Green Inflation: International Journal of Management and Strategic Business Leadership

E-ISSN .: 3048-0612
P-ISSN .: 3048-0620

Research Article

Capital Structure in the Healthcare Industry: Investigating the Impact of Asset Structure, Profitability, and Company Size

Tedy Wahyusaputra [1], Herlina Herlina [2*], Amisiska Natalia Saragi [3]

[1-3] Jurusan Manajemen, Fakultas Hukum dan Bisnis Digital, Universitas Kristen Maranatha, Indonesia

* Corresponding Author: herlina@eco.maranatha.edu

Abstract. This study investigates the determinants of capital structure within the healthcare industry, focusing on the influence of asset structure, profitability, and company size. Given the capital-intensive nature of healthcare—characterized by significant investments in medical technology and infrastructure—understanding how these firms balance debt and equity is critical for financial sustainability and operational growth. Using a quantitative approach, this research analyzes a panel dataset of healthcare companies listed on the Indonesian Capital Market from 2018 to 2023. Furthermore, the capital structure is quantified by the debt-to-equity ratio. Meanwhile, asset structure, profitability, and company size are measured by the ratio of fixed assets to total assets, return on assets, and the natural logarithm of total assets, respectively. Moreover, the data are analyzed using multiple linear regression, supported by the classical assumption testing. As a result, asset structure has a significant positive impact on capital structure, aligning with the static trade-off theory. Conversely, profitability demonstrates a significant negative relationship with capital structure, supporting the pecking order theory. Finally, company size positively affects capital structure, indicating that larger firms have greater access to debt financing. These findings suggest that healthcare managers should optimize their asset utilization and internal reserves to maintain an efficient capital structure that supports long-term healthcare delivery and investor confidence.

Keywords: Asset Structure, Capital Structure, Company Size, Healthcare Industry, Profitability.

Received: December 16, 2025
Revised: December 30, 2025
Accepted: January 12, 2026
Published: January 16, 2026
Current Ver.: January 16, 2026

1. Introduction

Capital structure refers to the combination of debt and equity a company requires. The optimal combination will balance the risk and return (Brealey et al., 2020). When the company has a low debt-to-equity ratio, it will seek additional debt to finance the business, as long as the interest expense, as a fixed financial cost, can increase profits. On the contrary, when the debt portion increases, the company attempts to reduce it to avoid the risk of default (Gitman & Zutter, 2015).

As an effort to reduce this risk, the company sells its shares to the public for the first time in the capital market (Siregar et al., 2024). Indeed, this initial public offering incurs costs for the company, including underwriting, public accountants, legal, consultants, notaries, and listing fees (Hidayat et al., 2025). After listing on the capital market, the company receives net proceeds from this activity, which increases the equity portion and automatically decreases the debt portion (Siregar et al., 2024). If the debt portion is still high, the company can fix its

debt structure through a rights issue, prioritizing existing public shareholders to buy the additional shares issued (Gultom, 2021).

The healthcare is one of the industries in the capital market (Kayo, 2024; Widodo et al., 2024). In Indonesia, this sector comprises companies that provide healthcare equipment, supply and distribute medical supplies to patients, and offer healthcare services, medications (pharmacy), and medical research services (Kayo, 2024). Based on the observation, the average debt-to-equity ratio of 13 consistent companies from 2018 to 2023 shows an increasing trend, as the black line shows (see Figure 1). It stimulates research into the determinants of capital structure.

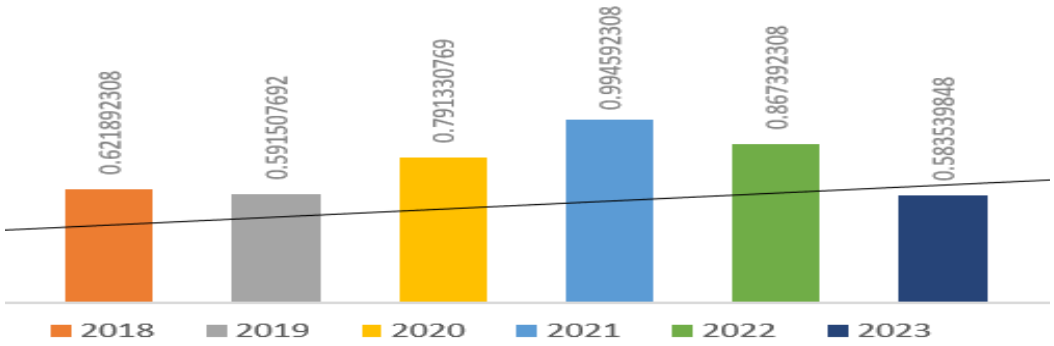

Figure 1. The increasing tendency of the average debt-to-equity ratio of healthcare companies from 2018 to 2023.

Some researchers have attempted to pinpoint the factors that influence capital structure based on past studies. They try to make use of firm size, profitability, and asset structure. Their findings are still inconsistent, though: Concerning the connection between capital structure and assets, M'ng (2017) and Ghani et al. (2023) report a positive association, whereas Khalid et al. (2020), Priyanka and Narwa (2023), and Widodo et al. (2024) find an insignificant tendency. Meanwhile, Panda and Nanda (2025) demonstrate both positive and negative tendencies, as well as a negligible tendency. Related to the impact of profitability on capital structure, Syaviva et al. (2022), Priyanka and Narwal (2023), Pratiwi and Wirama (2025), and Widodo et al. (2024) report a negative sign. Unlike them, M'ng (2017) finds both a positive impact and a meaningless effect. Meanwhile, Panda and Nanda (2025) demonstrate positive and negative inclinations. Regarding the tendency of firm size toward capital structure, M'ng (2017) and Panda and Nanda (2025) show both positive and negative results. Unlike them, Khalid et al. (2020) and Priyanka and Narwal (2023) exhibit a negative sign. Meanwhile, Widodo et al. (2024) find a worthless result. This study examines the effects of asset structure, profitability, and company size on the capital structure of healthcare companies listed on the Indonesian Stock Exchange between 2018 and 2023 in light of this contradictory findings.

2. Literature Review

Asset and capital structure

Asset structure refers to the fixed assets a company uses. According to the static trade-off hypothesis, a company's propensity to borrow money from banks increases with its fixed assets and collateral assets (Rajan & Zingales, 1995). M'ng et al. (2017), who looked into the firms listed on the Malaysian, Singaporean, and Thai Stock Exchanges, provide evidence in favor of this theory. investigating the companies listed on the Malaysian, Singaporean, and Thai Stock Exchanges. Using data from firms listed on the capital market in Bangladesh, India, Pakistan, and Sri Lanka, Ghani et al. (2023) affirm this theory by finding a positive association between assets and capital structure. Similarly, Panda and Nanda (2025) declare that this positive tendency only exists in the industry of (1) construction and materials, (2) consumer goods, (3) metal, and (4) transport and equipment. Consequently, the first hypothesis is expressed:

H_1: Asset structure has a positive influence on capital structure.

Profitability and Capital Structure

Profitability reflects the company's ability to make profits and the financial manager's success in managing assets. Owning profits reduces the firm's dependence on debt, thereby decreasing the debt component of the capital structure. In line with this explanation, M'ng et al. (2017) find a negative impact of profitability on the debt policy of Malaysian and Singaporean companies. Similarly, Priyanka and Narwal (2023) find a negative relationship between profitability and financing decisions among start-up companies in India. Equally, Panda and Nanda (2025) locate a negative association between profitability and capital structure when investigating the manufacturing companies in India with seven sectors: (1) chemicals, (2) material construction, (3) consumer goods, (4) food and agrobusiness, (5) machinery, (6) metal, and (7) textiles. Additionally, Syavia et al. (2022) and Pratiwi and Wirama (2025) confirm this negative impact through their research on manufacturing firms and non-financial companies in Indonesia, respectively. Using the healthcare sector in Indonesia, Widodo et al. (2024) affirm this inclination. Hence, the second hypothesis is expressed:

H_2: Profitability has a negative influence on capital structure.

Company Size and Capital Structure

Large businesses can borrow a lot more money and have greater access to the loan market than small businesses (Alabdulkarim et al., 2024). M'ng et al. (2017) find that among companies registered on the Thai Stock Exchange, firm size and capital structure are positively correlated. Ghani et al. (2023) find the same pattern using data from energy companies in Bangladesh, India, Pakistan, and Sri Lanka. In a similar vein, Panda and Nanda's (2025) study of companies in the following industries shows a positive correlation between capital structure and company size: (1) chemical; (2)

construction and material; (3) food and agrobusiness; (4) machinery; (5) metal; (6) textile; and (7) transportation and equipment. Thus, the third hypothesis is expressed:

H_3: Firm size has a positive impact on capital structure.

3. Materials and Methods

Research Variables

The dependent variable is the capital structure, which is determined by the debt-to-equity ratio, as mentioned by Syavia et al. (2022), Panda and Nanda (2025), and Pratiwi and Wirama (2025). Meanwhile, asset structure, profitability, and company size are explanatory variables. According to M'ng et al. (2017), Khalid et al. (2020), Priyanka and Narwal (2023), Widodo et al. (2024), and Panda and Nanda (2025), the asset structure is measured using the fixed asset-to-total asset ratio. According to Syavia et al. (2022), Panda and Nanda (2025), and Pratiwi and Wirama (2025), ROA is a measure of profitability. The natural logarithm of total assets is used to calculate firm size, according to Panda and Nanda (2025).

Samples

This study employs 13 healthcare companies consistently listed in Indonesia as the population from 2018 to 2023. The Slovin formula with a 10% margin of error is used to calculate the samples, as Firdaus (2021) highlighted. Based on this formula, the samples obtained are 11.5, rounded to 12, and taken randomly. Following Erna et al. (2024) and Setiana et al. (2025), this study excludes two companies to obtain a significant result for the estimators. As a result, the names of 10 companies as the samples are (1) DVLA, (2) KAEF, (3) KLBF, (4) MIKA, (5) PRDA, (6) SIDO, (7) SRAJ, (8) TSPC, (9) MERK, and (10) SAME.

Data Collection Technique

This study utilizes the documentation technique to get secondary data, as explained by Hermawan and Hariyanto (2022). These data come from the textbooks, the manuscripts published in international and national journals, and each company's annual reports on its website.

Data Analysis Technique

This study uses a multiple regression model to analyze the data, where the equation is presented below. According to Ghozali (2021), this model is used to learn the dependencies among variables. In this context, capital structure (CS) depends on asset structure (AS), profitability (PROF), and firm size (FS). Furthermore, this model is obtainable in Equation 1:

$$CS = \beta_0 + \beta_1 AS_{it} + \beta_2 PROF_{it} + \beta_3 FS_{it} + \varepsilon_{it} \quad (1)$$

This model must meet classical assumption tests, i.e., (1) errors are normally distributed, (2) no multicollinearity, (3) no heteroskedasticity, and (4) no autocorrelation (Ghozali, 2021).

4. Results and Discussion

Statistical Descriptions

This study uses the average, standard deviation, and range to describe the debt-to-equity ratio (DER), the fixed asset-to-total asset ratio (FATAR), the return on assets (ROA), and the natural logarithm of total assets (LN(TA)) as measures of capital structure (CS) asset structure (AS), profitability (PROF), and firm size (FS). Their values are displayed in Table 1.

1. DER has an average of 0.5747, a standard deviation of 0.55759, and a range of 0.11 to 2.03.
2. FATAR has an average of 0.506822, a standard deviation of 0.2004276, with a range of 0.2294 to 0.9180.
3. ROA has an average of 0.156085, a standard deviation of 0.2764492, and a range of -0.1036 to 1.8643.
4. LN(TA) has an average of 16.0296, a standard deviation of 1.78430, and a range of 14.34 to 20.96.

Table 1. Statistical Descriptions.

Variables	Average	Standard Deviation	Range
DER	0.5747	0.55759	Between 0.11 and 2.03
FATAR	0.506822	0.2004276	Between 0.2294 and 0.9180
ROA	0.156085	0.2764492	Between -0.1036 and 1.8643
LN(TA)	16.0296	1.78430	Between 14.34 and 20.96

The Results of Classical Assumptions

After examining the classical assumptions, this research finds that the regression model meets the normality conditions, as the probability under the Jarque-Bera test exceeds the significance level (α) of 5%: 0.083102 (see Figure 2).

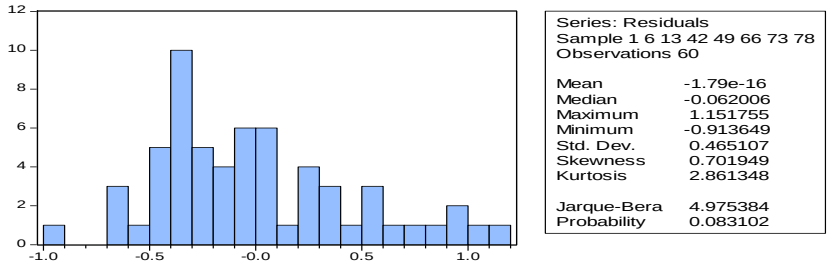

Figure 2. Jarque-Bera normality testing result.

Besides normality, this regression model is free of the autocorrelation problem because the asymptotic significance (2-tailed) of the run test is beyond the α of 5% (0.853; see Table 3). Additionally, multicollinearity does not exist because the VIFs for FATAR, ROA, and LN(TA) are below 10: 1.190, 1.005, and 1.1954, respectively (see Table 3). However,

heteroskedasticity still exists, as reflected by the p-value for the Chi-Square of Obs*R-squared of 0.0028, which is lower than the α of 5%.

Table 3. Autocorrelation, multicollinearity, and heteroskedasticity testing results.

The Classical Assumptions	Statistical Measurement	Results	Meaning
Autocorellation	Runs test based on modes	Asymptotic significance (2-tailed) is 0.853	No autocorrelation
Multicollinearity	Variance Inflation Factor (FIV)	VIF for FATAR, ROA, and LN(TA) = 0.190, 1.005, and 1.1954.	No multicollinearity
Heteroskedasticity	White test	Probability of Chi-Square of Obs*R-squared of 0.0028.	The heteroskedasticity still exists.

The estimation result of the regression model

The regression model described needs to be modified to make the covariance matrix and standard errors consistent due to heteroskedasticity problems, which E-Views does (Gujarati et al., 2019). Additionally, Table 4 displays the model with the condition. Because the positive coefficients in this table are significant (note the probabilities for FATAR and LN_TA below α at 5%: 0.0003 and 0.0072, respectively), the first and third hypotheses are acceptable. Capital structure is positively impacted by firm size and asset structure. In the meantime, the probability below the 5% α level (0.0230) and the negative coefficient support the second hypothesis.

Table 4. The regression model estimation result after adjustment of White Heteroskedasticity-Consistent Standard Errors & Covariance.

Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-1.803298	0.679846	-2.652511	0.0104
FATAR	1.406115	0.364452	3.858159	0.0003
ROA	-0.573483	0.245288	-2.338004	0.0230
LN_TA	0.109474	0.039278	2.787123	0.0072

Discussion

First, this study shows that asset structure has a favorable effect on capital structure. This evidence supports the static trade-off theory, which holds that a company can borrow by offering fixed assets as collateral. As a result, banks are safer to lend their money. In other words, the more fixed assets are collateralized, the more loans banks make. Therefore, this result aligns with M'ng (2017) and Ghani et al. (2023), who report a positive association

between tangibility and capital structure; however, it is contrary to Khalid et al. (2020), Priyanka and Narwa (2023), and Widodo et al. (2024), who prove an insignificant inclination. Similarly, Panda and Nanda (2025) find the positive tendency when studying companies in the industry of (1) construction and materials, (2) consumer goods, (3) metal, and (4) transport and equipment, but a negative propensity when inspecting the firms in the industry of (1) food and agro, (2) machinery, and (3) textile, and insignificant tendency when investigating the chemical companies.

Second, this research finds a negative relationship between profitability and capital structure. This tendency means that when companies have profits, they allocate them directly to retained earnings. The company with a higher amount of retained earnings does not need to depend on loans to finance the prospective investment, as the pecking order theory explains. Hence, this result supports the findings of Syaviva et al. (2022), Priyanka and Narwal (2023), Pratiwi and Wirama (2025), and Widodo et al. (2024), who who stated that leverage and profitability were negatively correlated. This negative sign is confirmed by M'ng (2017), which documents a positive impact when examining Malaysian and Singaporean companies, but not confirmed by M'ng (2017), which demonstrates a meaningless influence when studying Thai enterprises. Additionally, this negative sign is affirmed by Panda and Nanda (2025), who investigate the seven industries: (1) chemical, (2) construction and material, (3) consumer goods, (4) food and agro, (5) machinery, (6) metal, and (7) textile. For the transport and equipment industry, Panda and Nanda (2025) demonstrate a positive relationship.

Finally, this research shows that firm size positively affects capital structure. This positive propensity means that the bigger the company, the more its access to debt financing, leading to a higher debt ratio. Thus, this positive sign contradicts Khalid et al. (2020) and Priyanka and Narwal (2023), who reported the opposite direction, and Widodo et al. (2024), who documented no association. This positive relationship between company size and capital structure supports M'ng (2017) when studying the companies in Thailand, but does not support M'ng (2017) when learning about the Malaysian and Singaporean firms. In the meanwhile, only Panda and Nanda's (2025) analysis of consumer products companies supports the negative indication. For the other seven sectors, Panda and Nanda (2025) confirm a positive sign.

5. Conclusion

This study examines the factors that influence capital structure in the healthcare sector in the Indonesian capital market between 2018 and 2023, with a focus on the functions of asset structure, profitability, and firm size. There is a positive correlation between capital structure and asset structure, particularly the percentage of fixed assets in total assets. However, according to the pecking order theory, which maintains that businesses prioritize using internal funding—accumulated from profits—over external debt, profitability typically

has a major negative impact on the capital structure. Lastly, because larger companies have easier access to debt markets, they are more likely to use higher levels of debt. These results suggest that healthcare managers must strategically balance asset-backed borrowing with internal profit retention to optimize financial stability. This study contributes to the literature by clarifying how industry-specific characteristics and firm-level variables jointly shape financing strategies in a capital-intensive, increasingly regulated global healthcare environment.

Author Contributions: Conceptualization, Methodology, Survey, Validation, and Formal Analysis: Herlina and Tedy Wahyusaputra; Investigation: Herlina; Resources: Tedy Wahyusaputra; Data curation: Herlina; Writing—original draft preparation: Herlina; Writing—review and editing: Herlina and Tedy Wahyusaputra; Visualization: Herlina; Supervision and Project Administration: Tedy Wahyusaputra; Funding acquisition: Herlina.

Funding: This research was supported by internal funding from Maranatha Christian University.

Data Availability Statement: The authors can provide the data upon request.

Acknowledgments: The authors appreciate Maranatha Christian University for funding the research, including the publication fee.

Conflicts of Interest: The authors declare no conflict of interest.

References

Alabdulkarim, N., Kalyanaraman, L., & Alhussayen, H. (2024). The impact of firm size on the relationship between leverage and firm performance: Evidence from Saudi Arabia. *Humanities and Social Sciences Communications, 11*, 1664. https://doi.org/10.1057/s41599-024-04211-x

Brealey, R. A., Myers, S. C., & Allen, F. (2020). *Principles of Corporate Finance* (13th ed.). McGraw-Hill Education.

Erna, E., Murwaningsari, E., & Murtanto, M. (2024). Institutional possession, supervisory board size, external auditor quality, and profit quality. *Economics and Business Quarterly Reviews, 7*(3), 182-190. https://doi.org/10.31014/aior.1992.07.03.603

Firdaus, F. (2021). *Quantitative Research Methodology*. CV. DOTPLUS Publisher.

Ghani, E. K., Rehan, R., Salahuddin, S., & Hye, Q. M. A. (2023). Discovering capital structure determinants for SAARC energy firms. *International Journal of Energy Economics and Policy, 13*(1), 135-143. https://doi.org/10.32479/ijeep.13938

Ghozali, I. (2021). *Multivariate Analysis Application by IBM SPSS 26* (10th ed.). Badan Penerbit Universitas Diponegoro.

Gitman, L. J., & Zutter, C. J. (2015). *Principles of Managerial Finance* (14th ed.). Pearson Education, Inc.

Gujarati, D. N., Porter, D. C., & Pal, M. (2019). *Basic Econometrics* (6th ed.). McGraw-Hill Education.

Gultom, R. R. (2021). Does the right issue create a value change in financial performance? *Jurnal Ekonomi LLDikti Wilayah 1 (JUKET), 1*(2), 71-81. https://doi.org/10.54076/juket.v1i2.73

Hermawan, S., & Hariyanto, W. (2022). *Metode Penelitian Bisnis (Kuantitatif dan Kualitatif)*. UMSIDA Press.

Hidayat, W. F., Nugraha, I. N., Putra, A., & Sofiyah, S. (2025). Determinants of flotation costs among the Indonesian IPOs. *East Asian Journal of Multidisciplinary Research, 4*(11), 5469-5482. https://doi.org/10.55927/eajmr.v4i11.467

Kayo, E. S. (2024). The shares in the healthcare sector - IDX IC (F). https://sahamu.com/saham-sektor-kesehatan-idx-ic-f/

Khalid, U., Ahmad, W., Abubakar, M., & Asrar, M. (2020). Determinants of capital structure: A case of the non-financial sector in Pakistan. *International Journal of Accounting and Management Research, 1*(1), 1-14. https://doi.org/10.30741/10.30741/ijamr.vol1isss1

M'ng, J. C. P., Rahman, M., & Sannacy, S. (2017). The determinants of capital structure: Evidence from publicly listed companies in Malaysia, Singapore, and Thailand. *Cogent Economics & Finance, 5*, 1418609. https://doi.org/10.1080/23322039.2017.1418609

Panda, A. K., & Nanda, S. (2025). Determinants of capital structure: A sector-level analysis for Indian manufacturing firms. *International Journal of Productivity and Performance Management, 69*(5), 1033-1060. https://doi.org/10.1108/IJPPM-12-2018-0451

Pratiwi, N. K. S., & Wirama, D. G. (2025). The effect of profitability on debt policy with dividend policy as a moderating variable. *EPaper Bisnis: International Journal of Entrepreneurship and Management, 2*(3), 1-14. https://doi.org/10.61132/epaperbisnis.v2i3.469

Priyanka, P., & Narwal, K. P. (2023). Determinants of financing decisions of start-up firms in India. *International Research Journal of Business Studies, 15*(3), 269-281. https://doi.org/10.21632/irjbs.15.3.269-281

Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *The Journal of Finance, 50*(5), 1421-1460. https://doi.org/10.1111/j.1540-6261.1995.tb05184.x

Setiana, S., Wijaya, I. N. A., & Rinaldy, H. O. (2025). Institutional ownership, external auditor reputation, and income smoothing: Evidence from Indonesia. *Asian Business Research Journal, 10*(5), 101-105. https://doi.org/10.55220/25766759.450

Siregar, F., Achsani, N. A., & Bandono, B. (2024). The company's financial performance pre- and post-IPO on the Indonesian Stock Exchange. *Business Review and Case Studies, 5*(1), 35-45. https://doi.org/10.17358/brcs.5.1.35

Syavia, M., Uzliawati, L., & Yulianto, A. S. (2022). The effect of growth, profitability, and institutional ownership on debt policy. *Asian Journal of Social Science and Management Technology, 4*(3), 2313-7410. https://www.ajssmt.com/Papers/432229.pdf

Widodo, F. S., Achsani, N. A., & Bandono, B. (2024). Did the COVID-19 pandemic influence the capital structure of the healthcare firms? *Indonesian Journal of Business and Entrepreneurship, 10*(2), 379-388. https://doi.org/10.17358/IJBE.10.2.379