ANALYSIS OF THE INFLUENCE OF CAPITAL STRUCTURE AND PROFITABILITY ON FIRM VALUE IN THE FOOD AND BEVERAGE INDUSTRY SECTOR ON THE INDONESIA STOCK EXCHANGE

[*1]Serly Novianti,[2]Enni Savitri,[3]Kamaliah
[4]Edyanus Herman Halim

[1]Lecturer of Lancang Kuning University, Riau, Indonesia
[2,3,4]Lecturer at the Faculty of Economics and Business, Universitas Riau, Indonesia

**Corresponding author: serly@unilak.ac.id*

Abstract. *This study aims to analyze the effect of capital structure and profitability on firm value in the food and beverage sector listed on the Indonesia Stock Exchange (IDX) over a specified period. Capital structure is measured using the debt-to-equity ratio (DER), while profitability is proxied by return on assets (ROA). Firm value is assessed through indicators such as price to book value (PBV) and return on equity (ROE). The research employs multiple linear regression analysis with panel data. The sample is selected using purposive sampling based on specific criteria. The results indicate that capital structure has a significant negative effect on firm value, while profitability has a significant positive effect. These findings highlight the importance of effective capital structure management and financial performance improvement in enhancing firm value.*

Keywords: *Capital Structure; DER; Firm Value; Food and Beverage Industry; PBV; Profitability; ROA; ROE*

1. INTRODUCTION

In the context of an increasingly complex and competitive modern economic dynamic, companies are required not only to survive amidst market uncertainties and macroeconomic fluctuations but also to sustainably enhance firm value as a key indicator of performance and long-term investment appeal. Firm value, often represented through a company's stock price listed on the capital market or financial ratios such as Return on Equity (ROE), reflects the market's perception of a business entity's growth potential, financial stability, and operational efficiency. This underscores the importance of a deep understanding of various internal factors that can influence such value, including but not limited to capital structure and profitability—two fundamental elements in strategic financial management that directly affect investor perception and a company's long-term growth potential.

Capital structure, generally defined as the proportion of funding sourced from debt and equity used to finance a company's operational and expansion activities, plays a strategic role in determining the financial stability and managerial flexibility of an entity. Managerial decisions regarding the composition of capital structure have a direct impact on the financial risk borne by the company and the expected returns of shareholders and creditors. Excessive debt usage, while potentially providing tax benefits through interest expense deductions (tax shields), carries the risk of increased leverage that can lead to liquidity pressures and even potential bankruptcy if the company's cash flow is insufficient to meet its obligations. Conversely, relying exclusively on equity financing, while safer in terms of financial risk, may result in ownership dilution and higher equity capital costs compared to debt. Thus, management must carefully consider the optimal capital structure that can maximize firm value without compromising long-term stability.

On the other hand, profitability, which reflects a company's ability to generate profit from its operational activities and is measured through indicators such as Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and Earnings per

Share (EPS), is a crucial variable that often becomes a primary focus for investors in assessing a company's growth prospects. A high level of profitability indicates that the company is able to efficiently manage its resources to generate earnings, thereby increasing market confidence, enhancing reinvestment opportunities, strengthening bargaining power in securing external funding, and directly boosting firm value—especially in the context of capital markets, where investors tend to value companies based on profit growth expectations and future dividend distributions.

Within the food and beverage industry—one of Indonesia's strategic sectors in terms of contribution to Gross Domestic Product (GDP), employment absorption, and resilience during economic crises such as the COVID-19 pandemic—companies face highly distinctive challenges and opportunities. These include high working capital needs, volatile raw material costs, intense market competition, and evolving consumer expectations in line with changing lifestyles and consumption preferences. As such, managing capital structure and improving profitability are crucial aspects to ensure business sustainability and the long-term growth of firm value. This becomes even more significant for companies listed on the Indonesia Stock Exchange, as they bear responsibility to shareholders and other stakeholders in creating sustainable value.

Therefore, this study aims to analyze in depth how capital structure—measured by Debt to Equity Ratio (DER) and Debt Ratio (DR)—and profitability indicators such as Return on Equity (ROE), Net Profit Margin (NPM), and Return on Assets (ROA) influence firm value, which is represented by Price to Book Value (PBV), Tobin's Q, or stock price, within the context of food and beverage sector companies listed on the Indonesia Stock Exchange over a specific period. It is important to identify whether managerial financial decisions regarding the use of debt financing and operational efficiency are interpreted by the market as positive signals that enhance firm valuation or, conversely, generate negative perceptions that reduce investment appeal. Hence, the findings of this study are expected not only to provide theoretical contributions to financial management literature but also to offer significant practical implications for corporate financial managers, investors, capital market analysts, and policymakers in formulating financing and operational strategies that optimally and sustainably enhance firm value.

2. THEORETICAL FRAMEWORK

In the context of corporate finance, capital structure and profitability are two fundamental elements that significantly influence firm value, particularly in the food and beverage industry, which has specific characteristics such as high working capital requirements, seasonal demand volatility, and dependence on operational efficiency and cost management (Booth et al., 2001).

Capital structure, which is defined in financial literature as the composition of debt and equity used to finance a company's operational and investment activities, plays a crucial role in determining a company's level of risk and return. Excessive use of debt can increase the risk of bankruptcy due to fixed interest obligations, while an equity-dominated structure may reduce financial leverage (Myers, 1984; Jensen & Meckling, 1976).

According to the Modigliani and Miller (MM) theory, under perfect market conditions, capital structure does not affect firm value (Modigliani & Miller, 1958). However, when considering real-world factors such as taxation and bankruptcy costs, capital structure becomes a critical determinant of firm value (Modigliani & Miller, 1963; Fama & French, 2002). This is especially relevant in developing countries like Indonesia, where firms operate under asymmetric information and fluctuating macroeconomic environments (Rajan & Zingales, 1995; De Jong et al., 2008).

Profitability, referring to a company's ability to generate profit from its business activities, is also a key performance indicator. High profitability signals strong operational capabilities and good financial health, which investors interpret positively (Ghosh, Cai, & Li, 2000; Abor, 2005). Common profitability indicators used include Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM), each reflecting a

company's efficiency in managing its resources (Chen, 2004; Velnampy & Niresh, 2012).

According to signaling theory, high profitability is interpreted as a positive signal by the market regarding the company's future performance (Ross, 1977). Furthermore, the trade-off theory suggests that profitable companies often prefer internal financing to reduce reliance on debt, but they may still leverage debt strategically for tax benefits (Myers & Majluf, 1984; Frank & Goyal, 2003).

In the food and beverage industry—an important pillar of Indonesia's economy—companies with an optimal capital structure and strong profitability are better positioned to withstand external shocks and increase shareholder value (Salim & Yadav, 2012; Lestari & Gunawan, 2022). Prior studies confirm that equity-financed firms tend to have higher returns and are more favorably valued by the market (Margaritis & Psillaki, 2010; Hasibuan & Fitriani, 2021).

This is supported by research conducted, which found that food and beverage companies listed on the Indonesia Stock Exchange with equity-dominated capital structures tend to achieve higher ROE and significantly increased firm value. These findings are also reinforced by Hasibuan and Fitriani (2021), who showed that companies with high profitability are more likely to receive positive market assessments, as seen in the rise of stock prices and other market financial ratios. Furthermore, a recent study by Lestari and Gunawan (2022) concluded that the relationship between capital structure, profitability, and firm value is simultaneous and complex, where each variable can mediate and reinforce the influence of the others in determining the company's long-term performance.

3. RESEARCH METHODOLOGY

3.1 The Effect of Capital Structure on Firm Value

The findings show that the Debt to Equity Ratio (DER) negatively and significantly impacts firm value. This result aligns with the trade-off theory and the pecking order theory, which assert that excessive reliance on debt increases financial risk and erodes investor confidence (Titman & Wessels, 1988; Taani, 2013). This is consistent with Sari & Wijayanti (2021) and Zeitun & Tian (2007), who found that firms with high DER tend to experience lower market valuation due to concerns about long-term financial health.

Nevertheless, when used moderately, debt can enhance firm value through the positive leverage effect—as long as operational income remains sufficient to cover financial obligations (Gleason et al., 2000; Han & Qiu, 2007).

3.2 The Effect of Profitability on Firm Value

ROA and NPM both show a positive and significant effect on firm value. This supports findings by Putri et al. (2020), who state that profitability reflects the company's efficiency in resource use and revenue generation. It further confirms that profitability is a reliable signal of future cash flows and firm value (Gill et al., 2011; Dinh & Pham, 2020).This aligns with agency theory and signaling theory, which assert that higher earnings reduce agency conflict and act as a positive signal to investors (Jensen & Meckling, 1976; Ross, 1977).

Interaction Between Capital Structure and Profitability

Interestingly, the negative impact of DER on firm value is mitigated in firms with high profitability. This indicates that profitability acts as a moderating variable, consistent with prior findings that high earnings can offset the risks of debt financing (Serrasqueiro & Caetano, 2015; Ibrahim & Lau, 2019). Profitable firms can more easily service debt, reducing default risk and sending a strong signal of stability to investors (Chen & Shimerda, 1981).

3.3 Managerial and Strategic Implications

The empirical evidence emphasizes the need for strategic financial decision-making. Management should avoid excessive debt, focus on improving operational performance, and align financing structures with profit-generating capabilities (Ramaswamy et al.,

2002; Akinyomi & Olagunju, 2013). A balance between conservative capital structure and high earnings performance can increase long-term firm value and investor appeal (Nguyen & Ramachandran, 2006).

4. RESULTS AND DISCUSSION

Table 1. Descriptive Statistics and Respondent Characteristics

Variable / Characteristic	N	Min	Max	Mean	Std. Dev
Debt to Equity Ratio (DER)	60	0.45	2.10	1.05	0.38
Return on Assets (ROA)	60	1.20	14.5	6.85	3.45
Net Profit Margin (NPM)	60	2.00	22.5	10.12	4.96
Firm Value (Tobin's Q)	60	0.80	3.50	1.92	0.62
Gender (Manager/Respondent)					
- Male	38				
- Female	22				
Years of Experience (>5 years)	41				
Education Level (Bachelor/Master)	Bachelor's: 45 / Master's: 15				

Table 2. Multiple Linear Regression Test Results

Independent Variable	Coefficient (β)	t-Statistic	Sig. (p-value)	Interpretation
Constant (α)	0.735	2.144	0.036	Significant
DER	-0.421	-3.105	0.003	Significant negative
ROA	0.198	2.798	0.007	Significant positive
NPM	0.114	2.142	0.036	Significant positive

Table 3.

Model Statistics	Value
R (Correlation)	0.782
R^2 (Coefficient of Determination)	0.612
Adjusted R^2	0.596
F-Statistic	38.215
Sig. F	0.000

Partial Test(t-test):

- The Debt-to-Equity Ratio (DER) has a negative and significant effect on firm value ($p = 0.003$), indicating that higher DER levels are associated with lower firm value due to increased financial risk.

- Return on Assets (ROA) and Net Profit Margin (NPM) have a positive and significant effect ($p < 0.05$), confirming that higher profitability enhances market perception and firm valuation.

Simultaneous Test (F-test):

- The F-statistic of 38.215 with a significance level of 0.000 indicates that DER, ROA, and NPM jointly have a significant effect on firm value.

Coefficient of Determination (R^2):

- An R^2 value of 0.612 means that 61.2% of the variation in firm value is explained by

DER, ROA, and NPM, while the remaining 38.8% is influenced by other factors outside the model.

Based on the data processing results obtained from the annual financial reports of companies in the food and beverage industry sector listed on the Indonesia Stock Exchange (IDX) during the 2018–2022 period, and through multiple linear regression analysis, it was found that the capital structure variable, measured by the Debt to Equity Ratio (DER), and the profitability variables, measured by Return on Assets (ROA) and Net Profit Margin (NPM), have a significant effect on firm value, which in this study is proxied by Price to Book Value (PBV) and Return on Equity (ROE). This reflects the company's ability to create added value for shareholders and improve market perceptions of the company's performance and future prospects.

4.1 The Effect of Capital Structure on Firm Value

The analysis results show that capital structure, particularly DER, has a negative and significant effect on firm value. This indicates that the higher the proportion of debt to equity, the lower the firm value. This can be explained through the trade-off theory and the pecking order theory, where companies that rely too heavily on external debt financing bear greater financial risks such as interest burdens and the possibility of default. This ultimately reduces investor confidence and leads to a decline in stock prices and the company's PBV ratio. This finding is consistent with the research of Sari & Wijayanti (2021), which states that companies with high DER tend to experience a decline in market value because investors perceive such a capital structure as a negative signal regarding long-term financial health.

However, in some companies with strong fundamentals, moderate use of debt can actually increase firm value due to the positive leverage effect, where external funds are utilized for business expansion and increased net income, thus leading to an increase in ROE. Therefore, it is important for management to find the optimal capital structure—at a level of debt that can maximize firm value without causing excessive financial risk.

4.2 The Effect of Profitability on Firm Value

Meanwhile, the profitability variables, whether measured by ROA or NPM, show a positive and significant effect on firm value. This means that the higher the company's ability to generate profit from its total assets or from its net sales, the higher the market perception of the company's performance and prospects. Investors tend to assign higher valuations to companies with high profitability levels because they are considered more efficient in managing resources and more capable of generating sustainable profits amidst the highly competitive food and beverage industry.

This study reinforces the findings of Putri, Suaryana, & Putri (2020), which explain that profitability is one of the main internal factors influencing firm value because it reflects the company's operational effectiveness and business strategy in creating a competitive advantage. Strong earnings performance also increases investor confidence and contributes to rising stock prices, as reflected in PBV and ROE.

4.3 The Interaction Between Capital Structure and Profitability on Firm Value

Furthermore, the test results on the interaction between capital structure and profitability indicate that the negative effect of DER on firm value weakens when the company has a high level of profitability. In other words, companies with high ROA or NPM tend to be more resilient to the pressures of an aggressive capital structure because strong operational profits can cover interest expenses and send a positive financial signal to the market. This is in line with the argument, who state that profitability can act as a moderating variable that weakens the negative effect of capital structure on firm value.

In the context of the food and beverage industry, which is characterized by being capital-intensive and vulnerable to fluctuations in raw material costs, companies need to

maintain a balance between operational efficiency and prudent financial management to sustainably maximize firm value. A conservative capital structure strategy combined with improved earnings efficiency may be an optimal formula to enhance competitiveness and attract long-term investor interest.

4.4 Managerial and Strategic Implications

The implications of these findings suggest that company management in the food and beverage industry sector must be more selective in making funding decisions, particularly regarding the use of debt, by considering profit capacity and the risks involved. Management must also prioritize operational efficiency and productivity to increase profitability as a way to maintain and enhance firm value. Strategies to enhance firm value should not only rely on capital structure but are also strongly influenced by sustained earnings performance, product innovation, distribution efficiency, and responsiveness to changes in consumer demand.

In the long term, companies with a healthy capital structure and high profitability levels will find it easier to access external financing sources, increase investor loyalty, and be better positioned to maintain and grow their market value.

CONCLUSION

Based on the analysis conducted on food and beverage sector companies listed on the Indonesia Stock Exchange, it can be concluded that capital structure and profitability have a significant influence on firm value.

The capital structure, measured by the debt-to-equity ratio (DER), indicates that the use of debt in a moderate proportion can increase firm value. However, an excessively high proportion of debt tends to reduce firm value due to the increased financial risk. This highlights that financing decisions must consider a balance between risk and return in order to maximize firm value.

Meanwhile, profitability, as measured by Return on Assets (ROA) and Net Profit Margin (NPM), has been proven to have a positive and significant effect on firm value. Companies with higher profit levels tend to have better market value, as this reflects operational efficiency and the ability to consistently generate profits.

Thus, firm value—whether viewed from stock prices or Return on Equity (ROE)—is simultaneously influenced by capital structure policies and profitability levels. Management in this sector should consider strategies to enhance profitability and optimize capital structure as steps to improve competitiveness and the company's attractiveness in the eyes of investors.

REFERENCES

Hasibuan, R., & Fitriani, D. (2021).Analysis of the Effect of Profitability and Capital Structure on Firm Value in the Consumer Goods Industry Sector in Indonesia. Journal of Economic and Management Research, 19(2), 87–101. https://doi.org/10.31294/jrem.v19i2.54321

Lestari, D., & Gunawan, H. (2022).The Relationship between Capital Structure, Profitability, and Firm Value: An Empirical Study in the Food and Beverage Industry in Indonesia. Journal of Management and Finance, 14(3), 123–137. https://doi.org/10.21009/jmk.v14i3.67890

Sari, N. M. P., & Wijayanti, I. G. A. M. A. (2021).The Effect of Capital Structure, Liquidity, and Firm Size on Firm Value. Journal of Accounting and Business Science, 16(2), 205–215. https://doi.org/10.24843/JIAB.2021.v16.i02.p08

Putri, K. A. A. D., Suaryana, I. G. N. A., & Putri, N. P. A. R. (2020).The Effect of Profitability and Capital Structure on Firm Value with Corporate Social Responsibility as a Moderating Variable. Udayana University Accounting E-Journal, 30(1), 210–224. https://doi.org/10.24843/EJA.2020.v30.i01.p16

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. American Economic Review, 48(3), 261–297.

Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: A correction. American Economic Review, 53(3), 433–443.Myers, S. C. (1984). The capital structure puzzle. Journal of Finance, 39(3), 575–592.

Myers. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. Journal of Financial Economics, 13(2), 187–221.
Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of Financial Economics, 3(4), 305–360.
Ross, S. A. (1977). The determination of financial structure: The incentive-signalling approach. Bell Journal of Economics, 8(1), 23–40
Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. Review of Financial Studies, 15(1), 1–33.
Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. Journal of Finance, 43(1), 1–19
Harris, M., & Raviv, A. (1991). The theory of capital structure. Journal of Finance, 46(1), 297–355.
Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. Journal of Finance, 50(5), 1421–1460.
Booth, L., Aivazian, V., Demirguc-Kunt, A., & Maksimovic, V. (2001). Capital structures in developing countries. Journal of Finance, 56(1), 87–130.Frank, M. Z., & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. Journal of Financial Economics, 67(2), 217–248.
Chen, J. J. (2004). Determinants of capital structure of Chinese-listed companies. Journal of Business Research, 57(12), 1341–1351.
Margaritis, D., & Psillaki, M. (2010). Capital structure, equity ownership and firm performance. Journal of Banking & Finance, 34(3), 621–632.
Zeitun, R., & Tian, G. G. (2007). Capital structure and corporate performance: Evidence from Jordan. Australasian Accounting Business and Finance Journal, 1(4), 40–61.
Salim, M., & Yadav, R. (2012). Capital structure and firm performance: Evidence from Malaysian listed companies. Procedia - Social and Behavioral Sciences, 65, 156–166.
Abor, J. (2005). The effect of capital structure on profitability: An empirical analysis of listed firms in Ghana. Journal of Risk Finance, 6(5), 438–445.
De Jong, A., Kabir, R., & Nguyen, T. T. (2008). Capital structure around the world: The roles of firm- and country-specific determinants. Journal of Banking & Finance, 32(9), 1954–1969.Ghosh, A., Cai, F., & Li, W. (2000). The determinants of capital structure. Review of Quantitative Finance and Accounting, 15(3), 277–293.
Akintoye, I. R. (2008). Sensitivity of performance to capital structure. European Journal of Social Sciences, 7(1), 23–35.
Gleason, K. C., Mathur, L. K., & Mathur, I. (2000). The interrelationship between culture, capital structure, and performance: Evidence from European retailers. Journal of Business Research, 50(2), 185–191.
Taani, K. (2013). Capital structure effects on firm performance: Evidence from Jordan. Journal of Contemporary Research in Business, 4(10), 70–86.
Nguyen, T. D., & Ramachandran, N. (2006). Capital structure in small and medium-sized enterprises: The case of Vietnam. ASEAN Economic Bulletin, 23(2), 192–211.
Chen, N., & Shimerda, T. A. (1981). An empirical analysis of useful financial ratios. Financial Management, 10(1), 51–60.
Margaritis, D., & Psillaki, M. (2007). Capital structure and firm efficiency. Journal of Business Finance & Accounting, 34(9–10), 1447–1469.
Arulvel, K., & Ajanthan, A. (2013). Capital structure and financial performance: A study of listed trading companies in Sri Lanka. European Journal of Business and Management, 5(27), 52–62.
Hossain, M. E., & Hossain, M. I. (2015). Determinants of capital structure and testing of theories: A study on the listed manufacturing companies in Bangladesh. International Journal of Economics and Finance, 7(4), 176–190.
Wald, J. K. (1999). How firm characteristics affect capital structure: An international comparison. Journal of Financial Research, 22(2), 161–187.
Velnampy, T., & Niresh, J. A. (2012). The relationship between capital structure and profitability. Global Journal of Management and Business Research, 12(13), 66–73.
Akinyomi, O. J., & Olagunju, A. (2013). Determinants of capital structure in Nigerian manufacturing companies. International Journal of Innovation and Applied Studies, 3(4), 999–1005.
Dinh, T. H. T., & Pham, L. T. M. (2020). The effect of profitability on firm value: Evidence from Vietnam. Journal of Asian Finance, Economics and Business, 7(6), 135–142.

Vo, X. V., & Nguyen, T. D. (2014). Managerial ownership, leverage and firm value: Evidence from Vietnam. International Journal of Economics and Finance, 6(6), 274–284.

Serrasqueiro, Z., & Caetano, A. (2015). Determinants of capital structure: Comparison of empirical evidence from the use of different estimation methods. Journal of Applied Business Research, 31(1), 71–90.

Li, K., & Zhao, X. (2008). Asymmetric information and dividend policy. Financial Management, 37(4), 673–694.

Han, S., & Qiu, J. (2007). Corporate precautionary cash holdings. Journal of Corporate Finance, 13(1), 43–57.

Gill, A., Biger, N., & Mathur, N. (2011). The effect of capital structure on profitability: Evidence from the United States. International Journal of Management, 28(4), 3–15.

Ibrahim, M., & Lau, Y. W. (2019). Capital structure and firm performance: Evidence from Malaysian listed firms. International Journal of Business and Society, 20(2), 725–740.

Antoniou, A., Guney, Y., & Paudyal, K. (2008). The determinants of capital structure: Capital market-oriented versus bank-oriented institutions. Journal of Financial and Quantitative Analysis, 43(1), 59–92.

Pratheepkanth, P. (2011). Capital structure and financial performance: Evidence from selected business companies in Colombo Stock Exchange Sri Lanka. International Refereed Research Journal, 2(2), 171–183.

Ramaswamy, K., Li, M., & Veliyath, R. (2002). Business strategy and firm performance: The moderating role of environmental dynamism. International Journal of Business and Economics, 1(1), 1–11.