

The Determinants of Corporate Profitability in Indonesia Manufacturing Industry

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ABSTRACT

The development of business competition requires companies to maintain and increase profits. Many factors underlie the determination of companies' profitability, such as internal factors, which can be represented in corporate financial performance. External factors that can also determine corporate profitability are macroeconomic factors. The study aims to determine the determinants of corporate profitability of companies in the manufacturing industry in Indonesia, especially those listed on the Indonesia Stock Exchange. This study is a verification study to determine the internal and external factors that predict the profitability of manufacturing companies. The sample is companies in the consumer goods sector listed on the Indonesia Stock Exchange. The study findings show that firm size and interest rate determine profitability. The study results are expected to be beneficial for manufacturing companies in Indonesia in determining the factors which affect corporate profitability, in which eventually the companies can focus on the determinants of corporate profitability.

Keywords: Profitability, Capital Structure, Firm Size, Exchange Rate, Interest Rate.

1. INTRODUCTION

A company's success can be measured from financial performance, which can be obtained from the company's financial statements. Measurement of financial performance can leverage financial ratios, and one measure that can be used is the profitability ratio. Return on equity obtained from comparing net income with stockholders' equity is a paramount ratio. This ratio can provide information to shareholders about the return on their invested capital (Brigham & Houston, 2007).

Financial performance, specific profitability can be influenced by factors related to the company's financial decisions, one of which is capital structure decisions. Empirical research that had been conducted showed different results, where debt can have a positive or negative effect on performance (Dawar, 2014). Moreover, a study that examines the influence of firm size on corporate performance also has similarities and differences with other studies (Bhatia & Aggarwal, 2018). One of conducted past studies related to the profitability determinants of manufacturing companies revealed that firm size and financial leverage are essential determinants of profitability (Ifeduni & Charles, 2018).

Research on the relationship between macroeconomic factors such as exchange rate and interest rate with profitability was conducted in manufacturing firms. The results indicated no impact of these factors on profitability, specifically consumer goods manufacturing companies

(Egbunike & Okerekeoti, 2018). Another study in manufacturing companies indicated that profitability is determined by exchange rate volatility in the long run but not in the short-run (Nanda & Panda, 2018). Next, the same researcher conducted further research in manufacturing companies that explored the effect of exchange rates and interest rates on profitability. The results demonstrated that these two factors' volatility significantly explains company profitability (Nanda & Panda, 2019).

Manufacturing companies listed at the Indonesia Stock Exchange can be categorized as basic industry and chemicals, consumer goods, and miscellaneous. During the last few years, the growth of the consumer goods sector in Indonesia has slowed down (Muamar, 2018), particularly in the food and beverage (Ministry of Industry Indonesia, 2019). In this case, go-public companies need to improve financial performance by identifying the determining factors. It is relevant to investors' decisions to invest funds that will determine the companies' acquisition of funds from the capital market (Susan & Winarto, 2021) Based on the phenomena relevant to the said sector and research gap regarding research variables, the study intends to examine the influence of capital structure, company size, exchange rate, and interest rate on corporate profitability.

2. LITERATURE REVIEW

Financial performance is one form of company performance measure. Financial performance can be analysed and monitored using ratio analysis by calculating and interpreting financial ratios. Profitability is one of the financial ratios categories that measure the rate of return. Several measures can be used to measure corporate profitability. Researchers used a combination of return on assets, return on equity, return on sales (Kouser, Bano, Azeem, & Hassan, 2012), and those who only used return on assets (Alabede, 2012) (Olweny & Shipho, 2011) (Audria & Susan, 2019) (Anwar, Susan, & Septiadi, 2020) or return on equity (Ndlovu & Alagidede, 2018) as a profitability measure. Return on equity is a profitability measure that can measure the rate of return on shareholders' investments (Gitman & Zutter, 2015), and it is the basis of value creation for stakeholders. Therefore, determining its influencing factors becomes important (Pantea, Gligor, & Anis, 2014).

Various factors can determine corporate profitability, such as capital structure as one crucial factor. Capital structure is related to the composition of debt and equity that companies use for their activities. The decision is vital for every company pertaining to the needs of maximizing return and the impacts of the decision on the company's capability to deal with a competitive environment (Abor, 2005). A company will determine the capital structure to maximize market value (Brealey & Myers, 2003). Past studies found that capital structure negatively affects profitability (Chen, Chen, Liao, & Chen, 2009). It means that increasing debt would cause a decreasing profit.

Related to the economies of scale concept, company size is the primary determinant of corporate profitability (Niresh & Velnampy, 2014). It is due to that the cost per unit of the company will be lower by representing economies of scale. Therefore, it is expected a positive relationship between firm size and profitability.

Unlike financial measures, macroeconomic factors are outside the company factors that management cannot control. Nevertheless, these factors do affect corporate profitability. The exchange rate as one of the macroeconomic factors can affect return (He, Fayman, & Casey, 2014). The interest rate is another macroeconomic factor that can affect company performance. Low-interest rates and interest rate volatility have an impact on profitability (Herrero, Gavilá,

& Santabárbara, 2009) (Bikker & Vervliet, 2018). Based on literature review and past empirical studies, the hypothesis is that capital structure, firm size, exchange rate, and interest rate impact corporate profitability, respectively.

3. METHODS

Since the study is intended to find the determinants of corporate profitability, profitability is then assigned as the dependent variable, while capital structure, firm size, exchange rate, and interest rate are assigned as independent variables. Profitability measure leverages Return on Equity, while capital structure measure leverages Debt to Equity Ratio, and firm size leverages the natural logarithm of Total Assets. For macroeconomic variables, the exchange rate is measured using the US dollar exchange rate against the Indonesian rupiah while the interest rate leverages the BI (Central Bank) rate. The data used in this study is secondary data. Financial statement data are obtained from the Indonesia Stock Exchange website, while the exchange rate and interest rate data are obtained from the BI website.

The population in this study consists of manufacturing companies listed on the Indonesia Stock Exchange. Samples were determined using one of the non-probability sampling techniques: purposive sampling. Considering the slowing growth phenomenon in the consumer goods industry, the criteria used in determining the samples are manufacturing companies classified under the consumer goods sector. Other criteria used for sampling include only companies listed on the IDX consistently from 2013 to 2018 without experiencing delisting, corresponding to the data period used between 2013 and 2018. Additionally, the companies also published annual financial statements during the observation period. Collected data were processed using regression methods, and hypothesis testing was conducted to determine the factors that impact profitability.

4. EMPIRICAL RESULTS

Data were processed and analysed to answer the research objectives. The dataset for six years, from 2013 to 2018, consists of financial statements of 33 companies included in the consumer goods sector, the US dollar exchange rate against the rupiah, and the interest rate. All the companies are categorized within six sub-sectors: food and beverages, cigarettes, pharmaceuticals, cosmetics and household goods, household appliances, and other sub-sectors.

Calculations of the return on equity ratio, debt to equity ratio, and ln total assets were obtained for each company during the observation period. Likewise, the exchange rate and interest rate were obtained for each period. Although the discussion was not carried out for each company, an overview of each research variable can be reflected in Table 1. The profitability of companies categorized under the consumer goods sector measured by the average return on equity shows that the net profit after tax has an average of 22.73 percent from the total investment made by shareholders.

Observing the minimum and maximum scores of the return on equity, some companies suffer losses, but some generate earnings after tax up to 225.40 percent of equity. Besides, the capital structure measured from debt to equity produces the average debt proportion of 70.40 percent of equity. This finding implicitly indicates that the capital invested for the consumer goods sector in assets is on average sourced toward debt financing of 41.31%. This implies a debt repayment risk that is relatively low. For corporate size measured by ln total assets, a company invests funds in total assets worth around 19.5 trillion in rupiah.

Table 1 Descriptive Statistic

	N	Minimum	Maximum	Mean
ROE*	198	-1.750	2.254	.22731
DER*	198	-8.340	3.030	.70401
SIZE*	198	14.390	30.603	24.73860
EXRATE*	198	12189	14481	13314.75
INTEREST*	198	.046	.075	.06354

*ROE = Return on Equity, DER = Debt to Equity, SIZE = ln of Total Assets, EXRATE = Exchange Rate, INTEREST = Interest Rate

As macroeconomic factors, the US dollar exchange rate had an average value of 13,315 rupiah during the six-year period. Observing the exchange rate movement, the rupiah had depreciated from 2013 to 2018, starting from Rp 12,189 and ending at Rp 14,481 per USD. Meanwhile, the interest rate had fluctuated during the six years of observation, with an average of 6.35 percent.

Table 2 Regression Results

Variables	B	SE	t-Stat	Sig.	VIF
DER*	.023	.058	.390	.697	1.075
SIZE*	-.556	.184	-3.022	.003	1.057
EXRATE*	-.235	.277	-.847	.398	1.135
INTEREST*	-2.891	1.638	-1.765	.080	1.121
(Constant)	3.800	2.678	1.419	.158	
Prob (F-Stat)	.014 (3.224)				
R Square	.081				
Adj R square	.056				
Durbin-Watson	2.045				

*DER = Debt to Equity, SIZE = ln of Total Assets, EXRATE = Exchange Rate, INTEREST = Interest Rate

Table 2 shows the results of data processing. The model is statistically significant with a confidence level of 95 percent and a p-value of 0.014 (<0.05), which proves that the estimated model is valid. This indicates that profitability is impacted by the capital structure, firm size, exchange rate, and interest rate. However, these independent variables explain only approximately 6 percent of the variation in the profitability. These findings indicate that capital structure, firm size, exchange rate, and interest rate make a minimal contribution to profitability. This is strengthened by the results of the t-test, which shows that only the size and interest rate partially affect profitability with a p-value of 0.003 (< 5%) and 0.080 (< 10%), respectively.

The results of this study are in line with previous studies that show the relationship of firm size with return on equity (Abor, 2005) (Hirdinis, 2019). On the contrary, the findings of this study do not support previous studies regarding the effect of capital structure on profitability, the results of which show that profitability will change with changes in debt (Abor, 2005); (Chen, Chen, Liao, & Chen, 2009); (Shubita & Alsawalhah, 2012)(Arulvel & Ajanthan, 2013);(Dawar, 2014) (Younus, Ishfaq, Usman, & Azeem, 2014). However, other empirical studies corroborate the results of the study that capital structure does not affect

profitability; (Ajlouni & Shawer, 2013); (Hirdinis, 2019). The results of the hypotheses testing show that interest rate negatively affects profitability, and only the interest rate has an impact on profitability. It means that companies can achieve better profitability if interest rates are low. The results support a previous study (Kanwal & Nadeem, 2013) but are different from other previous research, which shows the interest rate and exchange rate affect profitability (Taiwo & Adesola, 2013).

5. CONCLUSION

The regression model results reveal the impact of capital structure, firm size, exchange rate, and interest rate on profitability, signifying that these factors will determine the companies' ability to achieve profits. Although the contribution of the four factors is relatively small, the achievement of profits can be determined by the companies' decisions regarding the composition of debt and equity, the amount of funds invested in assets, as well as the exchange rate and interest rate. The results of this study can be input for companies in the consumer goods sector to have attention toward the investment amount in assets, understanding that this study explains the role of firm size in determining profitability. Moreover, companies need to follow the changes in interest rate as a macroeconomic determinant, given that interest rates contribute to explaining profitability. Further research can be carried out in other sectors in the manufacturing industry and is also expected to explore other variables that can be determinants of profitability.

REFERENCES

- [1] 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.
- [2] Ajlouni, A., & Shawer, M. (2013). The Effect of Capital Structure on Profitability: Evidence From The Petrochemical Companies in The Kingdom of Saudi Arabia. *International Journal of Research in Commerce, IT, & Management*, 3(11), 56-62.
- [3] Alabede, J. O. (2012). The Intervening Effect of Global Financial Condition on the Determinants of Bank Performance: Evidence from Nigeria. *Accounting and Finance Research*, 1(2), 161-176.
- [4] Anwar, S., Susan, M., & Septiadi, T. (2020). Intellectual Capital, Bank Profitability, and Bank Value. *Journal of Economics and Business*, Vol.3, No.4, pp.1744-1750.
- [5] Arulvel, K., & Ajanthan, A. (2013). Capital structure and financial performance: A study of listed trading companies in Sri Lanka. *ACADEMICIA: An International Multidisciplinary Research Journal*, 3(6), 1-13.
- [6] Audria, U., & Susan, M. (2019). The influence of corporate governance and intellectual capital on profitability in companies that participated in the 2012-2016 Corporate Governance Perception Index (CGPI) . *International Journal of Business, Economics and Law*, 19(3), 12-27.
- [7] Bhatia, A., & Aggarwal, K. (2018). Impact of investment in intangible assets on corporate performance in India. *International Journal of Law and Management*, 60(5), 1058-1073.

- [8] Bikker, J. A., & Vervliet, T. M. (2018). Bank profitability and risk-taking under low interest rates. *International Journal of Finance & Economics*, 23(1), 3-18.
- [9] Brealey, R. A., & Myers, S. C. (2003). *Principles of Corporate Finance, international ed.* Boston: McGraw-Hill.
- [10] Brigham, E. F., & Houston, J. F. (2007). *Fundamentals of Financial Management* (11th ed.). Mason: Thomson Higher Education.
- [11] Chen, J. S., Chen, M. C., Liao, W. J., & Chen, T. H. (2009). Influence of capital structure and operational risk on profitability of life insurance industry in Taiwan. *Journal of Modelling in Management*, 4(1), 7-18.
- [12] Dawar, V. (2014). Agency theory, capital structure and firm performance: some Indian evidence. *Managerial Finance*, 40(12), 1190-1206.
- [13] Egbunike, C. F., & Okerekeoti, C. U. (2018). Macroeconomic factors, firm characteristics and financial performance: A study of selected quoted manufacturing firms in Nigeria. *Asian Journal of Accounting Research*, 3(2), 142-168.
- [14] Gitman, L. J., & Zutter, C. J. (2015). *Principles of Managerial Finance* (14th ed.). Boston: Pearson Education Limited.
- [15] He, L. T., Fayman, A., & Casey, K. M. (2014). Bank Profitability: The Impact of Foreign Currency Fluctuations. *Journal of Applied Business and Economics*, 16(2), 98-104.
- [16] Herrero, A. G., Gavilá, S., & Santabárbara, D. (2009). What explains the low profitability of Chinese banks? *Journal of Banking and Finance*, 33(11), 2080-2092.
- [17] Hirdinis, M. (2019). Capital structure and firm size on firm value moderated by profitability. *International Journal of Economics and Business Administration*, 7(1), 174-191.
- [18] Ifeduni, A. S., & Charles, O. (2018). The Determinants of Profitability of Manufacturing Firms in Nigeria. *International Journal of Economics, Commerce and Management*, 6(4), 479-493.
- [19] Kanwal, S., & Nadeem, M. (2013). The Impact of Macroeconomic Variables on The Profitability of Listed Commercial Banks in Pakistan. *European Journal of Business and Social Sciences*, 2(9), 186-201.
- [20] Kouser, R., Bano, T., Azeem, M., & Hassan, M. (2012). Inter-Relationship between Profitability, Growth and Size: A Case of Non-Financial Companies from Pakistan. *Pak. J. Commer. Soc. Sci*, 6(2), 405-419.
- [21] Ministry of Industry Indonesia. (2019). *Industry Growth Analysis* (1 ed.). Jakarta, Indonesia: Pusdatin Kemenperin.
- [22] Muamar, Y. (2018). *The Slowing Growth of the Consumer Goods Industry*. Retrieved from CNBC Indonesia: <https://www.cnbcindonesia.com/market/20181019191302-17-38252/pertumbuhan-industri-barang-konsumsi-dinilai-melambat>
- [23] Nanda, S., & Panda, A. K. (2018). The determinants of corporate profitability: an investigation of Indian manufacturing firms. *International Journal of Emerging Markets*, 13(1), 66-86.

- [24] Nanda, S., & Panda, A. K. (2019). A quantile regression approach to trail financial performance of manufacturing firms. *Journal of Applied Accounting Research*, 20(3), 290-310.
- [25] Ndlovu, C., & Alagidede, P. (2018). Industry structure, macroeconomic fundamentals and return on equity: Evidence from emerging market economies. *International Journal of Emerging Markets*, 13(6), 2047-2066.
- [26] Niresh, J. A., & Velnampy, T. (2014). Firm Size and Profitability: A Study of Listed Manufacturing Firms in Sri Lanka. *International Journal of Business and Management*, 9(4), 57-64.
- [27] Olweny, T., & Shipho, T. (2011). Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Economics and Finance Review*, 1(5), 1-30.
- [28] Pantea, M., Gligor, D., & Anis, C. (2014). Economic determinants of Romanian firms' financial. *Procedia – Social and Behavioral Sciences*, 124, 272-281.
- [29] Shubita, M. F., & Alsawalhah, J. M. (2012). The Relationship between Capital Structure and Profitability. *International Journal of Business and Social Science*, 3(16), 104-112.
- [30] Susan, M., & Winarto, J. (2021). Macroeconomic Factors' Effects on the Stock Returns of Manufacturing Companies Listed on the Indonesia Stock Exchange. *Review of Integrative Business and Economics Research*, Vol.10, Supplementary Issue 2, pp.84-93.
- [31] Taiwo, O., & Adesola, O. A. (2013). Exchange Rate Volatility and Bank Performance in Nigeria. *Asian Economic and Financial Review*, 3(2), 178-185.
- [32] Younus, S., Ishfaq, K., Usman, M., & Azeem, M. (2014). Capital Structure and Financial Performance: Evidence from Sugar Industry in Karachi Stock Exchange Pakistan. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(4), 272–279.