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The analysis of relationship between profitability, liquidity, company size and company values of chemical industry sector manufacturer

Yanti Budiasih*, Yohanes Indrayono and Hendro Sasongko

Faculty of Economics, Pakuan University, Indonesia.

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Abstract

The purpose of this study is to ascertain how the value of companies in the chemical industry sector that are listed on the Indonesian stock exchange from 2020 to 2022 is influenced by profitability, solvency, and firm size. This study used Panel Data Regression Analysis, the Classical Assumptions Test, and Multiple Linear Regression Analysis with E-Views 9.0 with a significance level of 5%. The findings of the research indicate that the financial gain (return on equity) does not have an influence on the worth of the company (price-to-book value). However, the ability to meet financial obligations (current ratio) has a negative impact on the worth of the company (price-to-book value). The size of the company does not have any effect on the worth of the company (price-to-book value). Additionally, the financial gain, ability to meet financial obligations, and size of the company all have a simultaneous influence on the worth of the company (price-to-book value). The outcome variable in this research can be clarified by the three independent variables, with an R2 value of 69.14%.

Keywords: Profitability; Liquidity; Company Size; Company Value

1. Introduction

In an era of increasingly onerous globalization, the presence of open competition has pushed every corporation to, including companies in the chemical industry sector, to strive to maintain their survival. With the increasing need for consumers to meet their daily needs, many of them often use cheap and durable goods in their lives, such as plastic. The chemical industry sector is a strategic sector for other sectors with the increasing demand for plastics, ceramics, and cement in Indonesia. The chemical industry continues to increase, and it is possible that it will become a support for the country's economy because the role of the chemical industry sector is vital with an upstream scope. between and downstream, which is needed by many other industries and has a wide variety of products. Therefore, the chemical industry is indispensable for the growth of the country's economy [1]. A company's formation must have a specific goal in mind. The reason for establishing a firm can be inferred from a number of factors. The primary objective is to maximize profit. The second objective is shareholder or business owner prosperity. The company's third objective, which is to maximize value, is represented in the share price. The three companies' goals are very similar to one another. Simply put, each organization has a different emphasis that it wants to achieve [2].

The packaging and chemical sectors are two of the numerous areas that are listed on the Indonesia Stock Exchange. The sub-sectors within these industries include building materials, pottery, and glass, metal and related industries, chemical manufacturing, animal feed production, timber and processing, paper and pulp production, and plastics and packaging production. This is because of the fluctuations this sector has experienced recently [3]. The food and drink, pharmaceutical, beauty, and electronics sectors are just a few important areas where the plastic packaging industry plays a crucial role in the supply chain. According to the National Industrial Development Master Plan (RIPIN), the Ministry of Industry has designated the downstream plastics industry as a priority sector for development in the years

* Corresponding author: Yanti Budiasih; Email: budiasihyanti@gmail.com

2018–2021. According to the Ministry of Industry, 925 companies are now making different plastic products. There are 37,327 employees working in this industry, which produces 4.68 million tons overall. In the previous five years, the demand for plastic items climbed by 5%, reaching 4.6 million tons nationally. To boost the performance of the domestic plastics industry, the government continues to make efforts to reduce dependence on imported raw materials and encourage improvements in the quality, quantity, and specifications of the products produced. This sector is vital with the scope of upstream, intermediate, and downstream, which is needed by many other industries and has a wide variety of products [4].

In an effort to attract investors, the company can increase its profits so that investors believe that the company in which they invest can provide a high rate of return. Therefore, the company's profit becomes a place of hope for investors. Investors will view companies that have good liquidity as performing well. This is because a company's liquidity is used to gauge its capacity to repay short-term debt [5]. If the corporation can settle its short-term debt, it may persuade investors to put their money into the business. Utilizing Price Book Value (PBV) is one method for calculating a stock's intrinsic value. PBV is a ratio that depicts the market value of a company's shares at book value. The link between market price and book value per share is also described by PBV [6]. When the PBV is greater, the market is more upbeat about the company's future. A ratio called PBV is used to gauge a company's financial success. PBV also demonstrates the extent to which a company can increase its value in relation to the amount of capital invested. The company will be more successful at generating value for shareholders and be more able to draw in investors if its PBV ratio is higher. The size of the business, or the overall assets it has to meet its funding needs, is another indicator that investors typically look for when determining how effectively the organization is invested. Investors will be drawn to businesses with strong finance by taking this value into consideration [7].

In manufacturing companies, company value is important, which shows that the company has prospered its shareholders. Firm value can also attract shareholders to invest in a manufacturing company. Currently, the economic condition in the business world is highly dependent on capital issues. The vast number of investors who found it difficult to invest because the company did not have a comparable value and they were concerned that shareholders would not succeed were to blame for the occurrence of setbacks [8]. Therefore, the company must also increase the value. The major goal is to gather the necessary data and information in order to make it simpler for investors to evaluate, compute, and access capital market information. The capital market plays a significant role in connecting parties in need of finance and those willing to make investments since it is a place where investors can put their money. The general public can use the capital market to look for and find information about investments. The Indonesia Stock Exchange (IDX) is the country's capital market [9].

According to the data that has been gathered, in 2020–2021, several companies such as Trias Sentosa Tbk and Yanaprima Hastapersada Tbk decreased in current ratio (CR) but experienced an increase in price book value (PBV), and in 2017–2018, the companies Trias Sentosa Tbk, Yanaprima Hastapersada Tbk, and Berlina Tbk decreased in current ratio (CR) but increased in price book value (PBV), and in 2017–2018, the companies Asiaplast Industries Tbk and Indopoly Swakarsa Industry Tbk experienced a decrease in price book value (PBV) and was followed by an increase in current ratio (CR). This defies the conventional wisdom that predicts that when the CR value rises, the PBV value will follow suit. Some companies in this phenomenon continue to challenge previous theory or research that suggests that liquidity has a negative but not very substantial effect on the value of the company, despite the fact that Putra and Lestari (2016) discovered that prior research demonstrates that liquidity has a positive and significant influence on firm value. Return on equity (ROE) decreased in 2020–2021 at Trias Sentosa Tbk and Lotte Chemical Titan Tbk, followed by an increase in price book value (PBV), while PBV rose at Berlina Tbk, Lotte Chemical Titan Tbk, and Yanaprima Hastapersada Tbk [10].

This contradicts the accepted notion, according to which the PBV value will rise if the ROE value rises. This conclusion is corroborated by earlier research, which demonstrates that profitability significantly increases firm value [11]. However, in practice, there are still businesses that defy the assumption or earlier study that profitability has no impact on firm value [12]. Lotte Chemical Titan Tbk and Indopoly Swakarsa Industry Tbk at Trias Sentosa Companies had a decline in company size in 2020–2021, followed by an increase in price book value (PBV), and in 2017–2018 the companies Berlina Tbk and Lotte Chemical Titan Tbk experienced an increase in Price Book Value (PBV) and decreased in Company Size (Size), in 2017–2018 the companies Asiaplast Industries Tbk and Indopoly Swakarsa Industry Tbk experienced a decrease in Price Book Value (PBV) and an increase in Company Size (Size). This defies the conventional wisdom that predicts that when the SIZE value rises, the PBV value will follow suit. This fact is supported by earlier research, which shows that firm size has a positive and considerable impact on firm value. However, there are still companies in this phenomenon that do not agree with previous theory or research that claims that firm value is not considerably influenced by company size.

2. Material and methods

This research centers on a production firm in the chemical sector that is publicly traded on the IDX. Secondary information from publications on the Indonesia Stock Exchange starting from 2020 until 2022 is the data utilized. Print media, academic journals, and the internet all provide additional information that is required for this study. using the dependent variable in this study. 33 companies made up the study's population. Sampling techniques in research are frequently divided into two classifications: probability sampling and non-probability sampling. In this investigation, a non-probability sampling method will be employed with a purposive selection approach, which involves selecting a sample based on the research considerations after identifying one that meets the necessary criteria. The type of data utilized in this study is secondary data. Information acquired from secondary sources is known as secondary data, or information that is subsequently obtained from the primary source (company), which is the focus of the research. The secondary data for this study, which employs the observation technique, comprises the financial statements of chemical industry companies listed on the IDX for the years 2020 to 2022. The data employed in this study originated from the financial records of chemical industry companies that underwent independent audits between 2020 and 2022. The authors require data and information using the following data collection techniques: documentation and literature study, to support the goals of this research. To make the study's variables simpler to comprehend, statistical testing was done.

Regression models with panel data are commonly estimated using the Fixed Effect Model (FEM) and Random Effect Model (REM) methodologies. The Hausman test is utilized to differentiate between the REM and FEM approaches, while the F test (Restricted Test) is employed to differentiate between the PLS and FEM approaches. Prior to employing regression analysis to evaluate the hypothesis, traditional assumption testing is performed. The multicollinearity, autocorrelation, normality, and heteroscedasticity tests are some of the traditional assumptions tests that are applied. Evaluating the variables in this research involved conducting multiple linear regression analysis. In this investigation, scholars computed the coefficient of determination (R²) and employed a partial test (t test). In this study, the hypothesis was evaluated using regression analysis utilizing E-views. The coefficient of determination serves as a general indicator of how effectively the model can account for the variation in the dependent variable. The coefficient of determination measure (R²) reveals the extent to which the independent factors (profitability, liquidity, and firm size) can elucidate the dependent variable (firm value). The coefficient of determination can assume values ranging from 0 to 1. A low R² value indicates a significant limitation on the ability of the independent factors to explain the variance in the dependent variable. If the value is close to 1, the independent variables almost entirely fulfill the condition for predicting the fluctuations in the dependent variable. One drawback of using the coefficient of determination is the inclination towards the number of independent variables incorporated in the model. R² should increase with each additional independent variable, regardless of whether the independent variable has a substantial impact on the dependent variable.

3. Results and discussion

The results of the regression test revealed that -13.36700 is the fixed value. Assuming that the values of Profitability (ROE), Liquidity (CR), and Company Size (SIZE) are constant or equal to 0, the Firm Value (PBV) would be -13.36700. The regression coefficient for the Return on Equity (ROE) metric, which measures profitability, is 4.879677. This suggests that if ROE increases by one unit (with the other variable coefficients remaining constant), the Firm Value (PBV) would increase by 4.879677 accordingly. This demonstrates that the coefficient is positive, indicating a positive relationship between ROE and PBV. Rising profitability will therefore increase a company's worth. The regression coefficient for liquidity, as measured by Liquidity (CR), is -0.411999. This implies that Firm Value (PBV), as determined by Liquidity (CR), will decline by -0.411999 if the CR value increases by one unit. As a result, it can be seen that the coefficient is negative, proving that CR and PBV are not correlated. The regression coefficient value for company magnitude as measured by complete resources (SIZE), under the condition that the coefficient values of other variables remain constant, indicates that Company Worth (PBV) will increase by 0.543252 if the SIZE value increases by 1 unit. This illustrates that the coefficient is optimistic, suggesting a positive connection between SIZE and PBV and that an increase in complete resources will enhance firm worth.

With a significance threshold of 0.000 less than 5%, or 0.05, the f-count value is 7.246646 > f-table, which is 2.70. This demonstrates that firm value is significantly influenced by profitability, liquidity, and firm size all at once. Profitability expressed in Return on Equity (ROE) exhibits a significance value of 0.0809 > 0.05 with a coefficient of 4.879677 and a t-count value < t-table, namely 1.576194 < 1.66216 (df = 93 - 4 = 89 and a significance level of 5%), H₁ (profitability has no impact on firm value) is therefore rejected, while H₀ is accepted. The current ratio (CR), which measures liquidity, has a significant value of 0.0013 < 0.05 and a coefficient of -0.411999. The t-table value of 1.66216 (df = 93 - 4 = 89, significance threshold of 2.5%) is less than the t-count value of -3.374020. As a result, H₁ is accepted and H₀ is

disregarded, proving that liquidity significantly lowers company value. However, the measurement of the business's size, known as Total Assets (SIZE), holds a significance value of $0.5096 > 0.05$ and a coefficient of 0.543252 instead. When considering a level of significance of 5%, the calculated t-value of 0.663547 is lower than the critical t-value of 1.66216 (with degrees of freedom = $93 - 4 = 89$). Inferring that firm value is unaffected by company size, H_0 is accepted but H_1 is refuted as a result. 0.802106 is the R^2 determination coefficient. Adjusted R Square is used in this study to account for bias. The Adjusted R Square score of 0.691419 (69.14%) indicates how much the independent variables (profitability, liquidity, and firm size) contributed to the dependent variable, firm value. Consequently, these autonomous factors can account for 69.14% of the reliant variable, leaving 30.86% of the dependent variable to be elucidated by factors apart from those encompassed in the regression model of this study.

Multiple linear regression study revealed that Return on Equity (ROE), a measure of profitability, has a computed value of 1.776194, which is higher than 1.66216. This shows that the company's worth is unaffected by profitability. Furthermore, the importance value of 0.0809 is higher than the cutoff of 0.05, indicating that the profitability in connection with the company's worth is not statistically meaningful. Consequently, the initial proposition (H_1) of the investigation is invalidated. Investors are worried about future results due to the company's profits' lack of consistency and variability from year to year. To put it another way, this study does not offer any factual support for the idea that rising profitability raises a company's worth. As a result, the findings of this investigation defy accepted wisdom. These results are consistent with other research that also shows there is no connection between profitability and business valuation. Furthermore, the study reaches the determination that the company's valuation is not influenced by profitability, as indicated by Return on Equity (ROE).

It is suggested that the level of liquidity has an adverse impact on the company's value because the current ratio (CR), which measures liquidity, has a t-count value that exceeds the t-table at -3.374020. Moreover, since the significance value of 0.0013 is below the established cutoff of 0.05, it is confirmed that liquidity plays a significant role in determining the firm's value. The study's second hypothesis (H_2) is thus accepted. This study demonstrates that liquidity has a detrimental effect on the organization's value. This indicates that a higher degree of liquidity compels the company to allocate more resources towards immediate liability payments, thereby reducing dividend payouts to shareholders. Naturally, this undesirable outcome is not well accepted by investors, which causes a fall in investor interest, a decrease in the demand for shares, and ultimately a decrease in the stock price, lowering the company's overall worth. The ability to repay debt without difficulty does not necessarily suggest that the company will distribute dividends at a high level, even though liquidity is a factor that determines the company's worth. These findings align with previous investigations, which argue that the liquidity of a business decreases its value. It is crucial to mention, though, that this study's outcome contradicts that of other research, indicating that liquidity negatively affects business value, yet this effect does not reach statistical significance.

According to the results obtained from the analysis of multiple linear regression, it is clear that the magnitude of the firm, as determined by the magnitude of overall assets (SIZE), has minimal influence on the worth of the company. This is evident from a t-count value of 0.663547, which is lower than the t-table value of 1.66216. Furthermore, the significant value of 0.5096 above the 0.05 cutoff, further demonstrating the nonimportance of company size on firm value. Therefore, it is concluded that investors do not take firm size into account when making investments, contradicting the third hypothesis (H_3) of this study. Large organizations may prioritize debt repayment over making new investments for expansion, therefore their size does not necessarily translate to high corporate value. This result also implies that a company's size is unaffected by its own size. Large total assets may lower the company's worth from the owner's perspective, but they may boost it from the management perspective by giving them more control over the business. These findings align with previous studies, which uncovered a substantial and favorable connection between the value of a company and its size. It is important to keep in mind, as well, that additional research has revealed minimal association between the size of a business and its value.

The F test findings indicate a level of significance of $0.000 < 0.05$ and an f-count greater than the f-table value of 7.246646 > 2.70 , leading to the rejection of H_0 and the acceptance of H_1 . Consequently, the fourth hypothesis (H_4) of the study is confirmed based on the F test results, which demonstrate that the variables of profitability, solvency, and company size collectively exert a noteworthy influence on firm value. This shows that in the chemical sector enterprises analyzed in this study, management and associated parties are aware of the significance of taking into account how profitability, solvency, and company magnitude are simultaneously appraised when determining corporate worth. Previous research has demonstrated that the company's value (PBV) is influenced significantly by factors such as capital structure, firm size, and profitability. These findings align with the conclusions drawn in this study. Additionally, this implies that both company magnitude and profitability variables simultaneously possess a positive and significant influence on company worth. In contrast, according to other research, solvency, company magnitude, and profitability all have a significant impact on company worth simultaneously.

4. Conclusion

Findings from an examination of the profitability factor, as measured by Return on Equity (ROE), indicate that, during the period of 2020–2022, chemical industry companies listed on the Indonesia Stock Exchange (IDX) do not experience a significant impact on their value due to profitability (ROE). Consequently, investors do not consider profitability as their primary gauge for assessing the effect on business value. The current ratio (CR), which gauges the level of liquidity, was analyzed and the outcomes reveal that, for the years 2020–2022, chemical industry companies listed on the Indonesia Stock Exchange (IDX) are significantly influenced in a negative manner by liquidity (CR). Consequently, when assessing a company's worth, investors often overlook the importance of liquidity. The chemical industry companies listed on the Indonesia Stock Exchange (IDX) between 2020 and 2022 do not show a significant correlation between their size, as measured by total assets, and their value. Therefore, investors do not primarily consider the size of a company when evaluating its value. However, when examining the chemical industry companies listed on the IDX during the 2020-2022 period, the combined evaluation of profitability, liquidity, and company size reveals that all three variables have a notable influence on firm value. It is hoped that further research can use other variables that are more influential on Company value, such as Liquidity, Sales Growth, Dividend Policy, Ownership structure, and external factors, which include currency exchange rates and market growth. In addition, future researchers can also extend the research period, which may provide better results in predicting firm value. For future researchers, it is recommended to add or use another population of companies that will be used as research samples. The findings of this study are intended to assist owners and investors in thinking about decision-making in businesses connected to company value, which is reflected in the profits made, the method employed to manage debt repayments, and the size of the organization. This prevents investors from regretting their investment and generates interest in investing in businesses that will boost stock prices and company value.

Compliance with ethical standards

Disclosure of conflict of interest

No conflicts of interest to disclosed.

References

- [1] Rahmawati, A. D., Topowijono., & Sulasmiyati, S. (2015). The Effect of Firm Size, Profitability, Capital Structure and Investment Decisions on Firm Value. *Jurnal Administrasi Bisnis (JAB)*, 23(2).
- [2] Harjito, D. A., & Martono. (2014). *Financial management*. 2nd Edition. Yogyakarta: Ekonisia.
- [3] Rudangga, I. G. N. G., & Sudiarta, G. M. (2016). Effect of Company Size, Leverage, and Profitability on Company Value. *E-Jurnal Manajemen Unud*, 5(7), 4394 – 4422.
- [4] Magdalena, M., & Wirawan, M. (2023). The Role of Profit Perception, Firm Capital and Investment Knowledge on Intention to Invest in Sharia Stocks. *JSSBS (Journal of Social Science and Business Studies)*, 1(1), 1–5.
- [5] Apriada, K., & Suardhika, M. S. (2016). The Effect of Share Ownership Structure, Capital Structure and Profitability on Company Value. *E- Jurnal Ekonomi dan Bisnis Universitas Udayana*, 5(2), 201-218.
- [6] Dliyaul Haq, M. (2023). How Digital Thrift Shops Escalate Global Supply Chain Sustainability in Indonesia. *JSSBS (Journal of Social Science and Business Studies)*, 1(1), 6–14.
- [7] Novari, P. M., & Lestari, P. V. (2016). The Influence of Company Size, Leverage, and Profitability on Company Value in the Property and Real Estate Sector. *E-Jurnal Manajemen Unud*, 5(9), 5671-5694.
- [8] Hidayat, G. M. A. M. (2023). Analysis Of Enhancement Of Employee's Performance Strategy Through Mapping Of Organizational Culture In KPKNL Sidoarjo. *JSSBS (Journal of Social Science and Business Studies)*, 1(1), 15–20.
- [9] Sudana, I. M. (2016). *Theory & Practice, Corporate Financial Management*. 2nd Edition. Jakarta: Penerbit Erlangga.
- [10] Hidayat, W. G. P. A. (2023). Analysis Of Community Satisfaction Index On Public Services In Dealing With Industrial Revolution 4.0 In BBTKLP Surabaya. *JSSBS (Journal of Social Science and Business Studies)*, 1(1), 21–26.
- [11] Suidiani, N., & Darmayanti, N. (2016). Effect of Profitability, Liquidity, Growth, and Investment Opportunity Set on Company Value. *E-Jurnal Manajemen Unud*, 5(7), 4545-4547.
- [12] Warner R. M. (2013). *Analysis of Projected Financial Statements and Foreign Exchange*. Jakarta: Salemba Empat.