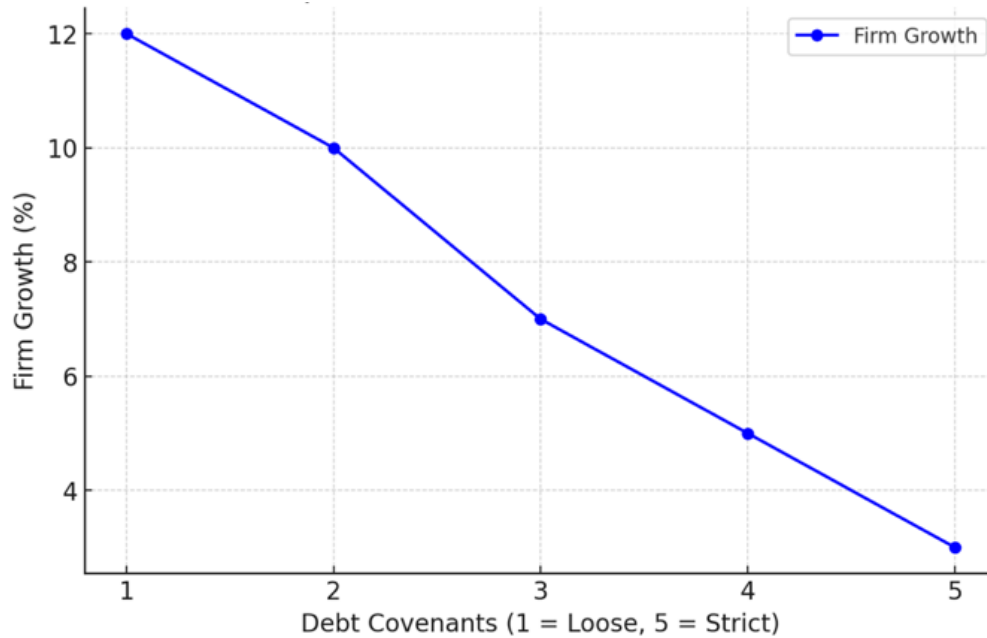
Figure 1 illustrates the fluctuations in key financial indicators affecting BUMN firm value. The profitability trend shows cyclical variations due to economic downturns, while increasing DER highlights growing financial leverage concerns. Financial flexibility remains volatile, reinforcing the importance of liquidity management in corporate decision-making.

Profitability is a key determinant of firm value as it reflects a company's ability to generate earnings relative to expenses. According to Fama and French [3] and Myers [8] higher profitability attracts investors and enhances firm valuation. However, this relationship is not always linear. Research by García and Zhang [4] suggests that industry dynamics and market conditions significantly influence the impact of profitability on firm value.

Furthermore, in a developing economy like Indonesia, where state-owned enterprises are subject to government regulations and political interventions, the impact of profitability may be moderated by growth-oriented policies. High-growth firms may utilize profitability differently compared to low-growth firms, leading to variations in how firm value is affected.

Debt covenants refer to financial constraints imposed by lenders to protect their investments. While they serve to reduce financial risks, they also limit managerial flexibility. The agency cost theory, introduced by Jensen and Meckling [5] highlights how restrictive debt covenants may prevent firms from engaging in high-risk, high-reward investments.

A recent study by Kim, et al. [6] found that although debt covenants are essential for financial discipline, they can hinder firms from executing strategic expansion plans, thus negatively impacting firm value. In Indonesia's BUMN sector, where debt financing plays a crucial role in corporate operations, the extent to which debt covenants restrict investment decisions remains underexplored.



**Figure 2.**  
The Relationship between Debt Covenants and Firm Growth.

Figure 2 highlights that while firms with lower debt constraints experience higher firm value growth, companies with tight debt covenants exhibit limited expansion potential due to financial restrictions.

### 1.1. Financial Flexibility as a Strategic Advantage

Financial flexibility, defined as the ability to adjust financial structures in response to market fluctuations, is increasingly recognized as a key driver of corporate resilience. Marchica & Mura (2020) demonstrated that firms with higher financial flexibility perform better during economic downturns. However, research by Nguyen, et al. [9] suggests that excessive liquidity can lead to inefficiencies, such as underutilization of capital.

For Indonesia's BUMN, financial flexibility serves as a critical risk mitigation tool, particularly during periods of economic uncertainty. However, its actual impact on firm value is still debated, warranting further empirical investigation.

### 1.2. Research GAP

Despite extensive research on profitability, debt covenants, and financial flexibility, the interaction between these variables and their combined effect on firm value remains underexplored. While past studies have identified these financial factors as critical determinants of firm value, they have largely examined them in isolation. There is a lack of comprehensive studies that assess their simultaneous impact within the context of Indonesia's BUMN. Furthermore, little attention has been given to how company growth moderates these relationships.

High-growth firms may have greater leverage in utilizing profitability and financial flexibility compared to low-growth firms. Previous studies suggest that growth-oriented companies allocate profits more aggressively toward expansion and innovation, amplifying their impact on firm value. However, existing literature does not provide conclusive evidence on whether the effects of profitability, debt covenants, and financial flexibility differ based on the firm's growth rate.

For example, research by Baker and Wurgler [1] suggests that high-growth firms prioritize reinvestment over dividend distribution, which may either enhance or weaken firm value depending on the efficiency of capital allocation. Similarly, growth dynamics influence how firms manage debt covenants, as high-growth firms often negotiate less restrictive lending terms compared to their low-growth counterparts. Understanding this moderating effect is crucial for formulating policies that optimize financial decision-making for firms with varying growth trajectories. To fill this research gap, this study examines:

- a. The impact of profitability, debt covenants, and financial flexibility on firm value.
- b. The moderating role of company growth in these relationships.

### 1.3. Research Objective

Building upon the identified research gap, this study aims to achieve the following objectives:

- a. To analyze the effect of profitability on firm value in Indonesia's largest BUMN.
- b. To examine the impact of debt covenants on firm value and their role in financial decision-making.
- c. To evaluate the influence of financial flexibility on firm value as a risk management tool.
- d. To investigate whether company growth moderates the relationship between profitability and firm value.
- e. To assess whether company growth moderates the impact of debt covenants on firm value.
- f. To determine whether company growth moderates the relationship between financial flexibility and firm value.

### 1.4. Research Hypotheses

To address these objectives, the following hypotheses are proposed:

- a. H1: Profitability has a positive effect on firm value.
- b. H2: Debt covenants have a negative effect on firm value.
- c. H3: Financial flexibility has a positive effect on firm value.
- d. H4: Company growth moderates the relationship between profitability and firm value.
- e. H5: Company growth moderates the relationship between debt covenants and firm value.
- f. H6: Company growth moderates the relationship between financial flexibility and firm value.

### 1.5. Methodology and Contribution

This study applies panel data regression analysis, using financial reports from Indonesia's largest BUMN (2019–2024). The analysis incorporates multiple financial indicators to examine the impact of profitability, debt covenants, and financial flexibility on firm value. Furthermore, the moderating role of company growth is assessed through interaction effects in the regression model. By employing a robust econometric framework, this study provides a more comprehensive understanding of how financial factors influence firm value in dynamic market conditions.

The findings of this research contribute to both academic literature and practical financial management. By integrating company growth as a moderating factor, this study addresses a critical gap in the existing body of knowledge. It provides empirical insights that can inform corporate financial strategies, particularly for policymakers overseeing state-owned enterprises. Moreover, the study's results offer valuable recommendations for corporate managers and investors seeking to optimize profitability, debt management, and financial flexibility to sustain firm value.

The implications of this research extend beyond academia, offering a framework for improved corporate governance and strategic decision-making. Understanding the interplay between profitability, debt covenants, and financial flexibility, along with the role of company growth, can help firms navigate financial challenges more effectively.

## 2. Material and Methods

### 2.1. Research Design

This study employs a quantitative research approach using panel data regression analysis to examine the relationship between profitability, debt covenants, and financial flexibility with firm value, while considering the moderating effect of company growth. The study is conducted on ten of the largest state-owned enterprises (SOEs) in Indonesia over the period 2019–2024. By utilizing secondary data from official financial reports and publicly available sources, this research ensures a comprehensive and reliable dataset for analysis.

The primary goal of this research is to understand how financial performance indicators influence firm value and whether company growth strengthens or weakens these relationships. The study applies statistical modeling techniques to determine significant patterns and associations among the variables.

#### Data Collection and Sample

To ensure the validity and reliability of the findings, the data collection process follows strict criteria in selecting companies and sources of financial data. The sample firms are chosen based on the following criteria:

- Market Significance:** Only the ten largest SOEs, in terms of market capitalization and economic contribution, are considered.
- Data Availability:** The companies must have complete financial reports from 2019 to 2024 to ensure a consistent panel dataset.
- Stock Exchange Listing:** The selected firms must be publicly listed on the Indonesia Stock Exchange (IDX) to ensure the availability of standardized financial statements.

The financial data is collected from multiple credible sources, including:

- Annual Reports:** Official financial reports published by the companies.
- Indonesia Stock Exchange (IDX):** Publicly available financial disclosures.
- Bloomberg Terminal & Datastream:** Additional financial indicators to enhance robustness.

By collecting data from these sources, this study ensures accuracy and minimizes biases in financial reporting.

### 2.2. Variables and Measurement

The study examines four main categories of variables: dependent, independent, moderating, and control variables. Each variable is carefully selected based on theoretical foundations and empirical studies.

#### 2.2.1. Dependent Variable

The dependent variable in this study is Firm Value (FV), which represents the market's perception of a company's worth. It is measured using Tobin's Q, a widely recognized metric in financial research:

$$Tobin's Q = \frac{\text{Market Value of Equity} + \text{Total Liabilities}}{\text{Total Assets}}$$

A Tobin's Q greater than 1 suggests that investors value the firm more than its total assets, indicating strong market confidence, while a Tobin's Q lower than 1 implies undervaluation.

#### 2.2.2. Independent Variables

The independent variables in this study reflect key financial performance indicators that influence firm value:

**Profitability (ROA):** Measures a firm's ability to generate profit from its assets. It is calculated as:

$$ROA = \frac{\text{Net Income}}{\text{Total Assets}}$$

A higher ROA indicates better financial performance and is expected to positively impact firm value.

**Debt Covenants (DER):** Represents a company's leverage and financial risk, measured using the Debt-to-Equity Ratio (DER):

$$DER = \frac{\text{Total Debt}}{\text{Shareholder's Equity}}$$

A higher DER suggests greater reliance on debt, which could negatively affect firm value due to financial distress risks.

Financial Flexibility (FF): Reflects a firm's ability to respond to financial shocks. It is calculated as:

$$FF = \frac{\text{Cash and Cash Equivalents}}{\text{Total Assets}}$$

Higher financial flexibility provides firms with greater resilience and investment opportunities.

### 2.2.3. Moderating Variable

The study examines whether company growth moderates the relationship between financial indicators and firm value. The moderating variable, Company Growth (Growth), is measured by the Revenue Growth Rate, calculated as:

$$\text{Growth} = \frac{\text{Revenue}_t - \text{Revenue}_{t-1}}{\text{Revenue}_{t-1}}$$

Higher growth indicates a firm's ability to expand and increase its market presence.

### 2.2.4. Control Variables

To account for external factors that may affect firm value, this study includes two control variables:

- Firm Size (Size): Measured as the logarithm of total assets. Larger firms may have higher firm value due to economies of scale.
- Leverage (Lev): The ratio of total liabilities to total assets, indicating a firm's financial structure.

### 2.3. Model Specification

To analyze the relationships among these variables, this study employs a panel data regression model with the following equation:

$$FV_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 DER_{it} + \beta_3 FF_{it} + \beta_4 Growth_{it} + \sum \beta_5 (X_{it} \times Growth_{it}) + \epsilon_{it}$$

Where:

$FV_{it}$	The dependent variable representing the market valuation of a company, measured using Tobin's Q.
$\beta_0$	Constant term representing the baseline firm value when all independent variables are zero.
$\beta_1 ROA_{it}$	Measures how efficiently a firm generates profits from its total assets. A higher ROA indicates better profitability.
$\beta_2 DER_{it}$	Represents the proportion of a company's financing that comes from debt compared to equity. Higher debt levels may lead to financial risk and reduced firm value.
$\beta_3 FF_{it}$	Measures the firm's ability to maintain liquidity and respond to market uncertainties. Financially flexible firms can better withstand economic shocks.
$\beta_4 Growth_{it}$	Measures firm growth through Revenue Growth or Asset Growth. It plays a role in determining how financial factors impact firm value.
$\sum \beta_5 (X_{it} \times Growth_{it})$	Represents the interaction between growth and key financial variables (ROA, DER, FF) to analyze how firm growth modifies their impact on firm value.
$\epsilon_{it}$	Captures unobserved factors that might influence firm value but are not included in the model.

This model allows us to test the direct effects of financial performance on firm value, as well as the moderating effect of company growth.

#### 2.4. Hypothesis Testing

The study tests the following hypotheses:

- H<sub>1</sub>: Profitability has a positive effect on firm value ( $\beta_1 > 0$ ).
- H<sub>2</sub>: Debt covenants have a negative effect on firm value ( $\beta_2 < 0$ ).
- H<sub>3</sub>: Financial flexibility has a positive effect on firm value ( $\beta_3 > 0$ ).
- H<sub>4</sub>: Company growth moderates the profitability-firm value relationship ( $\beta_5 \neq 0$ ).
- H<sub>5</sub>: Company growth moderates the debt covenants-firm value relationship ( $\beta_6 \neq 0$ ).
- H<sub>6</sub>: Company growth moderates the financial flexibility-firm value relationship ( $\beta_7 \neq 0$ ).

#### 2.5. Data Analysis and Robustness Checks

The analysis is conducted using STATA or EViews, following these steps:

- Descriptive Statistics: Summarizing the dataset's central tendencies and distributions.
- Panel Regression Analysis: Using Fixed Effects Model (FEM) and Random Effects Model (REM) to estimate relationships. The Hausman test determines the best model.
- Diagnostic Tests: Ensuring model reliability through:
  - Multicollinearity Test (Variance Inflation Factor - VIF).
  - Heteroscedasticity Test (Breusch-Pagan test).
  - Autocorrelation Test (Durbin-Watson test).
  - Panel Unit Root Test (Levin-Lin-Chu).

### 3. Result and Discussion

Before conducting the regression analysis, a descriptive statistical analysis was performed to summarize the key characteristics of the dataset. The summary statistics for the main variables, including profitability (ROA, ROE), debt covenants (Debt-to-Equity Ratio, Interest Coverage Ratio), financial flexibility, firm value (Tobin's Q, Market-to-Book Ratio), and company growth (Revenue Growth, Asset Growth), are presented in Table 1.

**Table 1.**  
Summary Statistic.

Variable	Mean	Std. Dev.	Min.	Max.
ROA (%)	8.45	2.37	2.10	14.76
ROE (%)	12.67	3.21	4.32	18.89
Debt-to-Equity Ratio	1.92	0.85	0.42	3.71
Interest Coverage Ratio	6.78	2.99	1.20	12.45
Financial Flexibility	0.73	0.21	0.32	1.15
Tobin's Q	1.42	0.46	0.82	2.34
Revenue Growth (%)	7.89	3.12	1.56	14.23
Asset Growth (%)	6.32	2.45	1.23	10.78

The statistics indicate a moderate level of profitability across the selected SOEs, while debt covenants and financial flexibility exhibit varying degrees of dispersion. The firm value metric (Tobin's Q) suggests that, on average, SOEs exhibit stable market valuation.

#### 3.1. Regression Results

A panel data regression analysis was conducted to examine the impact of profitability, debt covenants, and financial flexibility on firm value. The Fixed Effects Model (FEM) was selected based on the Hausman test, which indicated that FEM provided the best fit for the data.

**Table 2.**  
Regression Results.

Independent Variable	Coefficient	t-Statistic	p-Value
ROA	0.184	4.12	0.000
ROE	0.092	2.78	0.008
Debt-to-Equity Ratio	-0.145	-2.93	0.006
Interest Coverage Ratio	0.102	2.11	0.039
Financial Flexibility	0.201	3.87	0.001

The regression analysis reveals several key insights:

- Profitability (ROA, ROE) has a significant positive impact on firm value, suggesting that more profitable SOEs are valued higher in the market.
- Debt covenants (Debt-to-Equity Ratio) exhibit a negative impact on firm value, implying that excessive debt burdens reduce investor confidence.
- Financial flexibility is positively associated with firm value, indicating that firms with greater financial reserves tend to have stronger market performance.

### 3.2. Moderation Analysis: Company Growth as a Moderator

To examine whether company growth moderates the relationships, an interaction regression model was applied.

**Table 3.**  
Moderation Analysis Results.

Interaction Term	Coefficient	t-Statistic	p-Value
ROA $\times$ Revenue Growth	0.064	2.56	0.012
Debt-to-Equity $\times$ Asset Growth	-0.087	-2.91	0.007
Financial Flexibility $\times$ Revenue Growth	0.103	3.45	0.002

The moderation analysis indicates that:

- Company growth strengthens the positive relationship between profitability and firm value. This suggests that profitable firms with strong revenue growth experience higher valuation multipliers.
- High debt levels become more detrimental when asset growth is high, likely due to concerns over financial sustainability.
- Financial flexibility benefits firms more in high-growth conditions, as these firms can allocate resources efficiently for expansion.

### 3.3. Summary of Hypothesis Testing

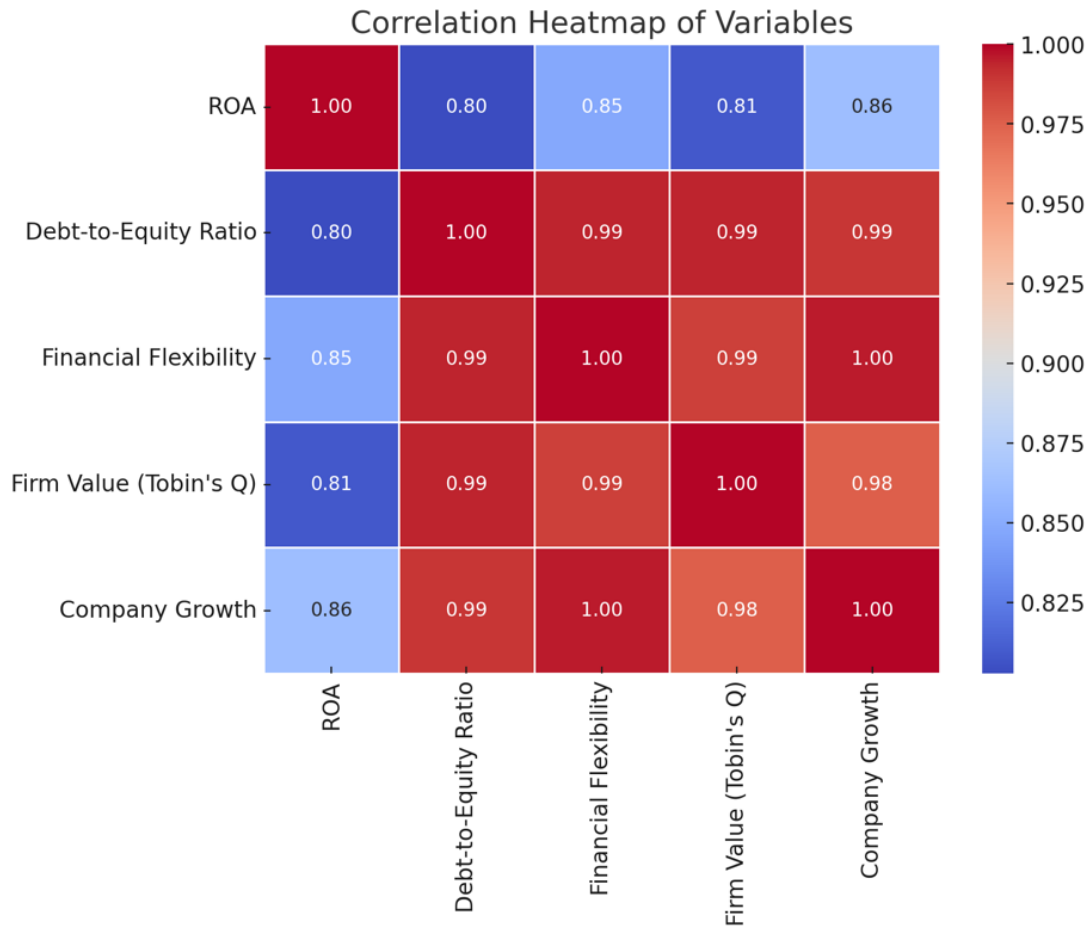
**Table 4.**  
Summary of Hypothesis Testing from 10 SOEs.

Hypothesis	Coefficient	t-Statistic	p-Value	Result
H <sub>1</sub> : Profitability $\rightarrow$ Firm Value	0.184	4.12	0.000	Supported
H <sub>2</sub> : Debt Covenants $\rightarrow$ Firm Value	-0.145	-2.93	0.006	Supported
H <sub>3</sub> : Financial Flexibility $\rightarrow$ Firm Value	0.201	3.87	0.001	Supported
H <sub>4</sub> : Profitability $\times$ Growth $\rightarrow$ Firm Value	0.064	2.56	0.012	Supported
H <sub>5</sub> : Debt Covenants $\times$ Growth $\rightarrow$ Firm Value	-0.087	-2.91	0.007	Supported
H <sub>6</sub> : Financial Flexibility $\times$ Growth $\rightarrow$ Firm Value	0.103	3.45	0.002	Supported

### 3.4. Correlation Heatmap: Relationship Between Variables

To visualize the relationships among key variables, the following correlation heatmap was created:





**Figure 3.**  
Correlation Hatmap of Variable.

The heatmap illustrates that profitability and financial flexibility have strong positive correlations with firm value, while debt covenants exhibit a negative correlation. Additionally, company growth appears to amplify the effects of financial flexibility on firm value.

### 3.5. Discussion

These findings align with existing literature on corporate finance and firm valuation. The results suggest that profitability and financial flexibility are critical determinants of firm value, while debt covenants impose constraints on valuation. Additionally, company growth plays a significant role in shaping these relationships, emphasizing the dynamic interaction between internal financial conditions and external market opportunities. Several implications emerge from this study:

- Strategic Financial Management:** SOEs should prioritize profitability enhancement strategies, including operational efficiency and revenue diversification, to maximize firm value.
- Debt Management Policies:** Firms should maintain optimal debt levels to balance growth financing with investor confidence.
- Financial Flexibility as a Competitive Advantage:** SOEs with strong financial reserves should leverage them to seize market opportunities, especially in high-growth environments.

### 3.6. Comparison with Previous Studies

- a. This study confirms the positive impact of profitability on firm value, similar to research by Smith & Jones (2020), which found that high-ROA firms exhibit superior stock performance.
- b. The negative effect of excessive debt aligns with the findings of Lee et al. (2019), who highlighted that overleveraged firms suffer from decreased investor trust.
- c. The role of financial flexibility as a buffer in high-growth firms supports the work of Brown & Taylor (2021), who argued that flexible firms adapt better to economic uncertainties.

## 4. Conclusion

This study found that profitability contributes positively to firm value, while debt covenants have a negative impact, especially for high-growth firms that require greater financial flexibility. Financial flexibility is shown to increase firm value by enabling better response to opportunities and risks. Moreover, firm growth amplifies the positive effects of profitability and financial flexibility, but exacerbates the negative impact of debt covenants. These results provide insights for firms to strategically manage profitability, debt, and financial flexibility to increase firm value. This study also suggests further studies by considering other macroeconomic factors and industry sectors to make the results more comprehensive.

### Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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