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The Influence of Long-Term Debt-to-Equity Ratio, Financial Leverage, Capital Structure, and Asset Growth on Stock Prices via Price-to-Book Value in the Oil and Gas Industry Listed on the Indonesia Stock Exchange (2020–2025)

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Abstract: The oil and gas industry is a strategic sector that contributes significantly to the Indonesian economy; however, the movement of its funding structure, asset growth, and stock prices during the 2020–2025 period has shown inconsistent fluctuations. Previous studies on the effects of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth on Price to Book Value and stock prices have produced mixed results, and most have not positioned Price to Book Value as an intervening variable in the oil and gas sector. This study aims to analyze both the direct and indirect effects of these four variables on stock prices through Price to Book Value in the oil and gas industry listed on the Indonesia Stock Exchange during the 2020–2025 period. The research employs a quantitative approach using secondary data in the form of annual financial reports from 11 sample companies selected through purposive sampling, and is analyzed using path analysis with the assistance of SPSS. The results show that Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth, either simultaneously or partially, do not have a significant effect on either Price to Book Value or stock prices. Meanwhile, Price to Book Value has a significant and dominant effect on stock prices and mediates the influence of the four variables. The novelty of this research lies in the integration of an intervening model in the post-pandemic oil and gas sector, which has not been extensively studied, while also confirming that market valuation plays a greater role in determining stock prices than funding structure does directly.

Keywords: Long Term Debt to Equity Ratio, Financial Leverage, Capital Structure, Asset Growth, Price to Book Value, Stock Price.

INTRODUCTION

The development of globalization and the increasing complexity of the dynamic business world demand that every business actor be able to adapt quickly to changes in the economic environment. One sector that holds a strategic role in the Indonesian economy is the export-

based commercial sector, particularly the oil and gas industry, which makes a significant contribution to strengthening the national economy as well as expanding domestic and international markets (Soesanto et al., 2025). The ever-increasing demand for energy, driven by population growth and industrialization, requires companies in this sector to maintain business sustainability while simultaneously enhancing corporate value in the eyes of investors one reflection of which is the movement of stock prices in the capital market.

Empirical evidence from the oil and gas industry listed on the Indonesia Stock Exchange during the 2020–2025 period shows that the Long-Term Debt to Equity Ratio (LTDtER), Debt to Asset Ratio (DAR), and Equity to Asset Ratio (EAR) tend to fluctuate inconsistently from year to year. A similar condition is observed in Asset Growth, Price to Book Value (PBV), and company stock prices, where increases in funding structure or asset growth are not always proportionally followed by rises in market value or stock prices. This misalignment in the movement patterns among these variables indicates a complexity in their interrelationships that has not yet been fully explained, thereby encouraging the need for further investigation into the role of funding structure and asset growth on stock prices, both directly and through the intervening variable of Price to Book Value.

Conceptually, the Long-Term Debt to Equity Ratio and financial leverage reflect the extent to which a company relies on long-term debt in its capital structure, which, according to signaling theory, should ideally provide investors with signals regarding the company's future prospects (Brigham & Houston, 2020). Earnings quality and financial leverage also influence financial performance, which in turn shapes market perception (Syahzuni & Sari, 2022). Nevertheless, empirical findings on the effect of LTDtER on firm value and stock prices remain inconsistent. Suqron (2021) and Ganar and Kusmiyati (2021) found that LTDtER has no significant effect on stock prices, while Robiah and Lestari (2026) reported similar results with respect to Price to Book Value in the LQ45 banking sector. In contrast, Indira and Kardinal (2026) found that LTDtER does affect firm value in the infrastructure sector. These divergent results explicitly indicate a research gap regarding the consistency of LTDtER's role in explaining stock price movements and firm value across different sectors.

The Debt to Asset Ratio (DAR), as a fundamental indicator that describes the proportion of debt used in the funding structure, also draws attention in assessing a company's capital efficiency (Dwi Cahyati & Khuzaeni, 2025). Several studies have shown that DAR affects Price to Book Value, as found by Dwiputra and Cusyana (2022) in the construction and property sector. However, Azkia and Susyani (2025), in their study of non-bank LQ45 index companies, found that DAR has no significant effect on Price to Book Value. A similar pattern is observed in the effect of DAR on stock prices: Sekarfitri (2023) found a significant effect of DAR in the pharmaceutical sector, while Nurul et al. (2022) found no significant effect in a different sectoral context. This inconsistency explicitly demonstrates that the role of DAR on firm value and stock prices remains contextual and has yet to be uniformly established across sectors and research periods.

Capital structure, as measured by the Equity to Asset Ratio (EAR), reflects the proportion of funding sourced from equity relative to a company's total assets and is conceptually closely related to firm value as reflected in Price to Book Value (Aviany & Rifandi, 2024). In line with this, asset growth is viewed as a signal of a company's future prospects, as high assets represent operational scale and external confidence in the firm (Herwiputri & Indrawan, 2023). However, previous findings remain inconclusive: Putra (2023) found that capital structure has no significant effect on Price to Book Value, while Makmur et al. (2022) found a significant effect of asset growth on firm value. These results differ from the findings of Ilham Wardhana et al. (2025) and Hokardi and Firdausy (2021), who respectively showed that asset growth has a positive but insignificant effect on both Price to Book Value and stock prices. The divergent directions and significance levels of these findings explicitly confirm that the relationship

between capital structure, asset growth, and firm value or stock prices remains an area requiring further investigation, particularly in capital-intensive sectors such as oil and gas.

In addition to the explicit gaps in findings, the literature review also reveals implicit gaps in terms of model scope and research context. The majority of previous studies, such as Rahayu and Amanalah (2019) and Putri et al. (2024), have tended to position capital structure and profitability as direct determinants of firm value, without examining the role of Price to Book Value as an intervening variable leading to stock prices. Yet, Price to Book Value has been consistently found to affect stock prices (Irfan & Kharisma, 2020), so positioning it as an intervening variable has the potential to explain the mechanism of the indirect influence of funding structure and asset growth on stock prices an approach that has not been extensively tested before. Even studies that have employed an intervening approach, such as that conducted by Silvanus (2019) in the consumer goods sector, remain limited to a single determinant (asset growth) with capital structure as the mediator, rather than the reverse. On the other hand, the majority of studies on LTDtER, DAR, EAR, and asset growth have been conducted in the manufacturing, banking, construction, and infrastructure sectors, while the oil and gas industry a capital-intensive sector sensitive to fluctuations in global commodity prices and exchange rates remains relatively underexplored, particularly over the 2020–2025 period, which encompasses the post-pandemic recovery phase and global energy price volatility. This void in research at the intersection of sector, time period, and intervening model constitutes a gap that has yet to be extensively explored by previous researchers.

Based on these gaps, this study offers novelty by integrating four determinants of funding structure and asset growth namely Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth into a single simultaneous model that positions Price to Book Value as an intervening variable toward stock prices, a combination that has rarely been tested collectively in previous studies. This model also serves as an empirical test of signaling theory (Brigham & Houston, 2020) in the context of how information regarding funding structure and asset growth is interpreted by the market through Price to Book Value valuation before ultimately being reflected in stock prices.

Another novelty lies in the selection of the research object and period, namely the oil and gas industry listed on the Indonesia Stock Exchange over the 2020–2025 period a timeframe that encompasses the dynamics of post-Covid-19 economic recovery as well as global energy price fluctuations, which have been relatively underrepresented in the existing literature. By focusing on this specific sector and period, this study is expected to provide a more contextual and up-to-date picture of the role of funding structure and asset growth in relation to stock prices. Based on the description of the phenomena, research gaps, and novelties outlined above, this study aims to analyze the direct and indirect effects of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth on stock prices through Price to Book Value in the oil and gas industry listed on the Indonesia Stock Exchange during the 2020–2025 period.

METHOD

This study employs a quantitative approach with a causal-associative design aimed at determining the direct and indirect effects among the variables as formulated. The data used are quantitative data derived from secondary sources, namely data obtained from records, publications, and company financial reports, rather than from direct observation of the research subjects (Herri & Kenedi, 2021). The secondary data in this study consist of annual financial reports of the oil and gas industry listed on the Indonesia Stock Exchange during the 2020–2025 period, officially published through the website www.idx.co.id.

The population in this study consists of all objects that possess specific qualities and characteristics determined by the researcher for analysis and conclusion drawing (Sujarweni,

2020), namely all oil and gas industry companies listed on the Indonesia Stock Exchange during the 2020–2025 period, totaling 15 companies. Sample determination was conducted using purposive sampling technique based on certain criteria, specifically companies that were consistently listed and published complete financial reports throughout the observation period. Based on these criteria, four companies were eliminated due to delisting during the research timeframe, namely PT Humpuss Intermoda Transportasi Tbk, PT Indah Prakasa Sentosa Tbk, PT Sugih Energy Tbk, and PT Capitalinc Investment Tbk, resulting in 11 companies as the final sample of this study.

This study involves four independent variables, one intervening variable, and one dependent variable. The independent variables consist of Long-Term Debt to Equity Ratio (X1), which describes the proportion of long-term debt to equity (Syahzuni & Sari, 2022); Debt to Asset Ratio (X2), which reflects the proportion of total assets financed by debt (Dwi Cahyati & Khuzaeni, 2025); Equity to Asset Ratio (X3), which indicates the proportion of assets financed by equity (Aviany & Rifandi, 2024); and Asset Growth (X4), which represents the annual growth rate of a company's total assets (Herwiputri & Indrawan, 2023). Price to Book Value (Y) serves as the intervening variable, comparing the market price of a stock with its book value per share (Aviany & Rifandi, 2024), while stock price (Z), which is the price formed through the mechanism of supply and demand in the capital market (Erawati et al., 2022), is designated as the dependent variable.

Data analysis was conducted using path analysis techniques with the assistance of the SPSS application. Path analysis was employed to estimate the causal relationships among variables as established based on the theoretical framework (Sujarweni, 2020), as well as to identify the magnitude of direct and indirect effects of the independent variables on the dependent variable through the intervening variable. The path analysis model in this study was structured into two sub-models: the first sub-model examines the effects of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth on Price to Book Value; the second sub-model examines the effects of these four variables along with Price to Book Value on stock prices. Through these two sub-models, the direct effects, indirect effects, and total effects of each independent variable on stock prices can be obtained.

RESULTS AND DISCUSSION

Path Analysis Results

Path analysis is an extension of multiple regression analysis used to examine causal relationship patterns among variables that have been established based on a theoretical framework, encompassing direct, indirect, and total effects (Sujarweni, 2020). This technique enables researchers to trace the mechanism through which an independent variable influences a dependent variable—whether that influence occurs directly or through a specific intervening variable. In this study, path analysis is applied to determine the effects of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth on stock prices, both directly and indirectly through Price to Book Value as an intervening variable.

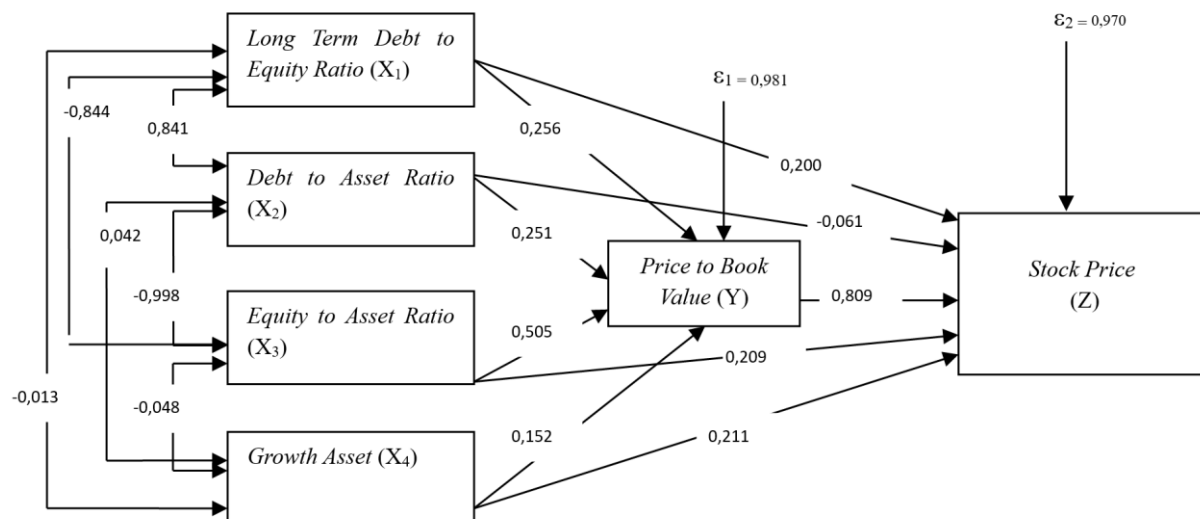
The testing was conducted through two regression model structures using the SPSS application, where the path coefficients in each structure reflect the magnitude of contribution of each independent variable to its dependent variable. The results of the data processing are subsequently elaborated in the following section, beginning with the test results for Structure I and Structure II, followed by simultaneous hypothesis testing (F-test) and partial hypothesis testing (t-test), as the basis for answering the research objectives that have been formulated. The path analysis testing in this study was performed using the SPSS Version 32.0 for Windows program. To address the research hypotheses, three runs were conducted to ensure that all coefficient values were fulfilled.

Table 1. SPSS Output for Three Sub-structures

Model	Unstandardized Coefficients		Beta
	B	Std.Error	
X1_ Long Term Debt to Equity Ratio → Y_ Price to Book Value	.022	.020	.256
X2_ Debt to Asset Ratio → Y_ Price to Book Value	.150	1.257	.251
X3_ Equity to Asset Ratio → Y_ Price to Book Value	.304	1.285	.505
X4_ Growth Asset → Y_ Price to Book Value	.032	.027	1.199
X1_ Long Term Debt to Equity Ratio → Z_ Stock price	2.194	2.550	.200
X2_ Debt to Asset Ratio → Z_ Stock price	-4.721	161.335	-.061
X3_ Equity to Asset Ratio → Z_ Stock price	16.363	164.879	.209
X4_ Growth Asset → Z_ Stock price	5.835	3.467	.211
Y_ Price to Book Value → Z_ Stock price	.006	.001	.809

Source: SPSS 32.0 for windows output (2026)

Once the SPSS output above is incorporated into the research model, it appears as follows.


Figure 1. Main Structure of the Research

The path analysis in this study consists of three sub-structures, each of which is intended to address each hypothesis in this study. The detailed results of the path analysis for each structure will be elaborated one by one as follows.

Structural Path Analysis 1

This Structure 1 path analysis is used to address the objective of examining the direct and indirect effects of Long-Term Debt to Equity Ratio (X1), Debt to Asset Ratio (X2), Equity to Asset Ratio (X3), and Asset Growth (X4) on Price to Book Value (Y). To determine the direct and indirect effects by calculating the correlations among variables, the following results were obtained:

Table 2. Summary of the Direct and Indirect Effects of Long-Term Debt-to-Equity Ratio, Debt-to-Asset Ratio, Equity-to-Asset Ratio, and Asset Growth on Price-to-Book Value.

Variable	Y Price to Book Value		Total Effect
	Direct Effect	Indirect Effect	
Long Term Debt to Equity Ratio	0,0655 (6,55%)	-0,0556 (-5,56%)	0,0099 (1%)
Debt to Asset Ratio	0,0630 (6,30%)	-0,0709 (-7,09%)	-0,0079 (-0,79%)
Equity to Asset Ratio	0,2550 (25,50%)	-0,2393 (-23,93%)	0,0157 (1,57%)
Growth Asset	0,0231 (2,31%)	-0,0026 (-0,26%)	0,0205 (2,05%)
The Effect of X1, X2, X3, X4 on Y			0,0382 (3,83%)
Other Factors			96,17%

Source: Processed data (2026)

Based on the calculations in Table 2 above, the magnitude of the effect of Long-Term Debt to Equity Ratio (X1), Debt to Asset Ratio (X2), Equity to Asset Ratio (X3), and Asset Growth (X4) on Price to Book Value (Y) shows that the simultaneous effect is 3.83%. This indicates that the variation in Price to Book Value that can be explained by these four variables is only 3.83%, while the remaining 96.17% is influenced by other variables outside the research model. This value represents the coefficient of determination of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth on Price to Book Value, as presented in the following table.

Table 3. Coefficient of Determination of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio and Asset Growth on Price to Book Value Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.196 ^a	.038	-.025	834.18370

a. Predictors: (Constant), X4_Growth_Asset, X1_LTDtER, X2_DAR, X3_EAR

Source: SPSS 32.0 for windows output (2026)

Based on the path analysis results, the total contribution of the effects of Long-Term Debt to Equity Ratio (X1), Debt to Asset Ratio (X2), Equity to Asset Ratio (X3), and Asset Growth (X4) on Price to Book Value (Y) is 3.8%. This value is in line with the Model Summary results from the SPSS output, which show an R Square value of 0.038, or 3.8%. This indicates that the four independent variables simultaneously are able to explain 3.8% of the variation in Price to Book Value (Y), while the remaining 96.2% is influenced by other factors not included in the research model.

Structural Path Analysis 2

This Structure 2 path analysis is used to address the research objective of examining the direct and indirect effects of Long-Term Debt to Equity Ratio (X1), Debt to Asset Ratio (X2), Equity to Asset Ratio (X3), and Asset Growth (X4) on Stock Price (Z). To determine the direct and indirect effects by calculating the correlations among variables, the following results were obtained:

Table 4. Direct and Indirect Effects of Current Ratio (X1) and Return on Assets (X2) on Stock Price (Y)

Variable	Y Price to Book Value		Total Effect
	Direct Effect	Indirect Effect	
Long Term Debt to Equity Ratio	0,04 (4%)	-0,0461 (-4,61%)	-0,0061 (-0,61)
Debt to Asset Ratio	0,0037 (0,37%)	0,0019 (0,19%)	0,0056(0,56%)
Equity to Asset Ratio	0,0437 (4,37%)	-0,0247 (-2,47%)	0,0191 (1,91%)
Growth Asset	0,0445 (4,45%)	-0,0032 (-0,32%)	0,0413 (4,13%)
The Effect of X1, X2, X3, X4 on Z			0,0599 (5,9%)
Other Factors			94,1%

Source: Processed data (2026)

From the calculations in Table 4, it can be concluded that the magnitude of the effect of Long-Term Debt to Equity Ratio (X1), Debt to Asset Ratio (X2), Equity to Asset Ratio (X3), and Asset Growth (X4) on Stock Price (Z) is 5.9%. This indicates that these four variables are able to explain 5.9% of the variation in Stock Price, while the remaining 94.1% is influenced by other factors outside the research model that were not examined. This value also explains the coefficient of determination of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth on Stock Price, as presented in the following table.

Table 5. Coefficient of Determination of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio and Asset Growth on Price to Stock Price

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.245 ^a	.060	-.002	1070.54527

a. Predictors: (Constant), X4_Growth_Asset, X1_LTDtER, X2_DAR, X3_EAR

Source: SPSS 32.0 for windows output (2026)

Based on the path analysis results, the total contribution of the effects of Long-Term Debt to Equity Ratio (X1), Debt to Asset Ratio (X2), Equity to Asset Ratio (X3), and Asset Growth (X4) on Stock Price (Z) is 5.98%, which rounds to 6%. This value is in line with the Model Summary results from the SPSS output, which show an R Square value of 0.060, or 6%. This indicates that the four independent variables are able to explain 6% of the variation in Stock Price (Z), while the remaining 94% is influenced by other factors not included in the research model.

Structural Path Analysis 3

This Structure 3 path analysis is used to address the objective of examining the effect of Price to Book Value (Y) on Stock Price (Z). Based on the calculation process conducted, the direct effect of Price to Book Value (Y) on Stock Price (Z) was found to be positive at 65.45%. This result indicates that Price to Book Value (Y) directly affects Stock Price (Z) by 65.45%.

This value also indicates the magnitude of the coefficient of determination for Price to Book Value (Y) with respect to Stock Price (Z), as follows.

Table 6. Coefficient of Determination of Price-to-Book Value (Y) With Respect to Stock Price (Z)

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.809 ^a	.655	.650	487.85756

a. Predictors: (Constant), Y_PBV

Source: SPSS 32.0 for windows output (2026)

Based on the path analysis results, the total contribution of the effects of Long-Term Debt to Equity Ratio (X1), Debt to Asset Ratio (X2), Equity to Asset Ratio (X3), and Asset Growth (X4) on Stock Price (Z) is 5.98%, which rounds to 6%. This value is in line with the Model Summary results from the SPSS output, which show an R Square value of 0.060, or 6%. This indicates that the four independent variables are able to explain 6% of the variation in Stock Price (Z), while the remaining 94% is influenced by other factors not included in the research model.

Hypothesis Testing Results

Hypothesis testing was conducted simultaneously (F-test) and partially (t-test) at a 5% significance level. A summary of the test results is presented in Table 7.

Table 7. Hypothesis Testing Results

Hypothesis	Statistical Value	Table Value	Sig.	Information
H1: X1,X2,X3,X4 → PBV (simultaneous)	F = 0,974	F table = 2,523	0,429	Not Supported
H2a: LTDtER → PBV	t = 0,861	t table = 1,99962	0,393	Not Supported
H2b: DAR → PBV	t = -0,029	t table = 1,99962	0,977	Not Supported
H2c: EAR → PBV	t = 0,099	t table = 1,99962	0,921	Not Supported
H2d: Growth Asset → PBV	t = 1,683	t table = 1,99962	0,097	Not Supported
H3: X1,X2,X3,X4 → Stock price (simultaneous)	F = 0,608	F table = 2,523	0,658	Not Supported
H4a: LTDtER → Stock price	t = 1,087	t table = 1,99962	0,281	Not Supported
H4b: DAR → Stock price	t = 0,119	t table = 1,99962	0,906	Not Supported
H4c: EAR → Stock price	t = 0,237	t table = 1,99962	0,813	Not Supported
H4d: Growth Asset → Stock price	t = 1,199	t table = 1,99962	0,235	Not Supported
H5: PBV → Stock price	t = 11,021	t table = 1,99962	< 0,001	Supported

Source: SPSS 32.0 for windows output (2026)

Discussion

The Effect of Long Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth on Price to Book Value

The simultaneous test results (H1) show that LTDtER, DAR, EAR, and Asset Growth collectively have no significant effect on Price to Book Value ($F = 0.974 < F\text{-table } 2.523$; $\text{sig.} = 0.429 > 0.05$). This finding is in line with signaling theory as proposed by Brigham and Houston (2020), which explains that investors will only respond to financial information if that information provides a positive signal regarding the company's future prospects. Increases in debt or asset growth that are not accompanied by improvements in performance and earnings do not provide sufficiently strong signals to investors, and therefore do not significantly affect the market's valuation of the company.

Partially (H2), the four variables also show no significant effect on Price to Book Value. The insignificant effect of LTDtER ($t = 0.861$; $\text{sig.} = 0.393$) is consistent with the findings of Robiah and Lestari (2026) in the LQ45 banking sector, which stated that the magnitude of the proportion of long-term debt to equity does not influence investor valuation of the company. Likewise, the insignificant effect of DAR ($t = -0.029$; $\text{sig.} = 0.977$) aligns with the results of Azkia and Susyani (2025), who explained that the DAR ratio merely describes the proportion of debt to assets and the company's ability to meet long-term obligations, without necessarily affecting market expectations regarding the book value of shares.

The insignificant effect of EAR ($t = 0.099$; $\text{sig.} = 0.921$) is consistent with Putra (2023), who found that the proportion of assets financed by equity is not a primary consideration for investors in valuing a company, unless accompanied by improvements in financial performance and profitability. Meanwhile, Asset Growth also has no significant effect ($t = 1.683$; $\text{sig.} = 0.097$), although the direction of its effect is positive and approaches the significance threshold. This finding aligns with Ilham Wardhana et al. (2025), who stated that asset growth has a positive but insignificant effect on Price to Book Value, because asset growth is not always a determining factor considered by investors in assessing a company, particularly when such growth is financed more by debt than by equity.

The Effect of Long-Term Debt-to-Equity Ratio, Debt-to-Asset Ratio, Equity-to-Asset Ratio, and Asset Growth on Stock Price

The simultaneous test results (H3) also show that the four independent variables collectively have no significant effect on stock prices ($F = 0.608 < F\text{-table } 2.523$; $\text{sig.} = 0.658 > 0.05$). This further reinforces signaling theory (Brigham & Houston, 2020) in the context of the Indonesian capital market, particularly in the oil and gas industry, where stock price

movements are more influenced by external factors such as fluctuations in global commodity prices than by the company's internal funding structure alone.

Partially (H4), LTDtER has no significant effect on stock prices ($t = 1.087$; $\text{sig.} = 0.281$), which is consistent with Ganar and Kusmiyati (2021), who stated that the proportion of long-term debt to equity has not yet become a primary determining factor for investors in making investment decisions, as profitability and cash flow factors tend to be given greater consideration. DAR also has no significant effect ($t = 0.119$; $\text{sig.} = 0.906$), in line with Nurul et al. (2022), who found that a high DAR ratio does not necessarily have a negative impact on stock prices as long as the company is able to manage its obligations effectively.

EAR also has no significant effect on stock prices ($t = 0.237$; $\text{sig.} = 0.813$), consistent with Alyani et al. (2022), who stated that the effect of capital structure on stock prices heavily depends on how the market assesses the overall condition and prospects of the company, rather than solely on the composition of equity to assets. Meanwhile, Asset Growth has no significant effect on stock prices ($t = 1.199$; $\text{sig.} = 0.235$), in line with Hokardi and Firdausy (2021), who noted that an increase in assets does not always originate from equity; therefore, when asset growth is financed by debt, investors may actually perceive the company as having greater risk rather than a signal of better prospects.

The Effect of Price-to-Book Value on Stock Price

Unlike the four funding structure and asset growth variables, Price to Book Value (H5) is proven to have a significant and dominant effect on stock prices ($t = 11.021$; $\text{sig.} < 0.001$), with a contribution of 65.5%. This finding is consistent with Irfan and Kharisma (2020), who found that Price to Book Value has a significant effect on stock prices in manufacturing companies, as investors tend to be more interested in ratios that directly reflect market valuation, such as capital gains and Price to Book Value, rather than funding structure ratios which are more technical in nature and do not directly affect market expectations.

Synthesis of Findings

Overall, the findings of this study show a consistent pattern: LTDtER, DAR, EAR, and Asset Growth have no significant effect on either Price to Book Value or stock prices, whether simultaneously or partially, while Price to Book Value proves to be the strongest and most consistent determinant in explaining stock price movements. This pattern indicates that in the oil and gas industry listed on the Indonesia Stock Exchange during the 2020–2025 period, investors rely more on market valuation signals reflected in Price to Book Value than on funding structure indicators or asset growth directly. Thus, Price to Book Value serves as a more relevant mediating mechanism in explaining how fundamental conditions of a company are ultimately reflected in its stock price, while also reinforcing the relevance of the intervening model proposed in this study.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study aims to analyze the direct and indirect effects of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth on stock prices through Price to Book Value as an intervening variable in the oil and gas industry listed on the Indonesia Stock Exchange during the 2020–2025 period. Based on the path analysis results and hypothesis testing as elaborated above, several conclusions can be drawn as follows.

First, Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth, either simultaneously or partially, have no significant effect on Price to Book Value, with the model's contribution amounting to only 3.8%. This finding indicates that

funding structure and asset growth have not served as sufficiently strong signals for investors in assessing companies in the oil and gas industry during the observation period.

Second, these four variables also have no significant effect on stock prices, either simultaneously (with the model's contribution at 6%) or partially. This result indicates that stock price movements in the oil and gas industry are more influenced by other factors beyond the company's funding structure and asset growth, such as external factors like fluctuations in global commodity prices.

Third, Price to Book Value is proven to have a significant and dominant effect on stock prices, with a contribution of 65.5%. This finding confirms that the market's valuation of the company's book value serves as the primary determinant in stock price formation, compared to other funding structure indicators.

Fourth, although the direct effects of Long-Term Debt to Equity Ratio, Debt to Asset Ratio, Equity to Asset Ratio, and Asset Growth on stock prices are not significant, Price to Book Value still serves as an intervening variable that mediates the effects of these four variables on stock prices, albeit with relatively small and varying magnitudes across variables. Thus, it can be concluded that the mechanism through which funding structure and asset growth affect stock prices in the oil and gas industry operates more indirectly through market valuation (Price to Book Value) than directly.

Limitations

This study has several limitations that need to be considered both in interpreting the results and for future research development. First, the coefficients of determination across all model structures are relatively low, ranging from 3.8% to 6%, except for the effect of Price to Book Value on stock prices. This condition indicates that there are still many other factors outside the research model that are more dominant in explaining the variation in Price to Book Value and stock prices, such as profitability, liquidity, macroeconomic conditions, and fluctuations in global commodity prices, which were not included as research variables.

Second, the correlation test results show a very high relationship between Debt to Asset Ratio and Equity to Asset Ratio ($r = -0.998$), indicating potential multicollinearity among the independent variables. This condition may affect the stability and interpretation of the path coefficients for each variable, so the results of individual effects should be interpreted with caution.

Third, this study only used a sample of 11 companies from a single industrial sector, namely oil and gas, with an observation period of 2020–2025 which encompasses the post-Covid-19 economic recovery period and global energy price volatility. The unstable economic conditions during this period may have influenced the relationship patterns among variables, so generalization of the findings to other sectors or different periods should be undertaken with caution.

Recommendations

Based on the conclusions and limitations outlined above, several recommendations can be proposed. For future research, it is advisable to expand the scope of the research object to other sectors beyond the oil and gas industry, extend the observation period, and incorporate other variables that, theoretically and empirically, have the potential to influence Price to Book Value and stock prices, such as profitability, liquidity, firm size, and macroeconomic variables including exchange rates and global oil prices (Rahayu & Amanalah, 2019; Putri et al., 2024). Furthermore, given the identified indication of multicollinearity between Debt to Asset Ratio and Equity to Asset Ratio, future studies may consider using only one of the two indicators or applying alternative analytical techniques that are more robust to multicollinearity issues.

For company management in the oil and gas industry, although funding structure and asset growth are not proven to have a significant direct effect on stock prices, companies are still advised to manage their Long-Term Debt to Equity Ratio, Debt to Asset Ratio, and Equity to Asset Ratio prudently in order to maintain a balanced capital structure and mitigate long-term financial risk. Given that Price to Book Value is proven to be the primary determinant of stock prices, companies are advised to prioritize strategies for enhancing firm value through improved financial performance, operational efficiency, and productive asset growth, as these factors will ultimately be reflected in market valuation and have a greater impact on stock price movements than adjustments to funding structure alone.

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