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The Effect of ROA, DER, TATO, Firm Size, and Sales Growth on Firm Value in Manufacturing Companies in the Animal Feed Subsector Listed on the Indonesia Stock Exchange (BEI) for the Period 2021–2025

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Abstract: This study aims to determine the partial and simultaneous effects of ROA, DER, TATO, firm size and sales growth on enterprise value in manufacturing firms on the animal feed subsector listed on the Indonesia Stock Exchange in the period 2021-2025. The population of this study is all manufacturing companies in the animal feed subsector listed on the Indonesia Stock Exchange. The research sample was established by purposive sampling, based on preset criteria, which produced seven businesses that were eligible. Secondary data from annual financial accounts were analyzed using panel data regression. The Chow and Hausman tests were used to choose the Fixed Effects Model as the most appropriate estimate model. The hypothesis testing was supplemented by tests of classical assumptions using F-test, t-test, and R². The results demonstrate that DER has a significant and negative effect on firm value when tested partially, whereas sales growth has a significant and positive effect on PBV. ROA, TATO and firm size do not have a significant effect on firm worth. But all independent variables simultaneously influence the firm value. The findings of this study indicate that debt levels and sales growth rates are the primary factors investors consider when evaluating a company.

Keyword: Price to Book Value, Return on Assets, Debt to Equity Ratio, Total Asset Turnover, Firm Size, Sales Growth

Indonesian Abstract: Penelitian ini bertujuan untuk mengetahui pengaruh secara parsial dan simultan dari Return on Assets (ROA), Debt to Equity Ratio (DER), Total Asset Turnover (TATO), ukuran perusahaan (firm size), dan pertumbuhan penjualan (sales growth) terhadap nilai perusahaan pada perusahaan manufaktur subsektor pakan ternak yang terdaftar di Bursa Efek Indonesia periode 2021–2025. Populasi dalam penelitian ini adalah seluruh perusahaan manufaktur subsektor pakan ternak yang terdaftar di Bursa Efek Indonesia. Sampel penelitian ditentukan melalui metode purposive sampling berdasarkan kriteria yang telah ditetapkan, sehingga diperoleh tujuh perusahaan yang memenuhi syarat. Data sekunder yang berasal dari

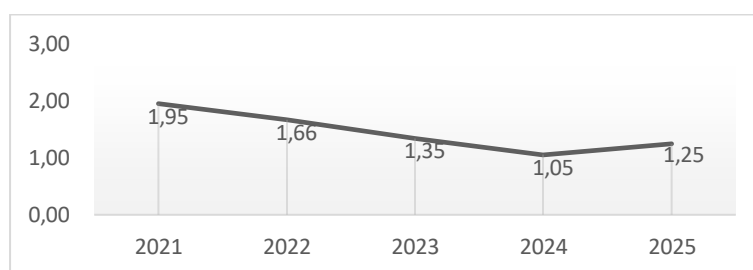
laporan keuangan tahunan dianalisis menggunakan regresi data panel. Uji Chow dan uji Hausman digunakan untuk memilih Fixed Effect Model sebagai model estimasi yang paling tepat. Pengujian hipotesis dilengkapi dengan uji asumsi klasik, uji F, uji t, serta analisis koefisien determinasi (R^2). Hasil penelitian menunjukkan bahwa secara parsial DER berpengaruh signifikan dan negatif terhadap nilai perusahaan, sedangkan pertumbuhan penjualan berpengaruh signifikan dan positif terhadap PBV. ROA, TATO, dan ukuran perusahaan tidak berpengaruh signifikan terhadap nilai perusahaan. Namun, seluruh variabel independen secara simultan berpengaruh terhadap nilai perusahaan. Temuan penelitian ini mengindikasikan bahwa tingkat utang dan tingkat pertumbuhan penjualan merupakan faktor utama yang dipertimbangkan investor dalam menilai suatu perusahaan.

Keywords: Rasio Harga terhadap Nilai Buku, Tingkat Pengembalian Aset, Rasio Utang terhadap Ekuitas, Perputaran Total Aset, Ukuran Perusahaan, Pertumbuhan Penjualan

INTRODUCTION

The trend of globalization leads to more and more intense commercial competition, requiring public bodies to keep surviving by focusing on the owners' welfare thru the optimization of corporate valuation. This valuation is important because it shows what the investors think about how well management is running all the lines of company. The Price to Book Value (PBV) is a statistic that investors typically use to estimate the value of a firm in the capital market. Market price of a company relative to its book value of equity. The higher the PBV, the more optimistic the market is about the fundamental conditions and future growth prospects of the issuer's firm.

The internal financial health of the company is highly correlated with the value of the company (PBV). The profitability element (ROA) and debt management policy (DER) often become the key concern of investors, in which strong profitability reflects efficiency and a certain amount of debt is used to drive the operations without producing too much default risk. Also, the asset turnover efficiency (TATO) and firm size are used to evaluate how well management is able to use wealth and how stable the entity's operations are. Investors also periodically track sales growth to detect trends in market acceptability of the product. These five financial indicators are consistent with each other and are the major factors in analyzing the issuer's prospects.

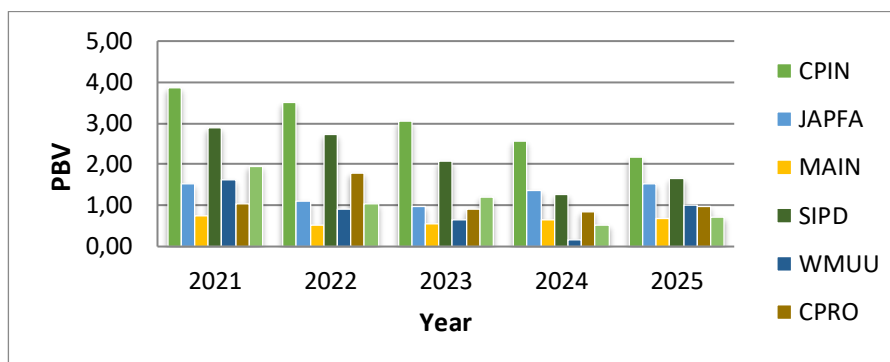


Source: Indonesia Stock Exchange, 2026 (data has been reprocessed)

Figure 1. Graph of the Average PBV of Animal Feed Companies

On the Indonesia Stock Exchange (IDX), the manufacturing sector as a whole has been able to maintain a relatively stable and positive PBV trend. However, an anomaly has emerged in the fundamentals of the animal feed subsector, which has experienced fluctuations and a rather concerning downward trend. The average PBV for this subsector is projected to decline

from 1.95 times in 2021 to 1.25 times by the end of 2025, even briefly hitting a low of 1.05 times in 2024.



Source: Indonesia Stock Exchange, 2026 (data has been reprocessed)

Figure 2. Chart of the Development of PBV of Animal Feed Companies

This drastic decline was experienced by market-leading issuers such as CPIN (from 3.88 to 2.17 times) and SIPD (from 2.89 to 1.67 times), as well as issuers trapped in an undervalued state (PBV below 1) such as MAIN (0.67 times) and CPRO (0.99 times). This “phenomenon gap” demonstrates the existence of severe crisis pressures in the animal feed subsector, thereby necessitating an urgent analysis to safeguard shareholders’ investment value.

In addition to the phenomenon of declining performance in the capital market, this study was also strongly motivated by a “research gap” characterized by inconsistent findings across various previous studies. Regarding the ROA variable, Fadly et al. (2026) and Ayuningtias et al. (2025) found a positive impact on firm value, whereas Maulida et al. (2023) found a negative impact, and Rinaldi & Oktavianti (2023) reported no effect. Contradictory inconsistencies also occurred regarding the DER indicator (Maulida et al., 2023 vs. Tandrio & Handoyo, 2023), the TATO efficiency level (Rinaldi & Oktavianti, 2023 vs. Fadly et al., 2026), the Firm Size scale (Choirunissa & Ratnasari, 2025 vs. Sari et al., 2023), and the Sales Growth indicator, which was found to have a positive impact by Hayat & Indawati (2024) but was deemed insignificant by Firdaus & Rohdiyarti (2021).

The inconclusive academic debate, combined with fundamental industry challenges in the field, makes research in this sector highly urgent. A deep empirical understanding of the factors determining valuation will greatly assist management in making strategic decisions amid market pressures. Therefore, based on the urgency of the “phenomenon gap” in the animal feed subsector and the “research gap” in the existing literature, this study aims to re-examine the effects of ROA, DER, TATO, Firm Size, and Sales Growth on the firm value of animal feed manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the period 2021–2025.

Based on the background explanation outlined above, the researcher formulates the following research questions:

- 1) Does return on assets have a partial effect on firm value in companies in the animal feed subsector listed on the Indonesia Stock Exchange?
- 2) Does the debt-to-equity ratio have a partial effect on firm value in companies in the animal feed subsector listed on the Indonesia Stock Exchange?
- 3) Does total asset turnover have a partial effect on firm value in companies in the animal feed subsector listed on the Indonesia Stock Exchange?
- 4) Does firm size have a partial effect on firm value in companies in the animal feed subsector listed on the Indonesia Stock Exchange?

- 5) Does sales growth have a partial effect on firm value in companies in the animal feed subsector listed on the Indonesia Stock Exchange?

METHOD

This study employs a quantitative approach with an associative design as the primary model for testing hypotheses. The population in this study consists of all manufacturing companies in the animal feed subsector listed on the Indonesia Stock Exchange (IDX). The researcher employed a saturation sampling method (census technique), in which the entire population comprising seven companies was used as the sample because all of them provided complete financial reports over the five-year observation period (2021–2025). The seven companies include PT Charoen Pokphand Indonesia Tbk (CPIN), PT Japfa Comfeed Indonesia Tbk (JPFA), PT Malindo Feedmill Indonesia Tbk (MAIN), PT Sreeya Sewu Indonesia Tbk (SIPD), PT Widodo Makmur Unggas Tbk (WMUU), PT Widodo Makmur Perkasa Tbk (WMPP), and PT Central Proteina Prima Tbk (CPRO).

This study uses two types of variables: a dependent variable firm value, proxied by the Price to Book Value (PBV) metric and five independent variables consisting of profitability (ROA), leverage (DER), asset turnover (TATO), firm size, and sales growth. Secondary data was collected by compiling historical records of the companies' annual financial statements through the official portal of the Indonesia Stock Exchange (www.idx.co.id).

The data analysis techniques used were descriptive statistical analysis and panel data regression using EViews 14 software. The panel data regression procedure began with a model selection test. Based on the results of the Chow test and the Hausman test, it was determined that the Fixed Effects Model (FEM) is the most accurate estimation method for the data in this study. Hypothesis testing was conducted in stages using the simultaneous significance test (F-test), the coefficient of determination test (R^2), and the partial significance test (t-test). In addition, to ensure the validity of the model, the analysis was supplemented with tests of classical assumptions, including tests for multicollinearity and heteroscedasticity (using the Glejser test), as appropriate for the panel data specification.

RESULT AND DISCUSSION

Dependent Variable: PBV Method: Panel EGLS (Cross-section weights) Date: 07/26/26 Time: 12:04 Sample: 2021 2025 Periods included: 5 Cross-sections included: 7 Total panel (balanced) observations: 35 Linear estimation after one-step weighting matrix				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22.09222	14.75318	1.497454	0.1479
ROA	-0.699144	1.331137	-0.525223	0.6045
DER	-0.199405	0.060723	-3.283855	0.0033
TATO	0.167642	0.292808	0.572533	0.5725
SIZE	-1.294399	0.927346	-1.395811	0.1761
SG	0.363067	0.140313	2.587546	0.0165
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.865307	Mean dependent var	1.556946	
Adjusted R-squared	0.800888	S.D. dependent var	0.691118	
S.E. of regression	0.414677	Sum squared resid	3.955007	
F-statistic	13.43260	Durbin-Watson stat	1.767571	
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.829029	Mean dependent var	1.451283	
Sum squared resid	4.847947	Durbin-Watson stat	1.212914	

Source : Output *Eviews* 14, 2026 (data has been reprocessed)

Figure 3. Regression Results for the Fixed Effects Model

Based on the results of the model selection tests (the Chow test with a p-value of 0.0000 and the Hausman test with a p-value of 0.0000), the Fixed Effects Model (FEM) was determined to be the best model. The resulting regression equation is: $PBV = 22.09222 - 0.69915(ROA) - 0.199405(DER) + 0.167642(TATO) - 1.294399(SIZE) + 0.363067(SG)$.

Cross-section fixed (dummy variables)			
Weighted Statistics			
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Source : Output *Eviews* 14, 2026 (data has been reprocessed)

Figure 4. Result of the F-test

In the F-test (simultaneous), a probability value (F-statistic) of $0.000000 < 0.05$ was obtained, confirming that all independent variables collectively have a significant effect on PBV.

Cross-section fixed (dummy variables)			
Weighted Statistics			
R-squared	0.865307	Mean dependent var	1.556946
Adjusted R-squared	0.800888	S.D. dependent var	0.691118
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Sum squared resid	4.847947	Durbin-Watson stat	1.212914

Source : Output *Eviews* 14, 2026 (data has been reprocessed)

Figure 5. Result of the Coefficient of Determination (R²) Test

Meanwhile, the adjusted R-squared value of 0.829029, or 82.90%, indicates that this model explains 82.90% of the variation in firm value, while the remainder is explained by other factors outside the model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22.09222	14.75318	1.497454	0.1479
ROA	-0.699144	1.331137	-0.525223	0.6045
DER	-0.199405	0.060723	-3.283855	0.0033
TATO	0.167642	0.292808	0.572533	0.5725
SIZE	-1.294399	0.927346	-1.395811	0.1761
SG	0.363067	0.140313	2.587546	0.0165

Source : Output *Eviews* 14, 2026 (data has been reprocessed)

Figure 6. Result of t-test

Based on the results of the significance test for individual parameters (t-test) using a t-table value of 2.045 at a 5% significance level ($\alpha = 0.05$), the partial effects of each variable on firm value (PBV) can be described. First, the Return on Assets (ROA) variable recorded a calculated t-value that was smaller than the critical t-value ($0.525 < 2.045$) with a probability of $0.6045 > 0.05$. This indicates that ROA does not have a significant effect on PBV. Second, the test for the Debt-to-Equity Ratio (DER) shows an absolute t-value of $3.283 > 2.045$ with a probability of $0.0033 < 0.05$ and a negative regression coefficient (-0.199). This indicates that, statistically, DER has a negative and significant effect on PBV.

Third, the Total Asset Turnover (TATO) variable has a t-statistic of $0.572 < 2.045$ and a probability of $0.5725 > 0.05$, meaning that TATO does not have a significant effect on PBV. Fourth, the analysis of the Firm Size variable yielded an absolute t-value of $1.395 < 2.045$ with a probability of $0.1761 > 0.05$, proving that firm size has no significant impact on firm value. Finally, the Sales Growth variable yielded an absolute t-value of $2.587 > 2.045$ with a probability of $0.0165 < 0.05$ and a positive coefficient (0.363). These results confirm that sales growth has a positive and significant effect on an increase in firm value.

Discussion:

1) The Effect of Return on Assets (ROA) on Firm Value

The test data show that Return on Assets (ROA) does not significantly affect firm value. This indicates that fluctuations in profits from asset utilization are not yet able to provide a strong enough signal to investors. Stock market investors make evaluations based on various other considerations; they do not merely monitor current asset efficiency but also scrutinize the industry's overall prospects. This conclusion aligns with the research by Rinaldi R. and Oktavianti N. (2023), which found that ROA has no effect on firm value.

2) The Effect of the Debt-to-Equity Ratio (DER) on Firm Value

The research findings demonstrate that the Debt-to-Equity Ratio (DER) has a negative and significant impact on firm value. The DER indicator reflects the proportion of debt used to finance a corporation's overall operational activities. Managers must prioritize optimal DER management. Financing investments through debt instruments has the potential to trigger financial risks for the business entity. Financial risks include a company's inability to meet its fixed-cost obligations arising from interest expenses. Investors view a high debt ratio as a negative indicator, leading them to reduce their purchase volume and triggering a decline in stock prices in the market. This conclusion reinforces the study by Tandrio and Handoyo (2023), which states that the DER has a negative and significant impact on firm value.

3) The Effect of Total Asset Turnover (TATO) on Firm Value

Statistical analysis confirms that Total Asset Turnover (TATO) does not make a significant contribution to fluctuations in firm value. This phenomenon suggests that a company's efficiency in mobilizing assets to generate sales is not sufficient to ensure optimal net profit, particularly when there are high operating expenses. Investors tend to react neutrally due to uncertainty regarding the impact of asset turnover on net profitability, which in turn causes stock prices to remain largely unchanged. This observation reinforces the findings of Fadly, M. et al. (2026), who demonstrated that TATO does not have a significant effect on firm value.

4) The Effect of Firm Size on Firm Value

It is known that firm size does not have a significant effect on firm value. This reflects the fact that the scale or total asset size of a company does not guarantee that its stock will automatically be in demand by the market. A large-scale company will not attract investors if its assets are managed inefficiently; conversely, a smaller but efficient company may be more attractive. These results align with those of a study by Sari, V. Z. et al. (2023), which found that firm size has no effect on firm value.

5) The Effect of Sales Growth on Firm Value

Data analysis confirms that sales growth has a positive and significant effect on firm value. This finding supports signaling theory, which asserts that an upward trend in sales reflects promising future business prospects. Investors respond favorably to this trend, which triggers increased demand for shares and boosts corporate value. This conclusion aligns with the study by Hayat, T. Z. & Indawati, I. (2024), which demonstrates that sales growth has a positive and significant impact on corporate value.

CONCLUSION

The researchers formulated several key conclusions based on the results of statistical tests and an in-depth discussion of the impact of Return on Assets (ROA), Debt-to-Equity Ratio (DER), Total Asset Turnover (TATO), Firm Size, and Sales Growth on Enterprise Value (PBV), as follows:

- 1) Partially, Return on Assets (ROA) does not have a significant effect on firm value. This means that profit generated from asset management is not yet a primary consideration for investors. Investors in the capital market tend to focus more on future business growth prospects rather than merely looking at current profits.
- 2) Partially, the Debt-to-Equity Ratio (DER) has a negative and significant effect on firm value. This means that excessively high corporate debt is perceived as a negative signal (bad news) by the market. The high risk of default and the burden of interest payments make investors reluctant to buy the stock, causing its price to decline.
- 3) Partially, Total Asset Turnover (TATO) does not have a significant effect on firm value. This means that how quickly a company turns over its assets to generate sales does not

automatically increase its value, especially if the company's operating costs are not yet efficient.

- 4) Partially, firm size does not have a significant effect on a company's value. This means that having massive total assets does not guarantee that the company's stock will be more sought after. Today's investors act rationally by placing greater value on assets managed productively, rather than simply focusing on the company's physical size.
- 5) Partially, Sales Growth positively and significantly increases a company's value. An upward trend in sales figures reflects the competitive advantage of its products as well as future business prospects. This positive news sparks investor buying interest, thereby driving up the company's stock price.

Companies are advised to prioritize internal financing or avoid high interest expenses to reduce their debt-to-equity ratio (DER). Additionally, management needs to sustain and optimize sales growth through regular product innovation to increase the company's valuation. For investors, the debt-to-equity ratio and sales growth can serve as key criteria for selecting promising stocks in this sector.

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