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The Effect of Financial Performance and Innovation on Leverage

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Abstract
This study aims to analyze the effect of asset structure, profitability, innovation, and technology on leverage in companies listed on the LQ45 index of the Indonesia Stock Exchange (IDX) during 2021–2023. The analysis is grounded in the Trade-Off Theory, which states that companies balance the tax benefits of debt with the risk of bankruptcy. A quantitative method with a causal approach was applied, utilizing secondary data from financial statements. Data were analyzed using multiple linear regression with SPSS, through classical assumption tests (normality, multicollinearity, heteroscedasticity, and autocorrelation) and hypothesis testing (t-test, F-test, and coefficient of determination). The findings show that asset structure has a positive and significant effect on leverage, indicating that firms with more tangible assets tend to increase debt. Profitability also shows a significant effect, yet contrary to the initial hypothesis predicting a negative impact, the relationship was positive, suggesting profitable firms use debt to support growth. Innovation and technology had a negative but insignificant effect, implying limited influence on leverage decisions. Simultaneously, the three independent variables explained 79.3% of leverage variation as reflected by the Adjusted R Square, while the remaining 20.7% was affected by other factors not included in the research model.

1. Introduction

The use of leverage in corporate financial strategies is increasing with the growing complexity of global capital markets. The optimal combination of debt and equity is becoming increasingly critical in determining a company's success and resilience, especially for companies in the LQ45 index, which have high liquidity and a reputation as leading issuers in the Indonesian capital market (Lestari et al., 2024). Risk-taking behavior through leverage has shown a significant impact on company performance and valuation in modern markets (Purwanti, 2021). Risk-taking behavior thru leverage has shown a significant impact on company performance and valuation in modern markets. The use of debt can increase profits if managed well, but it can also increase the risk of bankruptcy if revenue is insufficient to cover interest expenses (Handayani & Mayasari, 2018). Thus, effective leverage management is crucial for achieving sustainable growth and maintaining the company's financial stability (Belinda, 2024).

Asset structure is considered an important factor in corporate funding decisions, especially in volatile market situations. Research shows that asset structure can influence a company's funding decisions and financial stability amidst economic uncertainty (Nastiti & Andayani, 2016). Companies with a good asset structure tend to have better access to external financing, as fixed assets can be used as collateral for loans. This indicates that managing asset composition contributes to financial flexibility and the ability to obtain capital (Rafiuddin, 2022). In volatile market conditions, investors are more likely to pay attention to a company's asset structure as an indicator of risk and potential returns. Research indicates that changes in investor preferences can influence funding decisions, requiring companies to adjust their asset structure to attract investment (Sari et al., 2020). Research shows that understanding profitability and leverage is becoming increasingly important in corporate financial decision-making, especially amidst the constantly changing global economic uncertainty (Dewantari et al., 2020). The complexity of the relationship between profitability and debt usage reflects the ever-evolving dynamics of corporate financial management. The relationship between profitability and leverage indicates that the use of debt can affect a company's ability to generate profits, reflecting the challenges in financial management that companies must face (Rudangga & Sudiarta, 2016). In an increasingly competitive business environment, companies face pressure to maintain profit margins, making profitability and leverage management key to survival and growth.

Research shows that technological innovation plays a significant role in financial decision-making, including decisions related to leverage. In this context, companies that are able to adopt new and innovative technologies tend to have greater flexibility in managing their capital structure, as explained in the study on the influence of technology on modern management practices (Saputri Dewi et al., 2024). In the digital age, companies are required to continuously innovate and develop new products to remain competitive. Research shows that adopting advanced technologies such as artificial intelligence and data analytics can improve operational efficiency and encourage companies to seek more optimal funding sources to support such innovations (Rusdiani, 2022). The acceleration of technological change and rapid shifts in consumer preferences are forcing companies to adapt quickly. Research shows that companies unable to keep up with these developments will struggle to maintain competitiveness, making the management of leverage decisions increasingly important in this context (Hidayat et al., 2024).

The diversity of research findings on the relationship between performance and leverage reflects the ever-evolving complexity of corporate financial management. Research such as (Arumningsih, 2018), (Gunawan & Suryani, 2024), and (Prastika & Fattah, 2023) indicates that the higher the leverage, the greater the likelihood of a company failing to pay its debts, potentially harming financial performance. Other studies, such as those by (Viriany, 2021), (Rousilita Suhendah, 2020), show that leverage can improve financial performance if used appropriately. Studies like that by (Viriany, 2021) show that companies in the LQ45 index have varying results regarding the influence of leverage on financial performance, while other studies, focus on insurance companies and find that leverage has a positive influence on financial performance. Leverage is not the only factor influencing financial performance; however, other factors, such as innovation, are very important in improving a company's financial performance. This study aims to analyze the influence of financial performance and innovation on leverage in companies listed on the LQ45 index. By examining these factors, this research is expected to provide insights into how performance metrics and innovation affect leverage strategies across various industries. This research was conducted at the Indonesia Stock Exchange (IDX) from 2021 to 2023.

2. Research Method

This research uses the Trade-Off Theory, which emphasizes the balance between the tax benefits of debt and the risk of bankruptcy. Leverage allows for increased returns, but it also adds to the potential for default, so an optimal ratio is needed for financial stability. Asset structure plays an important role because tangible assets can be used as collateral, so companies with high

assets tend to have greater leverage than those with limited assets. Profitability indicates efficiency and performance; according to Pecking Order Theory, it is negatively related to leverage because companies can use retained earnings, although Trade-Off Theory suggests that using debt is still possible for tax benefits. Innovation and technology, particularly high-risk R&D investments, make companies prefer equity financing. Life Cycle Theory also asserts that innovative companies, especially in their early stages, rely more on equity than debt, so innovation is expected to have a negative impact on leverage.

From these theoretical perspectives, three hypotheses are formulated:

H1: Asset structure has a positive effect on leverage.

H2: Profitability has a negative effect on leverage.

H3: Innovation and technology have a negative effect on leverage.

The conceptual framework of this research illustrates the influence of the independent variables—asset structure, profitability, and innovation & technology—on the dependent variable, leverage. This relationship is examined using multiple linear regression analysis, expressed in the following equation:

$$LEV = \alpha + \beta_1.AS + \beta_2.PR + \beta_3.IT + \varepsilon$$

LEV is leverage, AS asset structure, PR profitability, IT innovation and technology, α the constant, β the regression coefficients, and ε the error term. This study employs a quantitative approach with a causal design, aiming to test the direct effects among variables. The population consists of companies consistently listed in the LQ45 index of the Indonesia Stock Exchange during 2021–2023. Sampling was conducted using purposive sampling, with the criteria that companies must remain listed in LQ45 and provide complete financial statement data throughout the study period. Operational definitions of the variables are as follows:

Leverage (Y): measured using the Debt to Equity Ratio (DER), defined as total liabilities divided by shareholders' equity.

Asset Structure (X1): proxied by the ratio of fixed assets to total assets.

Profitability (X2): measured using Return on Assets (ROA), calculated as net income divided by total assets.

Innovation and Technology (X3): represented by the ratio of R&D expenditures to total revenue.

The study relies on secondary data derived from audited financial statements published by the Indonesia Stock Exchange. All data were systematically tabulated and verified to ensure accuracy, reliability, and alignment with the research objectives. Data analysis follows several stages. First, descriptive statistics summarize the central tendencies and variability of the variables. Second, classical assumption tests are performed to validate the regression model, including: (1) normality testing using the Kolmogorov–Smirnov method, (2) multicollinearity testing based on Variance Inflation Factor (VIF) and tolerance values, (3) heteroscedasticity testing using the Glejser method, and (4) autocorrelation testing using the Durbin–Watson statistic. Once assumptions are confirmed, multiple linear regression analysis is applied to evaluate the relationships between the independent and dependent variables. Hypothesis testing is conducted through three procedures: (a) the t-test to examine the partial effect of each independent variable, (b) the F-test to evaluate the joint effect of all independent variables, and (c) the coefficient of determination (Adjusted R^2) to measure the explanatory power of the model. This methodological framework provides a systematic approach to identifying the extent to which asset structure, profitability, and innovation & technology affect leverage among LQ45 companies.

3. Results and Discussions

Based on descriptive analysis, asset structure has an average of 0.88761 with a standard deviation of 4.024156, a maximum value of 29.596 at BBRI in 2022, and a minimum of 0.017 at BSI in 2023. Profitability shows an average of 15.84472 with a standard deviation of 14.389011, a maximum of 68.269 at EXCL in 2023, and a minimum of 0.036 at BBRI in 2022. Innovation and technology have an average of 0.88679 with a standard deviation of 0.319878, a maximum of 1.000 at ACES in 2022, and a minimum of 0.000 at AKRA in 2023. Leverage shows an average of 0.82483 with a standard deviation of 0.821531, a maximum of 5.149 at BBRI in 2022, and a minimum of 0.083 at TLKM in 2023. The results of the Kolmogorov-Smirnov normality test show a significance value of 0.200 > 0.05, indicating that the data is normally distributed. The multicollinearity test yielded tolerance values > 0.1 and VIF < 10 for all variables, indicating no multicollinearity. The heteroskedasticity test shows a random residual distribution, indicating no heteroskedasticity. The Durbin-Watson value of 1.817 falls between du = 1.680 and 4 – du = 2.320, indicating that the model is free from autocorrelation.

The regression equation shows a constant of 0.161, with asset structure coefficient of 0.161 (significantly positive), profitability of 0.028 (significantly positive), and innovation and technology of -0.074 (not significantly negative). The t-test confirms that asset structure and profitability significantly influence leverage, while innovation and technology do not. The Adjusted R^2 value of 0.793 indicates that the independent variables explain 79.3% of the variation in leverage, while the remaining 20.7% is influenced by other factors. The discussion reinforces these results: asset structure is positively related to leverage according to the Trade-Off Theory, as tangible assets increase borrowing capacity. (Milenia & Sha, 2023)shows a positive relationship between asset structure and leverage, companies with a higher proportion of tangible assets tend to use more debt in their capital structure. Profitability also has a significant positive effect; although the initial hypothesis predicted a negative outcome, these results indicate that companies with high profits still use debt for expansion, aligning with the Trade-Off Theory (Brigham & Houston, 2015). Meanwhile, innovation and technology are negatively but not significantly related, reflecting that this factor is not a major determinant of LQ45 capital structure. This supports the view that high-risk innovative projects are more equity-financed than debt-financed (Hall, 2004).

4. Conclusions

This research uses data from LQ45 companies listed on the Indonesia Stock Exchange (IDX) for the period 2021–2023. The results show that asset structure has a significant positive effect on leverage, meaning the larger the tangible assets, the higher the company's tendency to use debt. Profitability also has a significant positive impact, although it differs from the initial hypothesis which predicted a negative influence, indicating that companies with high profits still increase debt for expansion. Conversely, innovation and technology did not have a significant impact on leverage. Simultaneously, the three variables explain 79.3% of the variation in leverage, with the remainder influenced by other factors. The limitations of this study lie in the limited number of variables and samples. Therefore, future research is recommended to include additional variables such as liquidity, business risk, sales growth, and dividend policy, as well as expand the scope to other sectors. For companies, these results underscore the importance of asset structure and profitability in managing capital structure. For investors, these findings can serve as a reference in assessing the financial health and funding strategies of companies before making investment decisions.

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