Panel Data Regression Analysis on Factors Affecting Firm Value in Manufacturing Companies

Trisnadi Wijaya

Universitas Multi Data Palembang, Indonesia

Corresponding Author: trisnadi@mdp.ac.id [1)]

Abstract:
The shareholders' wealth can increase when the company's value increases, which is indicated by the rise in share prices on the stock exchange. This research aims to analyze the factors that influence firm value. Samples were taken using the purposive sampling method and obtained from a selection of 70 manufacturing companies. Data analysis used the panel data regression method, which was processed with EViews 10 program. The Random Effect Model was chosen as the correct model for this research. The research results show that the Current Ratio and Debt to Equity Ratio have no significant effect on firm value. In contrast, firm size and Return on Equity significantly affect firm value.

Introduction

Globalization's influence in today's industrial world has caused company competition to become increasingly fierce and competitive. Business competition in Indonesia has improved year after year, with an increasing number of companies. The competition will force every company to improve its performance to meet its objectives. In addition, companies that go public seek to increase the wealth of their owners or shareholders by increasing firm value.

Firm value is critical because it reflects the company's performance, influencing investors' perceptions of the company. Firm value is one indicator of whether a company is healthy and worthy of investment, and it is also one of the essential goals of establishing a company. The increase in firm value sends a positive signal to investors, resulting in a favorable perception of the company. Investors will be interested in investing in the company's shares if the perception is positive, causing the share price to rise.

The market price of a company's shares can reflect its firm value. The stock market price is the prospective price investors are willing to pay to own a company's shares so that it can be used as a proxy for firm value. Stocks, like the price of goods or commodities in the market, are highly volatile. The rise and fall of stock prices are common in economic theory because it is driven by supply and demand forces. If there is a high demand, the price will rise; if there is a high supply, the price will fall. Several factors influence a company's stock price rise and fall. These factors are divided into two categories: internal factors and external factors. Internal factors are those that arise within the organization. External factors are those that originate outside of the company.

Firm value is measured in this study by the ratio of the stock market price to its book value, also known as the Price to Book Value (PBV) ratio. Price to book value (PBV) describes how much the market values a company's shares based on their book value. The higher this ratio, the more confident the market is in the company's prospects. This PBV measures the value financial markets provide to a company's management and organization as it grows.

PBV is one of the factors that investors consider when deciding which stocks to buy. PBV's primary function is to assist investors in determining an issuer's stock valuation. PBV determines whether a company's stock is cheap or expensive. Most investors want to buy stocks at low prices. PBV is a ratio that can assist investors in calculating it. A PBV ratio below 1 may indicate that the company's stock is undervalued because it is still less than book value. Investors can compare stock prices in the same industry by knowing the PBV value. This allows them to select stocks with the best price and quality to maximize their profits.

PBV indicates how much the company's value has been or is being invested by the company's owner. The greater this ratio, the greater the additional wealth enjoyed by the company's owner (Husnan & Pudjiastuti, 2015). Investors believe the company does not have enough potential if the market price is less than the book value (Prastowo & Julianti, 2015). If investors are skeptical about a stock's prospects, many shares are sold at prices lower than their book value; conversely, if investors are confident, the shares are sold at prices higher than their book values. Companies with a high PBV indicate that investors are more optimistic about the company's future performance (Brigham & Ehrhardt, 2010).

A company's performance is typically measured by how much profit it can generate in a given period. With the company earning high profits, it sends a positive signal to investors about its bright prospects, thereby increasing firm value. Profitability ratios, such as Return on Equity (ROE), assess a company's ability to generate profits. ROE can determine a company's ability to create earnings from shareholder investments.

ROE is one of the most important factors determining a company's ability to manage its investors' capital. If the results of the ROE calculation are higher, the company's reputation will improve in the eyes of capital market participants. This is due to the company's ability to use capital assistance best.

Aside from profitability, other factors that can affect firm value include liquidity, leverage, and firm size. Firm size is one of the variables to consider when calculating firm value. This is because the company's size can indicate its financial strength. It is thought that the size of the company can affect its value because it is easier to generate revenue for the company as its size or scale grows. Companies of increasing sizes demonstrate that the company is expanding, causing investors to react positively and the firm's value to rise. Large companies demonstrate strong business capabilities and performance, giving potential investors confidence. Larger companies can face economic competition because they have better management or control, making them less vulnerable to economic fluctuations (Fau, 2015). The total assets owned by a company can be used to determine its size—the greater the company's total assets, the greater its size.

Investors may consider the company's financial leverage when providing capital to the desired company. Debt to Equity (DER) is one of the ratios used to assess leverage. The ability of the company to use all of its liabilities is reflected in DER, which is indicated by how much of its capital will be used to pay debts. The lower the DER, the more likely the company will meet all its liabilities. If the DER has a high value, it shows that the company is not good enough and has not been able to meet long-term liabilities, which will affect investors' willingness to invest. The high DER has long been a source of concern. Because a high DER implies that the company's obligation to pay debts is also high, on the other hand, investors will not be hesitant to provide funding to the company if the DER is not too high. This indicates that the company's obligation to pay debts is small. Investors also feel secure and are unconcerned if the company suffers a loss. To overcome large debts, businesses must carefully manage their finances, beginning with the manufacturing process and ending with product marketing, because a low debt-to-equity ratio is one of the financial characteristics of a healthy company.

One of the factors that can influence stock price movements is liquidity. A high level of liquidity indicates that the company can meet its short-term liabilities. The Current Ratio measures the company's liquidity. The Current Ratio demonstrates the company's ability to pay current liabilities with current assets (Kasmir, 2018). If a company's Current Ratio is above 1, its liquidity position may appear healthy. Meanwhile, suppose the company's Current Ratio is below 1. In that case, it indicates that its liquidity position is considered unhealthy and must be evaluated immediately so that financial conditions do not worsen—the higher the Current Ratio, the greater the company's ability to cover its short-term liabilities. Suppose the

company is thought to be able to pay off its short-term liabilities. In that case, the company is in good condition, which impacts rising stock prices because investors prefer to invest in companies in good financial shape.

Based on the above description, the researcher wishes to research the factors influencing firm value in manufacturing companies listed on the Indonesia Stock Exchange. The problems to be solved can be formulated based on the background and the existence of a research gap: 1) Does the Current Ratio (CR) impact firm value? 2) Does the Debt to Equity Ratio (DER) impact firm value? 3) Does Firm Size have an impact on firm value? 4) Does Return on Equity (ROE) impact firm value?

This study focuses on several fundamental factors, particularly internal ones, that can affect firm value. Based on the objectives to be achieved, the researchers require limitations in this study with the scope of discussion about the effect of Current Ratio, Debt To Equity Ratio, Firm Size, and Return on Equity on Firm Value in manufacturing companies listed on the Indonesia Stock Exchange from 2018 to 2020.

Hypotheses Development

The Effect of Current Ratio on Firm Value

The current ratio is a ratio that is used to assess a company's ability to meet its short-term liabilities using its current assets. A low current ratio indicates a high liquidity risk, whereas a high current ratio indicates an overabundance of current assets, which will have a negative impact on the company's profitability. Previous studies have found that the current ratio has a negative and statistically significant effect on stock prices. These findings suggest that the higher a company's current ratio, the lower its stock price. This is because the company's high current ratio demonstrates its ability to pay its short-term obligations (Munawir, 2016). On the other hand, companies with high liquidity will not necessarily attract investors because a high current ratio indicates uncollected receivables or unsold inventory, which will negatively impact the company's profitability. As a result, the following hypothesis is proposed in this study:

H_1: Current Ratio (CR) affects Firm Value.

The Effect of Debt to Equity Ratio on Firm Value

The Debt to Equity Ratio is a ratio that compares and evaluates the amount of debt to the amount of equity. (Kasmir, 2018). This ratio helps determine how much of one's capital is being used as collateral for the debt. The lower the DER, the more likely the company will meet all its liabilities. The greater the proportion of debt used in a company's capital structure, the greater the number of liabilities.

The trade-off theory of leverage is a theory that explains how the optimal capital structure is found by balancing the benefits of funding with higher debt, interest rates, and bankruptcy (Brigham & Houston, 2006). According to the trade-off theory, if the capital structure is not at its optimal point, any additional debt will increase the company's value. However, additional debt will reduce the company's value if the capital structure is above optimal. Therefore, assuming the optimal capital structure has not been reached, the trade-

off theory predicts a positive relationship to firm value. As a result, the following hypothesis is proposed in this study:

H_2: Debt to Equity Ratio (DER) affects Firm Value.

The Effect of Firm Size on Firm Value

Total assets, total net sales, an average level of sales, and average total assets can all be used to determine the size of a company. The greater the total assets or assets of a company, the larger the company. The greater the company's assets, the greater the invested capital, and high sales will increase the company's money turnover. Thus, firm size refers to the size or magnitude of the company's assets.

Large companies have greater control over market conditions, allowing them to compete in the economy, and making them less vulnerable to economic fluctuations (Fau, 2015). Furthermore, because large companies have better access to external information sources than small ones, they have more resources to increase the company's value. As a result, the following hypothesis is proposed in this study:

H_3: Firm Size affects Firm Value.

The Effect of Return on Equity on Firm Value

Return on Equity (ROE) is a company's net profit ratio to its core capital (Kasmir, 2018). This ratio demonstrates the effectiveness of using one's capital. A high ROE indicates something positive, implying that the owner's position is strengthening and vice versa.

ROE is a profitability measurement demonstrating a company's ability to generate net income and return shareholder equity. A high ROE is a positive signal from the company, increasing investor confidence and making it easier for management to attract capital in the form of shares. When the demand for shares rises, so does the share price in the capital market, implying that the firm's value also rises. As a result, the following hypothesis is proposed in this study:

H_4: Return on Equity (ROE) affects Firm Value.

Research Method

This study makes use of secondary data obtained from the Indonesia Stock Exchange. The information is in the form of annual financial reports on manufacturing companies listed on the Indonesia Stock Exchange between 2018 and 2020.

The documentation method is used in this study to collect and record data related to the problem under study from company documents such as annual financial reports.

This study's population comprises all manufacturing companies listed on the Indonesia Stock Exchange. The Basic and Chemical Industry sector has 80 companies, the Miscellaneous Industry sector has 53 companies, and the Consumer Goods Industry sector has 63 companies (Bursa Efek Indonesia, 2020). As a result, the population consists of 196 manufacturing firms. Purposive sampling was used to collect the sample for this study. The following are the sampling criteria established by the researcher:

1. Manufacturing companies were listed on the IDX consecutively from 2018-2020.
2. The companies issue financial statements for the period 2018-2020.
3. The companies' financial statements use the rupiah currency (Rp).
4. The companies did not experience a loss from 2018-2020.

The sample selection process is depicted in Table 1 below based on the criteria determined by the researcher.

Table 1
Sample Selection Process

No.	Criteria	Amount
1.	Manufacturing companies were listed on the IDX consecutively from 2018-2020.	166
2.	Companies that do not issue financial statements during the period 2018-2020.	(24)
3.	Companies' financial statements do not use rupiah (Rp).	(26)
4.	Companies that experience losses during the period 2018-2020.	(46)
5.	Number of research samples	70
6.	Number of observations = 70 × 3 years	210

Source: Researcher, 2022

This study used panel data regression analysis as a data analysis technique. In general, the basic equation of panel data regression is as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \varepsilon_{it} \qquad (1)$$

Description:

Y = Firm value

α = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = Independent variable regression coefficient

X_1 = Current Ratio (CR)

X_2 = Debt to Equity Ratio (DER)

X_3 = Firm size

X_4 = Return on Equity (ROE)

Panel data regression is an extension of multiple linear regression. Both are equally useful in predicting the regression model parameters. The method used to estimate the panel data regression model, namely:

1. Common Effect Model (Pooled Least Square Model or Pooled Regression)

   This is the most basic model in panel data regression. This model estimates regression parameters by combining cross-section data and time series using Ordinary Least Squares (OLS) (Baltagi, 2021). The Common Effect Model looks like this (Gujarati, 2004):

   $$Y_{it} = \alpha + \beta_1 X_{1it} + ... + \beta_n X_{nit} + u_{it} \qquad (2)$$

   Where i represents the i-th cross-sectional unit, and t represents the t-th time period.

2. Fixed Effect Model

   This model assumes that different objects have different effects. Differences in the characteristics of objects and periods are accommodated in this model by changing the intercept with the period. Because the Fixed Effect Model employs a dummy variable to estimate an unknown parameter, it is known as the Least Square Dummy Variable (LSDV) Model. The following equation describes the Fixed Effect Model (Gujarati, 2004):

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$$Y_{it} = \alpha_1 + \alpha_2 D_{2i} + ... + \alpha_n D_{ni} + \beta_2 X_{2it} + ... + \beta_n X_{nit} + u_{it} \qquad (3)$$

3. Random Effect Model

This model assumes that the object's effect is random or random for the entire cross-section. In contrast to the Fixed Effect Model, differences in object and period characteristics are accommodated by errors (Nachrowi & Usman, 2006). The Random Effect Model is defined as follows (Gujarati, 2004):

$$Y_{it} = \alpha + \beta_1 X_{1it} + ... + \beta_n X_{nit} + \varepsilon_i + u_{it} \qquad (4)$$

The following are the data analysis steps in this study:

1. Model selection for panel data regression estimation

The three panel data regression estimation models will determine which model best suits the research objectives. Two tests will be performed to select the panel data regression model: the Chow test and the Hausman test.

a. Chow Test

Chow test is used to determine which model is more right between Common Effect and Fixed Effect. Choose the Common Effect if the p-value is above 0.05; otherwise, choose the Fixed Effect if the p-value is below 0.05.

b. Hausman Test

The Hausman test was used to determine the correct model between Random and Fixed Effect. If the p-value is above 0.05, use a Random Effect; otherwise, use a Fixed Effect.

2. Classic assumption test

Following the selection of the best model, the classical assumptions are tested. The equation derived from an estimate can be statistically operated according to the classical assumptions: it is free of multicollinearity, heteroscedasticity, and autocorrelation and is normally distributed.

3. Significance test

The significance test comes after all of the classical assumption tests have been passed. A significance test is a procedure used to determine whether or not a regression model has been created. The F test, t-test, and coefficient of determination are all part of this test.

Finally, based on the panel data regression analysis result, conclude the panel data regression model for the factors that affect the value of manufacturing companies.

Figure 1 depicts the conceptual framework of this study.
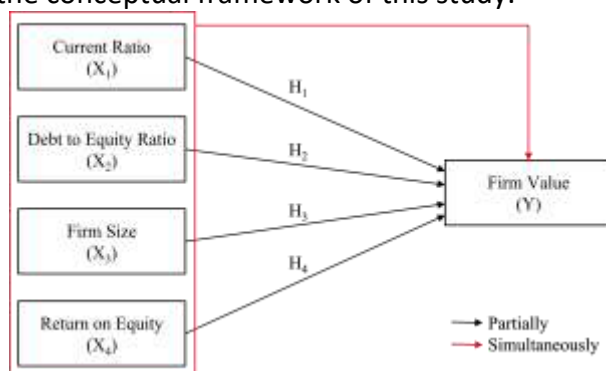
Source: Researcher, 2022

Figure 1
Conceptual Framework

Result and Discussion

a)   Model Selection

Figure 2 shows the result of the Chow test to determine whether to use the Common Effect or Fixed Effect Model.

Source: EViews output, 2022

Figure 2
Chow Test Result

According to Figure 2, the p-value of Cross-section F is 0.0000 and Cross-section Chi-square is 0.0000, both below 0.05, implying that the Fixed Effect Model was used rather than the Common Effect Model. Because the Chow test result shows that the Fixed Effect Model is the correct model, the Hausman test is required to determine which model is suitable to use between the Fixed Effect Model and the Random Effect Model.

Figure 3 displays the result of the Hausman test to determine which of the Fixed Effect Model and the Random Effect Model should be used.

Source: EViews output, 2022

Figure 3
Hausman Test Result

According to Figure 3, the p-value of the Cross-section random is 0.1877, which is above 0.05, implying that the Random Effect Model is a correct model to use than the Fixed Effect Model. Because the Random Effect Model was selected, the final step must be a Lagrange

Multiplier (LM) test to determine which model to use between the Random Effect Model and the Common Effect Model.

The result of the Lagrange Multiplier test to choose between the Random Effect Model and the Fixed Effect Model is shown in Figure 4.

Source: EViews output, 2022

Figure 4. LM Test Result

According to Figure 4, the p-value of Breusch-Pagan is 0.0000, which is below 0.05, implying that the Random Effect Model is more right than the Fixed Effect Model. With the Random Effect as the best model chosen, the panel data regression equation is as follows:

Source: EViews output, 2022

Figure 5

Random Effect Model Estimation

$$Y = -1.363996 + 0.014762X_1 + 0.100693X_2 + 0.060719X_3 + 0.142375X_4 \qquad (5)$$

Where:

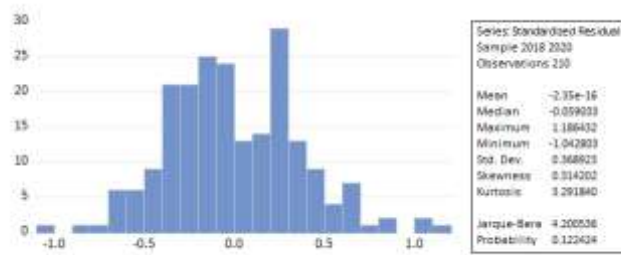Y = Firm value

X_1 = Current Ratio (CR)

X_2 = Debt to Equity Ratio (DER)

X_3 = Firm size

X_4 = Return on Equity (ROE)

b) **Classic Assumption Test**

Figure 6 shows the result of normality testing using the Jarque-Bera method.

Source: EViews output, 2022
Figure 6
Normality Test Result

According to Figure 6, the p-value of the Jarque-Bera test result is 0.122424, above 0.05, indicating that the residuals are normally distributed.

The result of multicollinearity testing using the correlation matrix method is shown in Table 2.

Table 2
Multicollinearity Test Result

	X1	X2	X3	X4
X1	1.000000	-0.826054	-0.244372	-0.103980
X2	-0.826054	1.000000	0.220638	0.145150
X3	-0.244372	0.220638	1.000000	0.263075
X4	-0.103980	0.145150	0.263075	1.000000

Source: EViews output, 2022

According to Table 2, the independent variables do not have a high correlation because the correlation coefficient is still below 0.90, indicating that the regression model does not have multicollinearity (Field, 2018).

Figure 7 shows the results of heteroscedasticity testing using the Glejser method.

Source: EViews output, 2022
Figure 7

Heteroskedasticity Test Result

According to Figure 7, the Prob (F-statistic) value is 0.086607, which is above 0.05, indicating no heteroscedasticity in the regression model.

The Durbin-Watson method was used in this study for the autocorrelation test. Based on Table 5, the D-W value is 1.620316, indicating that the regression model is free of autocorrelation issues because the D-W value is between 1.5 and 2.5 (Gujarati, 2004).

c) Hypothesis Test

The t-test was used to determine the impact of individual independent variables on the dependent variable when other independent variables were held constant (Sanusi, 2013). According to Table 5, the X_1 variable has a p-value of 0.8911, and the X_2 variable has a p-value of 0.3315, both above 0.05, indicating the Current Ratio and Debt to Equity Ratio have no significant effect on the Firm Value. While the p-value for the X_3 variable is 0.0205 and the p-value for the X_4 variable is 0.0000, both are below 0.05, indicating that Firm Size and Return on Equity have a significant effect on Firm Value.

The F-statistic test determines how much influence the independent variables have on the dependent variable as a whole or in combination (Sanusi, 2013). Based on Table 5, it can be seen that the value of Prob(F-statistic) 0.000003 is below 0.05, so it can be stated that all independent variables (Current Ratio, Debt to Equity Ratio, Firm Size, and Return on Equity) simultaneously have a significant effect on Firm Value.

In essence, the coefficient of determination R^2 measures the model's ability to explain variations in the independent variables to assess the model's goodness (goodness of fit). That is how the regression of established value based on data works. The determination coefficient values range between 0 and 1 ($0 < R^2 < 1$), and a small value (R^2) indicates that the ability of the independent variables to explain variation in variables is very limited. A value close to one indicates that the independent variable contains nearly all the information required to predict the variation dependent models (Sanusi, 2013). According to Table 5, the Adjusted R-squared value is 0.124456, indicating that 12.4456 percent of the independent variables (Current Ratio, Debt to Equity Ratio, Firm Size, and Return on Equity) influence Firm Value, while variables outside the research model influence the remaining 87.5544 percent.

The Effect of Current Ratio on Firm Value

Based on the research results, the Current Ratio variable has no significant effect on Firm Value. A high current ratio indicates the presence of idle funds. This means that profit is reduced because the assets obtained are primarily used to pay off short-term debt, cannot be used as a benchmark for investment decisions, and have no effect on firm value. The results of this study are in line with previous research conducted by (Jayanti, 2018), (Simanungkalit & Silalahi, 2018), (Kurniasari, 2020), and (Mujiono & Hakim, 2021). On the other hand, (Utami & Welas, 2019) and (Listyawati & Kristiana, 2020) found a significant effect of the Current Ratio on Firm Value.

The Effect of Debt to Equity Ratio on Firm Value

Based on the research results, the Debt to Equity Ratio variable has no significant effect on Firm Value. The use of debt to increase firm value in this study may not be optimal, according to trade-off theory. This indicates that a company's capital value above debt has not demonstrated the company's ability to optimize the use of debt to increase company value because, in the Indonesian capital market, stock price movement and the creation of company value added are caused by market conditions. Investors are unconcerned about the size of the company's debt because they see how the company's management uses these funds effectively and efficiently to add value to the company's value. This study's results align with previous research conducted by (Jayanti, 2018) and (Simanungkalit & Silalahi, 2018). On the other hand, research conducted by (Israel et al., 2018), (Utami & Welas, 2019), (Kurniasari, 2020), (Listyawati & Kristiana, 2020), (Mujiono & Hakim, 2021), and (Setiawan et al., 2021) found a significant effect of the Debt to Equity Ratio on Firm Value.

The Effect of Firm Size on Firm Value

Based on the study's results, the Firm Size variable significantly affects Firm Value. A large corporation will have easier access to the capital market. Large companies benefit from greater flexibility and the ability to obtain funds more quickly due to this convenience. This means that investors are more interested in purchasing large corporations' shares, increasing the company's value. The results of this study are in line with previous research conducted by (Jayanti, 2018), (Listyawati & Kristiana, 2020), and (Setiawan et al., 2021). On the other hand, research conducted by (Israel et al., 2018) and (Simanungkalit & Silalahi, 2018) did not find any significant effect of Firm Size on Firm Value.

The Effect of Return on Equity on Firm Value

Based on the research results, the Return on Equity variable significantly affects Firm Value. Based on these findings, it is possible to conclude that the higher the ROE, the greater the company's ability to generate profits, resulting in high company profitability. A high ROE value signals to investors that the company can earn in favorable conditions. This incentivizes investors to purchase company stock, raising the share price and increasing the company's value. Return on Equity (ROE) should be considered by investors when investing in stocks because Return on Assets measures a company's efficiency in using assets to generate profits. The results of this study are in line with previous research conducted by (Jayanti, 2018), (Simanungkalit & Silalahi, 2018), and (Listyawati & Kristiana, 2020). On the other hand, research conducted by (Suyanto & Risqi, 2022) and (Tanjung & Halawa, 2022) did not find any significant effect of the Return on Equity on Firm Value.

Conclusion

Several conclusions can be drawn from the research findings, which are as follows: 1) The Current Ratio variable has no significant effect on the Firm Value with a p-value of 0.8911

above 0.05. 2) The Debt to Equity Ratio variable has no significant effect on Firm Value with a p-value of 0.3315 above 0.05. 3) The Firm Size variable significantly affects the Firm Value with a p-value of 0.0205 below 0.05. 4) The Return on Equity variable significantly affects Firm Value with a p-value of 0.0000 below 0.05.

Based on the research results, the Firm Size and Return on Equity variables have a positive and partially significant effect on Firm Value. Manufacturing companies should pay attention to the company's growth and ROE ratio because investors are more interested in investing in companies that continue to experience growth in terms of profitability. In addition, companies can submit reports on the results of projected performance for the coming year to show how good the company's prospects are. Controlling bad news about the company can also reduce the negative sentiment of investors who invest in the company. With this interest, investors will try to find and buy company shares in large quantities so that the firm value of the company increases from the boost in stock prices.

This research is inextricably linked to its limitations, and it is hoped that these limitations will be considered in the practice and development of subsequent research. The following are some of the study's limitations: 1) 1. Because this study only lasted three years, from 2018 to 2020, further research could add another year. 2) The dependent variable is limited to four factors, even though many other factors can influence firm value. Based on the existing limitations, further research is suggested to increase the research period, expand the research sample, change the object of study in a specific sector or index, and add variables. Furthermore, additional researchers can calculate the firm value using other proxies such as Price Earning Ratio, Tobin's Q, and Market to Book Value to Asset (MBVA).

References

Baltagi, B. H. (2021). *Econometric Analysis of Panel Data* (6th ed.). Springer.

Brigham, E. F., & Ehrhardt, M. C. (2010). *Financial Management: Theory and Practice* (13th ed.). Cengage Learning.

Brigham, E. F., & Houston, J. F. (2006). *Dasar-Dasar Mamajemen Keuangan* (10th ed.). Salemba Empat.

Bursa Efek Indonesia. (2020). *IDX Yearly Statistics 2020*.

Fau, N. R. (2015). *Pengaruh Struktur Modal, Pertumbuhan Perusahaan, Ukuran Perusahaan dan Profitabilitas terhadap Nilai Perusahaan pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia*. Universitas Negeri Yogyakarta.

Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). Sage Publications Inc.

Gujarati, D. N. (2004). *Basic Econometrics* (4th ed.). McGraw-Hill.

Husnan, S., & Pudjiastuti, E. (2015). *Dasar-Dasar Manajemen Keuangan* (7th ed.). UPP STIM YKPN.

Israel, C., Mangantar, M., & Saerang, I. S. (2018). Pengaruh Struktur Modal, Kepemilikan Institusional dan Ukuran Perusahaan terhadap Nilai Perusahaan pada Perusahaan Pertambangan yang Terdaftar di BEI. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, *6*(3), 1118–1127. https://doi.org/10.35794/emba.v6i3.20073

Jayanti, F. D. (2018). Pengaruh Profitabilitas, Struktur Modal, Likuiditas dan Ukuran Perusahaan terhadap Nilai Perusahaan. *Jurnal Bingkai Ekonomi*, *3*(2), 34–44.

Kasmir. (2018). *Analisis Laporan Keuangan* (11th ed.). Rajawali Pers.

Kurniasari, E. (2020). Pengaruh Current Ratio, Debt to Equity Ratio, dan Total Asset Turnover terhadap Nilai Perusahaan. *INTELEKTIVA: Jurnal Ekonomi, Sosial Dan Humaniora*, *2*(5), 86–95.

Listyawati, I., & Kristiana, I. (2020). Pengaruh Return on Equity, Current Ratio, Size Company dan Debt to Equity Ratio terhadap Nilai Perusahaan. *Maksimum*, *10*(2), 47–57. https://doi.org/10.26714/mki.10.2.2020.47-57

Mujiono, F., & Hakim, A. D. M. (2021). Pengaruh Current Ratio, Debt to Equity Ratio, Return on Asset, dan Pertumbuhan Perusahaan terhadap Nilai Perusahaan (Studi Empiris pada Perusahaan Sub Sektor Logam dan Sejenisnya yang Terdaftar di Bursa Efek Indonesia Periode 2016-2020). *Jurnal Ekonomika Dan Manajemen*, *10*(1), 1–13.

Munawir. (2016). *Analisa Laporan Keuangan* (4th ed.). Liberty.

Nachrowi, D. N., & Usman, H. (2006). *Pendekatan Populer dan Praktis Ekonometrika untuk Analisis Ekonomi dan Keuangan*. Lembaga Penerbit FE UI.

Prastowo, D., & Julianti, R. (2015). *Analisis Laporan Keuangan: Konsep dan Aplikasi* (2nd ed.). UPP STIM YKPN.

Sanusi, A. (2013). *Metodologi Penelitian Bisnis*. Salemba Empat.

Setiawan, M. R., Susanti, N., & Nugraha, N. M. (2021). Pengaruh Struktur Modal, Perputaran Modal Kerja, dan Ukuran Perusahaan terhadap Nilai Perusahaan. *Owner: Riset Dan Jurnal Akuntansi*, *5*(1), 208–218. https://doi.org/10.33395/owner.v5i1.383

Simanungkalit, R. W. br, & Silalahi, E. R. R. (2018). Pengaruh Ukuran Perusahaan, Return on Equity, Debt to Equity Ratio dan Current Ratio terhadap Nilai Perusahaan pada Perusahaan Makanan dan Minuman yang Terdaftar di Bursa Efek Indonesia. *JRAK*, *4*(2), 213–232.

Suyanto, & Risqi, U. A. (2022). Pengaruh Return on Asset dan Return on Equity terhadap Nilai Perusahaan dengan Ukuran Perusahaan sebagai Variabel Moderasi. *Al-Kharaj : Jurnal Ekonomi, Keuangan & Bisnis Syariah*, *4*(4), 1122–1133. https://doi.org/10.47467/alkharaj.v4i4.846

Tanjung, K. R., & Halawa, S. (2022). Pengaruh Return on Assets dan Return on Equity terhadap Nilai Perusahaan pada Perusahaan Manufaktur Sektor Otomotif dan Komponennya yang Terdaftar di Bursa Efek Indonesia. *Jurnal Neraca Agung*, *12*(1), 1–8.

Utami, P., & Welas. (2019). Pengaruh Current Ratio, Return on Asset, Total Asset Turnover dan Debt to Equity Ratio terhadap Nilai Perusahaan (Studi Empiris pada Perusahaan

Manufaktur Sub Sektor Properti dan Real Estate yang Terdaftar di Bursa Efek Indonesia Periode 2015-2017). *Jurnal Akuntansi Dan Keuangan*, *8*(1), 57–76.