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THE EFFECT OF LIQUIDITY, SOLVABILITY, FIRM GROWTH, AND FIRM SIZE ON PROFITABILITY

Alexandra Dewi Wijayanty[1], Liana Susanto[1*]

[1]Faculty of Economics and Business, Universitas Tarumanagara, West Jakarta - 11470, Indonesia
[*]*Email: lianas@fe.untar.ac.id*

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ABSTRACT

This research is designed to determine the factors that affect profitability in manufacturing companies listed on the Indonesia Stock Exchange for the 2018-2020 period. As many as 33 manufacturing companies have been selected using the purposive sample method in this study. The research data were processed using multiple linear regression analysis techniques with EViews 12 software. The result of this research indicate that profitability is not significantly affected by liquidity and firm size. Profitability is negatively affected by solvability. Firm growth has positive effect on profitability.

***Keywords**: liquidity, solvability, firm growth, firm size, profitability*

1. BACKGROUND

These days, the Indonesia and world economies are experiencing growth and development. This economic growth and development create intense competition between companies. These companies are competing to show the best performance in achieving company goals. The company’s goal is to make a profit. In addition to creating competition between companies, this economic growth and development also encourage companies to expand. In an attempt to grow the business, the company needs more funds. The company funding consists of equity capital and loans. Own equity comes from the company shareholders or investors. Meanwhile, loans come from debts to third parties. Therefore, the company needs to be able to convince investors and creditors about the company's performance.

Before investors invest capital or creditors provide loans, there are several considerations regarding company feasibility. Many indicators can show the company's performance. The level of profitability is the way to see the company's performance. The higher the profitability level of a company is, the better the company's performance will be. Profitability is the capacity of the company to make profits (Saraswathi et al., 2016). Profitability can help the company to attract investors to invest their capital and make creditors provide loans.

Profitability can be influenced by various factors, such as liquidity, solvability, firm growth, and firm size. Liquidity reflects company’s ability to pay short-term liability (Yanthi and Sudiartha, 2016). The higher the liquidity value, the greater the company because it shows that the company can pay short-term liability and finance daily operations. Liquidity has a close relationship with profitability because liquidity shows the level of working capital availability needed by the company for its operational activities. The result of research by (Meidiyustiani, 2016) showed that liquidity has a significant and positive effect on company profitability. However, the result of research by (Yanthi and Sudiartha, 2016) proved that the effect of liquidity on profitability is significant and negative.

Solvability showed company's ability to pay long-term liability. Solvability is also able to measure how much company is supported by debts. The higher solvency value, the lower company's profitability. The result of the study conducted by (Sari et al., 2020) proved that solvability has significant and negative effect on profitability. The other research by (Rahmah et al., 2019) result that the profitability of a company is positively and significantly affected by solvability.

Firm growth can be seen from changes in the total asset owned by the company. These changes can be negative or positive. When the total amount of asset owned by the company form this year increase compared to the last year, the company has positive changes and expects the firm growth. When the level of company's growth rate is high, it indicates that total assets owned by the company are increasing. The total asset can be used by the company to gain more profit. The research by (Saraswathi et al., 2016) showed that profitability is significantly and positively affected by company growth. The result of study by (Abbasi and Malik, 2015) proved that firm growth has significant and negative effect on profitability.

Firm size can be determined by the total asset owned by the company. A company with a large total amount of assets means that the company has a big size. These can increase a company's profitability because the asset can use to fund the operations that can earn more profit. The studies conduct by (Lontoh et al., 2019) proved that the profitability of the firm is significantly and positively affected by firm size. The result of research by (Sukmayanti and Triaryati, 2019) showed that profitability is affected significantly and negatively by its size.

The result it of study above shows that there is inconsistent correlation between profitability and other independent variables. These encourage to do research to see the factors that affect company profitability.

2. LITERATURE STUDY

Signaling Theory

Signaling theory, according to Spence (1973), is a theory that explains the behavior between two parties when parties access different information. This theory explains the actions taken by the signaler to influence the behavior of the signal receiver. This theory also explains that management provides signals in the form of information regarding the disclosure of financial information to investors.

Profitability

According to (Saraswathi et al., 2016), profitability ratio is an indicator of a firm's capacity to make profit. A high level of profitability showed the good performance of the company. Company profitability also can reflect the company's effectiveness and efficiency. With higher profitability, investors can be attracted to invest in the company.

Liquidity

Liquidity is a rasio that describes the capability of a company to pay its current liabilities using its current asset at maturity date (Ambarwati et al., 2015). The high liquidity rate shows that if a company has the ability of a company to pay its current liability. On the other hand, the higher the liquidity rate of a company, the lower the profitability rate of a company, This reason is

because when a company at a high level of liquidity, it can indicate that assets that should be used by a company to increase its profit is unemployed. According to (Yanthi and Sudiartha, 2017), the liquidity rasio has a significant negative effect on profitability rate of a company.
Ha_1: Liquidity has a negative effect on profitability.

Solvability

Solvability based on (Supatmin, 2021) is a rasio frequently used to measure how much a company's aset is funded by its liabilities. In other words, solvability ratio can also be used to know the capacity of a company to settle its current liabilities and long-term liabilities (Kalesaran et al., 2020). The higher level of solvability rasio shows that the company is not on a good condition because it has more liabilities than capital. When a company can not manage its liabilities or use too much of its liabilities, then its profit will be likely to be decreased. (Sari et al., 2020) stated that the solvability variable has a significant negative effect towards the profitability rate
Ha_2: Solvability has a negative effect on profitability.

Firm Growth

The definition of firm growth according to (Kalesaran et al., 2020) is a ratio showing the increase and decrease in a company's total assets in a certain period. When a company grows bigger, it expresses that a company is getting better in their finansial position because its total assets is increasing that they can be used to develop the company and increase its profit. In conclusion, the higher the growth rate of a company, the higher the profitability rate of a company. According to (Saraswathi et al., 2016), the firm growth gave a positive impact towards profitability.
Ha_3: Firm growth has a positive effect on profitability.

Firm Size

(Sukadana and Triaryati, 2018) announced that the size of a company can be seen from the number of a company's total assets. When a company has a huge amount of total assets, the company will have an opportunity to utilize its resources in obtaining higher profits. Hence, it is hoped that the bigger size of a company will increase its profit. Based on (Lontoh et al., 2019) research, the firm size has a positive impact on a company's profitability.
Ha_4: Firm size has a positive effect on profitability.

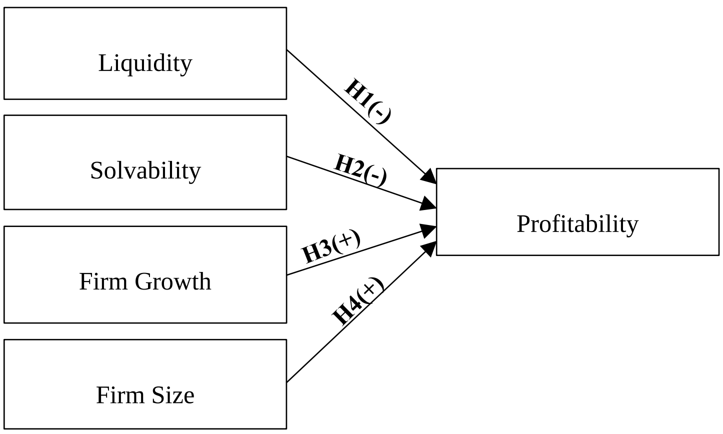

Figure 1 Research Model

3. METHODOLOGY

This paper contains quantitative research. The population of this research are companies in the manufacturing sector listed in IDX during 2017-2020 period. This research using purposive sampling techniques to select the sample. By using purposive sampling techniques, there are criteria: a) Manufacturing companies listed on the Indonesia Stock Exchange during 2017-2020 period; b) Manufacturing companies that present audited financial statements ending on December 31; c) Manufacturing companies that earn profit; and e) Companies that achieved positive asset growth. The criteria are met by 33 companies as samples.

Profitability is the ratio between profit and assets expressed in percentage (Jayanti and Sukarno, 2020). Profitability can describe the performance of a company. In this research, the profitability is proxied by Return on Asset (ROA). ROA according to (Bintara, 2020) can be calculated using the following formula:

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

Liquidity is the capability of a company to cover short-term liability using current asset (Ambarwati et al., 2015). Liquidity is measured by current ratio in this study, is the division between current asset and current liabilities (Sholichah et al., 2021).

$$CR = \frac{Current\ Asset}{Current\ Liabilities}$$

According to (Sholichah et al., 2021), solvency or leverage is the company's ability to meet its financial obligations when the company is liquidated. In this study, solvency is proxied by the Debt-to-Equity Ratio (DER). DER is a financial ratio that shows the proportion between total debt and total shareholder equity used to finance company assets. The following is the DER formula according to (Arimbawa et al., 2018):

$$DER = \frac{Total\ Liabilities}{Total\ Equity}$$

Firm growth refers to an increase or decrease in total assets owned by the company during one period. According to (Saraswathi et al., 2016), company growth is calculated using the following formula:

$$Growth = \frac{Total\ Asset\ (t) - Total\ Asset\ (t-1)}{Total\ Asset\ (t-1)}$$

According to (Jayanti and Sukarno, 2020), firm size is a measure of the size of a company. The company size in this research is proxied by the total assets possessed by the company. The following is the company size formula according to (Jayanti and Sukarno, 2020) is as follows:

$$Size = Ln\ Total\ Aset$$

In this research using panel data that combine time series data and cross section data. To define the best model for estimating panel data, the data were tested by using Chow test, Hausman test, and Lagrange-Multiplier Test and the regression equation is displayed as follows:

$$ROAit = -0.220431 - 0.000766CR - 0.108346DER + 0.183222FG + 0.011996FS + e$$

Description:
ROA : Profitability
α : Constant
CR : Liquidity
DER : Solvability
FG : Firm growth
FS : Firm size
i : i-th company
t : t-th period
e : Error

4. RESULTS

According to Ghozali (2021), descriptive statistics test is a test that give a benefit in a form of picture or information of data that can be seen from average value (mean), standard deviation, median value, minimum value, and maximum value.

The mean value of the solvability variable proxied by debt to equity rasio (DER) is 0.574516 according to descriptive statistic test result. Then, the median value and standard deviation value of this variable is 0.411263. The maximum value of solvability is 1.754226, and the minimum value of debt to equity ratio is 0.094052.

Table 1 Descriptive Statistics Test Result

	ROA	CR	DER	FG	FS
Mean	0.082027	3.276554	0.574516	0.120314	28.77281
Median	0.078346	2.701246	0.445816	0.088388	28.66107
Maximum	0.257499	10.47979	1.754226	0.631094	31.55675
Minimum	4.93E-07	0.874816	0.094052	0.005993	25.95468
Std. Dev.	0.064215	1.895819	0.411263	0.106919	1.495292
Observations	99	99	99	99	99

Source: EViews version 12 SV

Table 1 depicts the mean, median, maximum, minimum, and standard deviation value of the research variable: profitability (ROA), liquidity (CR), solvability (DER), firm growth (FG), and firm size (FS). The observation shows the number of data used in this study which is as much as 99 data for three years from 2018 to 2020.

According to statistic descriptive result table, return on asset (ROA) which is the proxy of profitability variable has the mean value of 0.082027 showing the average value of ROA or the rasio of net income and total assets. The profitability variable has the median value of 0.078346 and standard deviation value of 0.064215 in which the value is bigger than the average or mean value. In other words, the profitability variable data has a high variation. The maximum value of the profitability value is 0.257499, while the minimum value of profitability variable is 4.93E-07 or 0.000000493.

The current ratio (CR), the proxy of liquidity variable, has a mean value of 3.276554. The liquidity value has a median value of 2.701246 and standard deviation value of 1.895819. The maximum and minimum value of this variable is 10.47979 and 0.874816 consecutively.

Descriptive statistic test result shows that the firm growth variable has a minimum value of 0.005993 and maximum value of 0.631094. This variable has a mean value of 0.120314. While the median value and standard deviation of value the firm growth is 0.088388 and 0.106919 consecutively.

The mean value of the firm size variable is 28.77281. According to descriptive statistic result, this variable has the median value of 28.66107 and the standard deviation value of 1.495292. The maximum value of the firm growth variable is 31.55675. While, the minimum value of this variable is 25.95468.

Table 2 The Result of Random Effect Model in Multiple Linear Regression

Variable	Coefficient	Std. Error	t-Statistics	Prob
C	-0.220431	0.175341	-1.257158	0.2118
CR	-0.000766	0.002972	-0.257624	0.7973
DER	-0.108346	0.019979	-5.422973	0.0000
FG	0.183222	0.033324	5.498207	0.0000
FS	0.011996	0.006236	1923573	0.0574
R^2		0.362648		
Adjusted R^2		0.335526		
Prob (F-statistics)		0.000000		

Source: EViews version 12 SV

The table above showed the result of multiple regression analysis. By the seen table above, it can be concluded that liquidity with a prob (t-statistics) value of 0.7973 and firm size with a prob (t-statistics) value of 0.0574 have no significant impact on profitability. Solvability has a negative and significant effect on profitability with a Prob (t-statistics) value of 0.0000. Firm growth has a positive and significant impact on the company’s profitability with a prob (t-test) value of 0.000. The value of adjusted R-squared 0.335526 indicates that the variable of liquidity, solvability, firm growth, and firm size can explain the variation in the company’s profitability value variable by 33.5526% while the remaining 66.4474% of the variation in profitability was explained by other variables that were excluded from this research.

5. DISCUSSIONS

Profitability is not significantly affected by liquidity. If the company's liquidity is too high, it can show that the company does not use the available asset to invest and develop its business so it cannot increase its profits. However, if the company uses its assets to develop its business, then the company's profit may increase. The results of this study are in line with previous research, namely research conducted by (Ambarwati, 2015) and research by (Pitoyo and Lestari, 2018). However, the results of this study contradict research conducted by (Meidiyustiani, 2016) and (Bintara, 2020) where the results of these studies state that liquidity has a positive significant effect on company profitability. Then the results of this study are also not in accordance with research conducted by (Yanthi and Sudiartha, 2017) which shows that liquidity has a significant negative effect on company profitability.

Solvency has a significant and negative effect on profitability. Solvency shows the company's ability to pay its long-term debt. In addition, solvency can also show how much liquidity is financed by the capital owned by the company. Therefore, the higher level of solvability, shows that the condition of the company is not good because the amount of debt is greater than the amount of capital owned When the company cannot manage the use of its debt, the debt that should be used to increase business is not used properly. So that the company should get a profit but instead the profit earned by the company goes down due to the use of high debt. The use of high debt makes the company need to pay these obligations along with high interest which can reduce the company’s profitability. This result is in line with the results of research conducted by (Bintara, 2020) and (Sari et al., 2020). However, it is contrary to the results of research conducted by (Gunde et al., 2017) which shows that solvency (Debt-to-Equity Ratio) has a significant positive effect on company profitability. The results of this research are also not in line with research conducted by (Setiadewi and Purbawangsa, 2015) which shows that solvency has no significant effect on profitability.

Company growth has a significant positive effect on company profitability, which is an increase or decrease in total assets owned by the company. When the company experiences an increase in total assets, the company experiences company growth. Company growth is one of the factors that affect profitability. This is because the amount of total assets that experience this growth can be utilized by the company to be able to develop its business so as to increase the company's profitability. Based on the results of this study, it can be concluded that if the company is experiencing growth (increase), profitability will increase. The results of this study are in line with research conducted by (Saraswathi et al., 2016). Meanwhile, based on research conducted by (Abbasi and Malik, 2015), company growth has a significant negative effect on profitability. The results of research conducted by (Sukadana and Triaryati, 2018) which shows that company growth has no significant effect on company profitability.

Company size has no significant effect on profitability. The greater the total assets, the greater the size of the company. It can be concluded that a large company does not necessarily have large profitability. This is because the more significant company the more operational costs required and incurred by the company are also large. So that the size of a company cannot always indicate that the company has high profitability, but needs to pay attention to other factors.

The findings of this study are in line with previous research carried out by (Sukadana and Triaryati, 2018) and (Novyanny and Turangan, 2019). However, it is not in line with research conducted by (Lontoh et al., 2019) which shows that company size has a significant positive effect on the profitability of a company. Meanwhile, the research conducted by (Sukmayanti and Triaryati, 2019) show that company size has a significant negative impact.

6. CONCLUSIONS

Profitability is not significantly affected by liquidity. If liquidity is too high, it can reflect that the company does not utilize its assets to invest and develop the business. The level of profitability that should have increased instead decreased. However, if the company uses its assets to develop its business, the company's profit may increase. Therefore, high and low levels of liquidity have no impact on profitability. Solvability has a significant negative impact on profitability. The higher the solvency, the worse the condition of the company because the amount of debt is greater than the amount of capital owned. Firm growth has a significant positive impact on a company's profitability. When the company expects growth in total assets, it can increase profitability value. This is because the asset can be used to finance the operational activities that can help a company to gain more profit. Firm size has no significant impact on profitability. Companies with larger total assets do not necessarily obtain high profits. This is because the bigger the company is, the more operational cost must be paid by the company will be.

This research has limitation that still need to be improved and can be used as consideration for further research. The following are the limitation: 1) The independent variable that explain profitability in this study are limited to four variables (liquidity, solvability, firm growth, and firm size); 2) The research sample is only limited to manufacturing sector companies listed in IDX; and 3) The research period is only limited to 2018-2020 period, so this research is only able to explain the conditions and circumstances of the research period.

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