

## Impact of Liquidity and Leverage on Profitability and Firm Value: Evidence from Oil and Gas Sector on the Indonesia Stock Exchange 2024 Using SEM-PLS

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### Keywords

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company value, smartpls.

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### ABSTRACT ;

This study examines the impact of liquidity and leverage on profitability and firm value in oil and gas companies listed on the Indonesia Stock Exchange in 2024. The oil and gas sector plays a strategic role in Indonesia's economy, yet it faces high financial risk due to fluctuating global oil prices, intensive capital requirements, and unstable market conditions. Therefore, understanding the relationship between liquidity, leverage, profitability, and firm value becomes important for investors and corporate management in making financial decisions. The purpose of this study is to analyse the direct and indirect effects of liquidity and leverage on profitability and firm value using profitability as an intervening variable. This research applied a quantitative causal-comparative approach using secondary data obtained from annual financial reports of oil and gas companies listed on the Indonesia Stock Exchange. The data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS). The findings indicate that liquidity has a positive and significant effect on profitability, showing that companies with stronger liquidity are more capable of generating profits efficiently. In contrast, profitability has a negative and significant effect on firm value, indicating that increased profitability does not always improve market valuation. These findings suggest that investor perceptions, financial policies, and market conditions may influence firm value more strongly than profitability alone. The study concludes that financial performance and market valuation are not always directly aligned in the oil and gas sector.

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### INTRODUCTION

The oil and gas sector, or oil and gas, is one of the most strategic sectors with a large impact on the Indonesian economy. This sector serves as the main motor in the energy industry, a source of state revenue, as well as a support for various other production sectors. In addition to providing fuel for industry and households, the oil and gas sector also has an influence on overall economic stability through its contribution to national income and investment from abroad (Andini Wulan Sukmayanti et al., 2025). Therefore, the financial performance of companies in this sector is attracting serious attention from governments, investors, and the wider community (Adhy Priyo & Heikal, 2025; Agung Ibrahim & Heikal, 2024).

However, the oil and gas sector is also known to have distinctive features and high risks. This industry is included in the category of industries that require large capital investments, both in exploration, production, and distribution activities. In addition, the oil and gas sector is highly dependent on changes in commodity prices in the global market, which can often change due to geopolitical dynamics, shifts in international energy policies, and demand and supply factors around the world. This volatility in global oil prices often results in oil and

gas companies' revenues fluctuating over time, which ultimately affects the company's profitability and value in the stock market (Awalludin & Heikal, 2024; Faisal et al., 2024; Fenny Syahfitri & Heikal, 2024).

In this context, financial ratio analysis is an important approach to understand the state and performance of a company. Financial ratios offer an overview of how a company manages its existing assets, liabilities, and capital (Jimmi Chitra & Heikal, 2024; Marlina et al., 2025). The two main ratios that are often used to analyze a company's financial health are liquidity and leverage. Both ratios reflect the company's financial stability and management's ability to manage both internal and external resources effectively (Giry Sembodo et al., 2024; Iksan Adityo Mulyo et al., 2025; Isfan et al., 2024).

Liquidity indicates a company's ability to meet its short-term obligations by utilizing current assets (Naomi Reza & Heikal, 2024). This ratio describes the extent to which a company is ready to convert its assets into cash to pay debt or operating expenses. Commonly used liquidity ratios include Current Ratio and Current Asset Ratio. A high liquidity ratio usually indicates effective cash management, but if it is too high, it can indicate the presence of funds that are not being used productively. In the oil and gas sector, liquidity management is very important because its operations require significant working capital and strong financial stability to support the smooth running of exploration and production projects (Kadek, 2016; Nukmaningtyas & Worokinasih, 2018; Rayuli Wulandari et al., 2024).

Meanwhile, leverage shows how much a company relies on Debt in its capital structure. Leverage measurement can be done through the Debt to Equity Ratio (DER) and Debt to Asset Ratio (DAR), which describe the comparison between external financing and own capital. The use of measurable debt can provide benefits to the company, which has the impact of increasing the return on equity with a lower cost of capital. However, the use of high leverage holds additional financial risks due to large interest expenses and potential liquidity issues if revenues decline. In the oil and gas sector, which is heavily affected by oil price fluctuations, the risk to leverage has become more significant and must be managed carefully.

Profitability shows how effective a company is in generating profits from its operations. Profitability is often used as a key marker to evaluate how well management manages a company's assets and capital (Sayuti Chow et al., 2025; Sri Polya Kettipusem & Heikal, 2024). The profitability indicators used in this study are Return on Assets (ROA) and Return on Investment (ROI), which reflect how efficiently the assets are used and how effective the investment is in generating profits. High profitability is a good sign for investors because it shows the company's potential to provide attractive returns and resilience in the face of external pressures. Liquidity, leverage, and profitability have been widely discussed in various financial studies, but the results obtained remain varied (Yuni Kurniawati & Heikal, 2025). Some studies, such as the one conducted by Sartono in 2016, show that liquidity has a positive impact on profitability, given that companies with good liquidity can run their operations well and prevent the risk of bankruptcy. However, another study conducted by Putri and Hidayat in 2021 found that the influence of liquidity on profitability was insignificant, which indicates that the existence of current assets does not necessarily guarantee efficiency in the use of capital to generate profits. The instability of these findings suggests that the relationship between liquidity and profitability may vary, depending on industry characteristics and economic situations (Vera Amelia & Heikal, 2024).

Furthermore, the impact of leverage on profitability is also a debatable issue. The trade-off theory posits that the use of debt can increase a company's value thanks to tax benefits from debt interest, but the pecking order theory states that companies tend to prefer funding from within to avoid the financial risks associated with excessive debt. Several studies have found that leverage negatively impacts profitability due to the high interest burden that companies

have to bear. However, if debt is managed well, leverage can have a positive impact on profitability through increased investment capabilities.

Company value is the main goal in financial management. Corporate value describes the market's view of management's success in managing resources to improve the well-being of shareholders. Generally, a company's value is measured by a market ratio such as Price to Book Value (PBV), which shows how much the market valuation of a company is compared to its book value. A high level of profitability usually increases investor confidence and increases the stock price, thereby boosting the value of the company. However, the value of a company can also be affected by external aspects such as the macroeconomic situation, government policies, and fluctuations in global oil prices.

By paying attention to the indicators in these variables, it is very important to know how liquidity and leverage affect the level of profit and the role of profit in determining the value of a company. In this study, profit is not only considered as a bound variable but also as a variable that serves as a bridge in the relationship between financial structure (liquidity and leverage) and the value of the company. This approach is expected to produce a more comprehensive understanding of how financial ratios impact the value of companies in the oil and gas sector.

This study utilizes Structural Equation Modeling - Partial Least Square (SEM-PLS) to assess the direct and indirect relationship between the existing variables. This method was chosen thanks to its ability to manage complex models with a limited sample and also allows for the testing of mediating effects with high efficiency. In addition, secondary data using financial statements from oil and gas companies listed on the Indonesia Stock Exchange (IDX) for 2024 provides a relevant and up-to-date empirical picture of the condition of the energy sector in Indonesia.

Overall, the objectives of this study are (1) to assess the impact of liquidity (X1) through the CR (Current Ratio and CaR (Current Asset Ratio) indicators on the level of profitability, which the company must maintain liquidity so that operations run smoothly. (2) to assess the impact of leverage (X2) through the DER (Debt to Equity Ratio) and DAR (Debt to Asset Ratio) indicators on Profitability and firm value which the company must use debt so as not to become a burden on the company. (3) profitability (Y1) with ROA (Return on Assets) and ROI (Return on Investment) indicators, which are the main determinants to measure the efficiency and effectiveness of the company's operations. (4) Firm Value (Y2) is measured by the PBV (Price to Book Value) indicator which aims to show market perception of the company's performance and prospects. In the relationship between liquidity, leverage, profitability and firm value, it is hoped that the results of this research can contribute to the development of corporate financial theory, especially related to capital structure and performance in the oil and gas industry, as well as provide useful insights for practitioners and investors in strategic decision-making in the financial area.

## **RESEARCH METHOD**

This study used a causal-comparative quantitative approach with the aim of analyzing the influence and relationship between financial variables. Data analysis was carried out using Structural Equation Modeling - Partial Least Square (SEM-PLS) to test direct and indirect relationships. The population in this study is all oil and gas sector companies listed on the Indonesia Stock Exchange (IDX) for the 2024 period. The sample selection was carried out using the purposive sampling method, with the criteria of the Company consistently publishing annual financial statements in 2024 and having complete data related to the required financial ratios (liquidity, leverage, profitability, and firm value).

We hereby convey Variables X1, X2 and Y1, Y2 along with indicators on each variable that can affect this analysis.

**Table 1 : Research Variables and Indicators**

<b>Variable</b>	<b>Code</b>	<b>Indicator</b>	<b>Loading Factor</b>
<b>X1 – Leverage</b>	X1.1	DER	0.991
	X1.2	DAR	0.975
<b>X2 – Liquidity</b>	X2.1	CR	0.626
	X2.2	CaR	0.988
<b>Y1 – Profitability</b>	Y1.1	ROA	0.981
	Y1.2	ROI	0.971
<b>Y2 – Firm Value</b>	Y2.1	PBV	1.000

Each variable has an indicator that is measured by a certain financial ratio in accordance with the company's financial theory and previous research.

### **Leverage (X1)**

Leverage is the level of debt use in the company's capital structure. This variable indicates the extent to which a company relies on external funding sources to finance its assets. Leverage in this study is measured using two indicators, namely: Debt to Equity Ratio (DER) with a loading factor value of 0.991, which describes the ratio of total debt to own capital. The higher this ratio, the greater the company's dependence on loans. Debt to Asset Ratio (DAR) with a loading factor value of 0.975, which shows the proportion of the company's assets financed by debt. A high DAR value signifies a greater level of financial risk.

### **Liquidity (X2)**

Liquidity describes a company's ability to meet its short-term obligations by using its current assets. The indicator used to measure liquidity is: Current Ratio (CR) with a loading factor value of 0.626, which measures the company's ability to pay current obligations using current assets. Cash Ratio (CAR) with a loading factor value of 0.988, which shows the extent to which cash and cash equivalents are able to cover current debt without having to sell other assets. This value reflects the company's cash strength in maintaining smooth liquidity.

### **Profitability (Y1)**

Profitability indicates the company's ability to generate profits from its operational activities. This variable is measured through two indicators: Return on Assets (ROA) with a loading factor value of 0.981, which shows the efficiency of using the company's assets in generating net profit. Return on Investment (ROI) with a loading factor value of 0.971, which measures the level of return on investment made by the company. The higher the ROA value and ROI, the better the company's financial performance in generating profits.

### **Firm Value (Y2)**

A company's value reflects the extent to which the market provides an assessment of the company's future performance and prospects. This variable is measured using the indicator: Price to Book Value (PBV) with a loading factor value of 1,000, which shows the comparison between the stock market price and the book value per share. A high PBV value signifies that the company has good growth prospects and is highly valued by investors.

## RESULTS AND DISCUSSION

### Outer Model Analysis

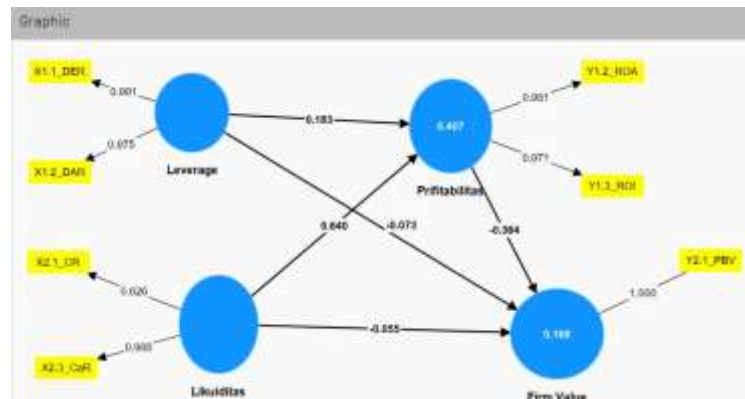


Figure1 : SEM-PLS Algorithm Diagram

Outer loading shows how strongly the indicator (manifest variable) forms latent variables (constructs). From the analysis of leverage (x1) it is formed very well by DER and DAR, both reliable (loading > 0.9) which means that variable leverage is valid and strong as a reflective construct. And X2 liquidity is also very well CR with Loading > 0.7 and CaR 0.9, while Profitability (Y1) has mixed results where ROA and ROI have the strongest value > 0.9 and (Y2) PBV has the strongest value also > 1

Table 2 : Outer Loadings Table – Matrix

Indicator	Firm Value	Leverage	Liquidity	Profitability
X1.1 DER		0.991		
X1.2 DAR		0.975		
X2.1 CR			0.626	
X2.3 CaR			0.988	
Y1.2 ROA				0.981
Y1.3 ROI				0.971
Y2.1 PBV	1.000			

Source: Processed research data using SEM-PLS, 2024.

### Bootstrapping Analysis

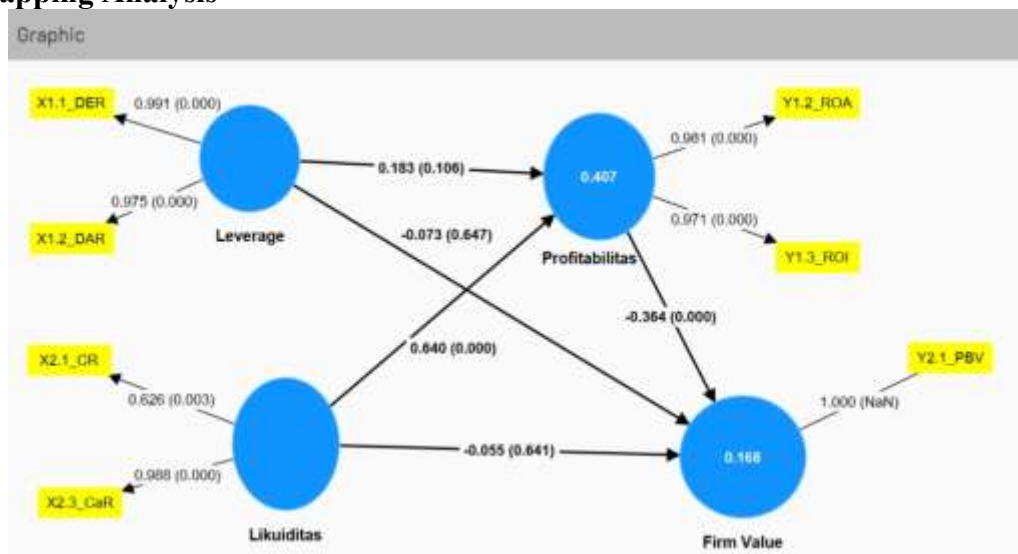


Figure 2: Bootstrapping Diagram

## Path Coefficients – Mean, STDEV, T Values, P Values

**Table 3. Path Coefficient Results**

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
Leverage -> Firm Value	-0.073	-0.044	0.159	0.458	0.647
Leverage -> Profitabilitas	0.183	0.200	0.113	1.618	0.106
Likuiditas -> Firm Value	-0.055	-0.046	0.118	0.466	0.641
Likuiditas -> Profitabilitas	0.640	0.643	0.141	4.530	0.000
Profitabilitas -> Firm Value	-0.364	-0.385	0.095	3.810	0.000

Based on the above results, it can be explained that the regression equation:

$$Y1 = (0.640 * X2 \text{ Liquidity}) + (0.183 * X1 \text{ Leverage})$$

$$Y2 = (-0.364 * Y1 \text{ Profitability}) - (0.073 * X1 \text{ Leverage}) - (0.055 * X2 \text{ Liquidity})$$

Description :

X1 : Leverage (indicators: DER, DAR)

X2 : Liquidity (indicators: CR, CaR)

Y1 : Profitability (indicators: ROA, ROI)

Y2 : Firm Value (Indicator : PBV)

The original sample value showed a positive value of 0.640 the relationship between liquidity and profitability which showed that liquidity had a positive effect on profitability. Where every increase of 1 (one) unit, will increase profitability by 0.640 units. The higher the liquidity, the higher the profitability. The statistical t-value of 4.530 is greater than the coefficient path table and the P value of 0.000 is smaller than the alpha 0.05, so the hypothesis is supported where liquidity has a positive and significant effect on the profitability of companies in the oil and gas sector. This shows that the results of the above test can be concluded that the higher the liquidity, the higher the profitability supported by the company's CR (current ratio) and CaR (capital adequacy ratio).

The original sample value showed a value of -0.364 the relationship between profitability and firm value which showed that liquidity had a negative effect on profitability. Where every decrease of 1 (one) unit will decrease the firm value by -0.364 units. The lower the profitability, the lower the firm value. The statistical t-value of 3,810 is greater than the coefficient path table and the P value 0.000 is smaller than the alpha 0.05, so the hypothesis is supported where profitability has a negative and significant effect on the firm value of companies in the oil and gas sector. This shows that the results of the above test can be concluded that the lower the profitability, the lower the firm value supported by PBV (price to book value).

## CONCLUSION

The results of the study show that profitability has a negative relationship with the company's value with a coefficient of -0.364. This means that an increase in profitability is followed by a decrease in the value of the company. In other words, the higher the level of profitability a company has, the value of the company tends to decrease. This phenomenon illustrates the mismatch between internal financial performance and market perception of the company's value. This negative relationship can occur due to several factors. First, in terms of investor perception, high profits do not necessarily translate into good long-term prospects.

Investors may judge that the increase in profits is only temporary, for example as a result of momentary efficiency, not due to continuous business innovation or expansion. Second, dividend policies and profit retention can also affect the market response. Companies that choose to hold profits for reinvestment rather than dividends are often seen as less attractive by investors who want immediate returns, so the perception of the company's value declines. In addition, capital structure and financial risk also play a role. Companies with high profitability tend to expand using additional debt, which actually increases financial risk. This condition can raise concerns among investors about the company's long-term stability. On the other hand, even if operational performance improves, internal efficiency is not always reflected in market value. This happens because external factors such as stock liquidity and the company's attractiveness in the capital market also affect investors' assessments. Thus, these results show that profitability is not always directly proportional to the increase in the value of the company. Other factors such as financial policy, leverage, and market conditions have a stronger influence in shaping investors' perception of the company's value. Overall, this negative relationship reflects a mismatch between internal financial performance and the external valuation of the capital market. These findings are important to examine further because they indicate that the market is more sensitive to non-financial factors such as growth prospects, policy stability, and investor confidence levels rather than focusing solely on the level of profits that companies are earning.

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