The Effect of Debt Maturity Structure on Investment Decisions in Food and Beverage Industry in Indonesia

Lalu Rasyid Ridha Mahfi, Farah Margaretha Leon[*]

Faculty of Economics and Business, Trisakti University, Jakarta
*Corresponding Author: farahmargaretha@trisakti.ac.id

Abstract: The purpose of this research is to see the effect of debt maturity structure on investment decisions. The independent variable in this study is the debt maturity structure. The dependent variable is investment decision while the control variable consists of lagged investment, fixed asset turnover, leverage, return on total assets, liquidity, cash flow and firm size. This research was conducted by collecting data from 54 companies in the food and beverage sub-sector in Indonesia over a period of 3 years (2019-2021) and using a panel data regression model in its testing. The results of the research conducted explained that the variables of debt maturity structure, leverage, liquidity, and cash flow have no effect on investment decisions, lagged investment variables, return on total assets, and company size have a significant positive effect on investment decisions while the fixed asset turnover variable has a significant negative effect on investment decisions. The implication of the research that has been done is to provide direction for financial managers to seek to increase the use of fixed assets, and increase the return on total company assets and optimal use of company fixed asset turnover, while investors should choose companies that have high company size, return on total assets that are high and the previous year's high fixed assets.

Keywords: *Debt Maturity Structure, Fixed Assets Turnover, Investment Decision, Return on Total Assets*

1. Introduction

The capital market plays a very important role in the Indonesian economy. Its role in the development of the country's economy is very large, as a means of financing for economic actors and as a means of investment for the local community [1]. Financing and investment decisions become financial decisions taken by company managers which are very important because they can maximize the value of the company. Companies can make funding to finance investment operations by using debt. Each of these decisions can affect the value of the company, so companies must consider the maturity structure of their debt when deciding to finance their business with debt [2].

In Indonesia, the issue of debt structure and its implications for investment has not been fully explored. There is no research that examines the relationship between the debt maturity structure of corporate and investment decisions in certain industrial sectors. The Indonesian food and beverage sub-sector is experiencing economic growth. Even though its growth has slowed due to the Covid-19 pandemic that hit Indonesia, the food and beverage sub-sector has managed to survive. Therefore, the problem of the debt maturity structure of food and beverage sub-sector companies in Indonesia is becoming increasingly complicated. Because of imperfect debt capital markets, the maturity structure of debt capital has some impact on a

Corresponding Author: Farah Margaretha Leon, Faculty of Economics and Business, Trisakti University, Jakarta, Indonesia. Email: farahmargaretha@trisakti.ac.id

company's investment decisions. Investment decisions are considered as the most important financial decisions because they create value for the company. Correct investment decisions contribute to firm value, otherwise wrong investment decisions lead to loss of firm value.

Previous literature findings show that debt maturity structure has a positive effect on investment decisions, for return on total assets and fixed assets turnover has a positive effect on investment decisions. Meanwhile, liquidity and cash flow have a negative effect on investment decisions [2]. On the other hand, [1] found that the structure of debt maturity actually has a negative effect on investment decisions. The aim of this research is to see the effect of debt maturity structure and determining factors such as lagged investment, fixed assets, leverage, return on total assets, liquidity, cash flow, and firm size on investment decisions.

2. Literature Review

2.1. Debt Maturity Structure

The debt maturity structure is one of the guidelines used by companies in determining the maturity of the debt they use. Research conducted by [2] used 558 companies in the FiinPro database during 2010-2019 with a total of 5580 observations to obtain the result that the debt maturity structure influences company investment decisions. According to [3] long-term sources of funding will stabilize companies in the industry and encourage them to consider investing. The results of his research show that the maturity structure of debt has a positive relationship with investment decisions. This means that the more companies that have long-term debt, the higher the level of investment. A study by [4] also found that the maturity structure of debt has a positive impact on investment decisions.

Differences were found in the study by [1] who found a negative effect of debt maturity structure on investment decisions. The findings conclude that the higher the debt maturity structure, the lower the company's investment decision. It can be concluded from this research that companies with long-term debt will find it easier to take advantage of growth opportunities than companies with shorter debt maturity structures.

2.2. Lagged investment, fixed assets, leverage, return on total assets, liquidity, cash flow, dan firm size

In addition to the debt maturity structure, control variables are also considered to influence investment decisions. The variables used refer to [2] research using lagged investment, fixed assets, leverage, return on total assets, liquidity, cash flow, and firm size. According to [5] lagged investment has a significant positive influence on investment decisions. It can be said that investment practices in the previous year provided an indication to investors regarding the economic climate in the country so that it has the potential to positively influence investment

decisions. According to [2] fixed asset turnover has an influence on investment decisions. Even though the impact is small, the more efficient the use of fixed assets, the higher the investment efficiency.

According to the research results of [6] leverage has a positive effect on investment decisions, contrary to the results of research by [7], [8] that leverage has a negative influence on investment decisions. It can be said that the higher leverage indicates that companies in their funding tend to use debt more than their own capital [9].

According to [10], [11] return on total assets and liquidity have an influence on investment decisions. Increasing the return on total assets in a company can create value for the company if a high return on assets will show the efficiency of the company and encourage investors to invest in the company. It can be said that the higher the liquidity of a company, the higher the company's liabilities are borne by current assets, and the more investment decisions it makes.

Cash flow according to [12] has an impact on investment and the effect is enhanced for companies that are more likely to be financially constrained. The higher the operational cash flow, the higher the investor's trust in the company [13]. Firm size according to [14] has a positive influence on investment decisions. The larger the size of the company, the higher the level of investment decisions.

3. Conceptual Framework

The maturity structure of the debt is said to influence investment decisions. Previous research by [15] saw a negative effect of debt maturity structure on investment decisions, in contrast to the results of [2] research, which showed that there was a positive effect of debt maturity structure on investment decisions. Lagged investment according to [5] has a positive influence on investment decisions. According to [2], [3], [16] show that there is a positive effect of fixed assets on investment decisions. Leverage according to [6] has a positive influence on investment decisions, in contrast to the results of research by [7], [8] shows that there is a negative effect of leverage on investment decisions. Variable return on total assets and liquidity according to [11], [10] has a positive influence on investment decisions. According to [12], [17], [18] cash flow has a positive influence on investment decisions. Firm size according to [14] has a positive influence on investment decisions.

Therefore, based on the explanation above, the conceptual framework in this study is described as follows:
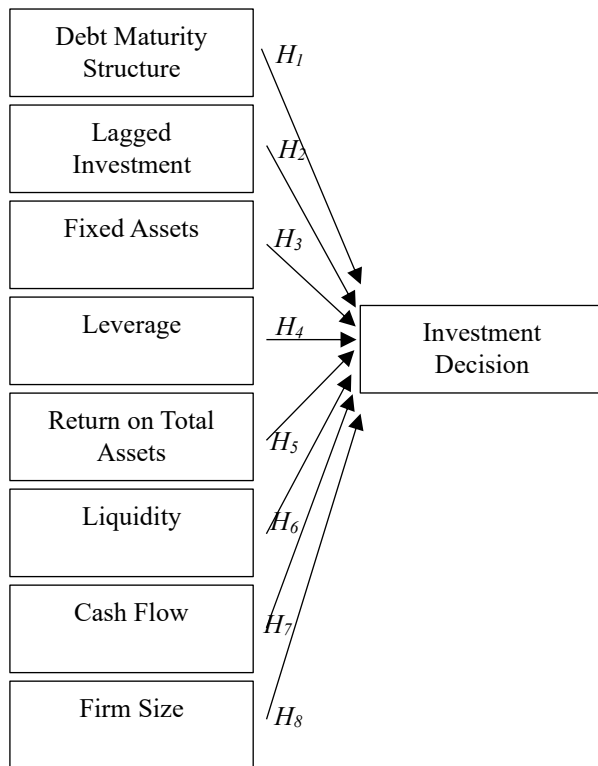
Figure 1 : Conceptual Framework

Hypothesis Development

The debt maturity structure from the results of [2] research which was conducted on 558 companies on the Vietnam stock market shows a positive influence on investment decisions. Likewise with the results of [4] which was conducted on 113 companies listed on the Tehran Securities Exchange showed that there was a significant positive influence on investment decisions, so that it can be said that the more companies that have long-term debt, the higher the level of investment. In contrast to the results of research by [1], which was conducted on 31 real estate companies listed on the Indonesia Stock Exchange, showed that the maturity structure of the debt actually had a negative effect on investment decisions. Based on this, the first hypothesis is formulated as follows:

H1: There is an effect of the debt maturity structure on investment decisions

Investment practices in the previous year can provide investors with an indication of the economic climate in the country so that it has the potential to positively influence investment decisions. Lagged investment according to research by [5], [2] has a significant positive effect on investment decisions, contrary to the research results of [19] that lagged investment has a significant negative effect on investment decisions. Based on this, the second hypothesis is formulated as follows:

H2: There is an effect of lagged investment on investment decisions

Efficient use of fixed assets can be said to increase the efficiency of the company's investment. Fixed assets turnover according to research by [2], [3], [16] has a positive influence on investment decisions. Based on this, the third hypothesis is formulated as follows:

H3: There is an effect of fixed asset turnover on investment decisions

The results of research by [6] show that leverage has a positive influence on investment decisions. Meanwhile, according to the research results of [7], [8] shows that leverage has a negative effect on investment decisions. Based on this, the fourth hypothesis is formulated as follows:

H4: There is an effect of leverage on investment decisions

Return on total assets according to [11], [10] has a positive influence on investment decisions. Meanwhile, according to the research results of [20] it shows that return on total assets has a negative effect on investment decisions. Based on this, the fifth hypothesis is formulated as follows:

H5: There is an effect of return on total assets on investment decisions

According to [2], [10] liquidity has a positive influence on investment decisions. Contrary to the results of [21] research that liquidity has a negative effect on investment decisions. Based on this, the sixth hypothesis is formulated as follows:

H6: There is an effect of liquidity on investment decisions

Cash flow according to [12], [18], [17] has a positive influence on investment decisions. Contrary to the results of [2] research shows that cash flow has a negative influence on investment decisions. Based on this, the seventh hypothesis is formulated as follows:

H7: There is an effect of cash flow on investment decisions

Firm size according to [14], [22] has a positive influence on investment decisions. Contrary to the results of research by [23] showing that firm size has a negative effect on investment decisions. Based on this, the eighth hypothesis is formulated as follows:

H8: There is an effect of firm size on investment decisions

4. Methodology

Variables and Variable Measurement

The variables and measurements used in this study intend to determine the relationship between the independent variables and the control variables on the dependent variable, each of which is measured as described below:

Table 1 : Identification and Measurement of Variables

Variable Type	Variable Name	Definition of Operational Variable
Dependent Variable	Investment Decision	INV = capital expenditures – depreciation = ln net fixed assets
Independent Variable	Debt Maturity Structure	MAT = long term debt / total liabilities
Control Variable	Lagged Investment	INVB = net fixed assets last year
	Fixed Assets Turnover	FA = net sales / net fixed assets
	Leverage	LEV = total liabilities / total assets
	Return on Total Assets	ROA = profit after tax / total assets
	Liquidity	LIQ = current assets / current liabilities
	Cash Flow	CFO = cash flow from operating activities / net fixed assets last year
	Firm Size	SIZE = ln total assets

Sampling Method

The sampling method used for this research is purposive sampling. The sample of this research includes companies in the food and beverage sub-sector that are listed on the Indonesia Stock Exchange for 3 years (2019-2021). The data collection method used is a secondary data collection method where data is obtained from the website of the Indonesia Stock Exchange (https://www.id.co.id/) and the website of each company that is sampled. The results of observational data that can be used come from 54 companies in the food and beverage sub-sector with the 2019-2021 observation period, so the total number of observations is 162.

Table 2 : Sampling Criteria

Information	Total
Companies in the food and beverage sub-sector that are listed on the Indonesia Stock Exchange	72
Companies that do not have complete annual reports and data related to variable measurements	(18)
The number of companies used as samples	54

There are stages in testing the regression model in this study which are described as follows:

Chow Test

The results of the chow test have two choices that must be determined, namely the common effect or the fixed effect. In this study, the chow test aims to determine which model is better and more appropriate. The chow test is based on the null hypothesis where there is no

heterogeneity and the alternative hypothesis where there is heterogeneity in the cross-section.

The hypothesis in the chow test is stated as follows:

H_0 : The right model is the common effect

H_a : The right model is the fixed effect

Where is the decision making condition:

If the probability of cross-section of chi-square < 0.05, H_0 is rejected

If the probability of cross-section of chi-square > 0.05, H_0 is accepted

Hausman Test

The results of the Hausman test have two options that must be determined, namely the random effect or the fixed effect. In this study, the Hausman test is useful for determining which model is better and more appropriate.

The hypothesis in the Hausman test is stated as follows:

H_0 : The right model is the random effect

H_a : The right model is the fixed effect

Where is the decision making condition:

If the probability of cross-section of chi-square < 0.05, H_0 is rejected

If the probability of cross-section of chi-square > 0.05, H_0 is accepted

Based on table 3 the results of the chow test and hausman test, the results show that the value of the probability cross section chi-square is 0.0000 <0.05, so the decision obtained is H_0 so the model used is the Fixed Effect. If the selected model is a fixed effect model, then further testing is required using the Hausman test to test whether to use a fixed effect or random effect model. The overall results of the model show that the random cross-section probability value is 0.0000 <0.05, so the decision that can be obtained is that H_a is accepted so that the model used is the Fixed effect model.

Table 3 : Chow Test and Hausman Test Results

Test Summary	Statistic	Prob	Decision
Cross-section Chi-square	424.124928	0.0000	H_0 rejected, Fixed Effect selected
Cross-section random	52.123718	0.0000	H_0 rejected, Fixed Effect selected

Source : Data is processed using E-views

Data Analysis Method
Goodness of Fit Test (R^2)

This test aims to see how much influence the independent and control variables have in explaining the dependent variable. This analysis test uses the adjusted R^2 value because the number of independent variables is more than one. If the value of adjusted R^2 shows a value close to 1, it means that the independent and control variables are able to explain the dependent variable. The criteria for making the decision:

Based on the results of the goodness of fit test, the adjusted r-square value was 0.997763. This means that the

independent variables, namely the structure of debt maturity, fixed effect, leverage, return on total assets, liquidity, cash flow, and firm size are able to explain variations in investment decisions by 99.7763% and the remaining 0.2237% explains that the cost of debt can be influenced by other factors that are not included in this model.

Concurrent Test (F-test)

This test was conducted to test whether the independent variables simultaneously have a significant influence on the dependent variable.

Based on the simultaneous test, it appears that the probability of the F-statistic yields a value of 0.000000 <0.05. Thus the results of the analysis in this study show that there is at least 1 independent variable, namely the debt maturity structure, lagged investment, fixed assets, leverage, return on total assets, liquidity, cash flow, and firm size giving influence to investment decisions so that the regression model suitable for use in this study.

5. Results and Discussion

Statistical Descriptive Analysis

The investment decision (INV) has an average value of 13.309, a median of 13.656, and a standard deviation of 2.4511. The maximum value of INV is 17.660 which is owned by PT Indofood Sukses Makmur Tbk and the minimum value is 4.6020 which is owned by PT FKS Multi Agro Tbk. The debt maturity structure (MAT) has an average value of 0.4138, a median of 0.3595, and a standard deviation of 0.2640. The maximum value of MAT is 1.0000 which is owned by PT Palma Serasih Tbk and the minimum value is 0.0060 which is owned by PT Provident Agro Tbk.

Lagged investment (INVB) has an average value of 13.319, a median of 13.614, and a standard deviation of 2.3970. The maximum value of INVB is 17.641 which is owned by PT Indofood Sukses Makmur Tbk and the minimum value is 4.3410 which is owned by PT FKS Multi Agro Tbk.

Fixed assets (FA) have an average value of 7.3984, a median of 2.3885, and a standard deviation of 25.388. The maximum value of FA is 185.92 which is owned by PT Provident Agro Tbk and the minimum value is 0.0490 which is owned by PT Bumi Teknokultura Unggul Tbk. Leverage (LEV) has an average value of 0.5076, a median of 0.4965, and a standard deviation of 0.2943. The maximum LEV value is 1.9250 which is owned by PT Bakrie Sumatera Plantations Tbk and the minimum value is 0.0070 which is owned by PT Provident Agro Tbk.

Return on total assets (ROA) has an average value of 0.0515, a median of 0.0410, and a standard deviation of 0.1362. The maximum value of ROA is 0.8630 which is owned by PT FKS Food Sejahtera Tbk and the minimum value is -0.524 which is owned by PT Bakrie Sumatera Plantations Tbk. Liquidity (LIQ) has an average value of 2.1382, a median of 1.4830, and a standard deviation of 2.2046. The maximum value of LIQ is 13.309 which is

owned by PT Campina Ice Cream Industry Tbk and the minimum value is 0.0600 which is owned by PT Bakrie Sumatera Plantations Tbk.

Cash flow (CFO) has an average value of 0.4198, a median of 0.1930, and a standard deviation of 1.3079. The maximum value of CFO is 11.395 which is owned by PT Tigaraksa Satria Tbk and the minimum value is -3.802 which is owned by PT Asia Sejahtera Mina Tbk. Firm size (SZ) has an average value of 14.498, a median of 14.806, and a standard deviation of 2.3143. The maximum value of SZ is 19.005 which is owned by PT Indofood Sukses Makmur Tbk and the minimum value is 6.0550 which is owned by PT FKS Multi Agro Tbk.

Table 4 : Descriptive Statistics

Var.	Mean	Median	Max	Min	Std. Dev
INV	13.309	13.656	17.660	4.6020	2.4511
MAT	0.4138	0.3595	1.0000	0.0060	0.2640
FA	7.3984	2.3885	185.92	0.0490	25.388
INVB	13.319	13.614	17.641	4.3410	2.3970
LEV	0.5076	0.4965	1.9250	0.0070	0.2943
ROA	0.0515	0.0410	0.8630	-0.524	0.1362
LIQ	2.1382	1.4830	13.309	0.0600	2.2046
CFO	0.4198	0.1930	11.395	-3.802	1.3079
SIZE	14.498	14.805	19.005	6.0550	2.3143

Source : Data is processed using E-views

Individual Test (T-test)

The test was conducted to assess whether each independent variable has a significant effect on the dependent variable. Decision making criteria if sig.t < 0.0, H0 is rejected and if sig.t > 0.0, H0 is accepted.

H1: There is an effect of the debt maturity structure on investment decisions

The debt maturity structure has a probability value of 0.6589 > 0.05 which indicates an insignificant effect. The results of this study conclude that there is no influence between maturity structure and investment decisions, which is due to the low increase in long-term debt and the characteristics of food and beverage companies in Indonesia. The low increase in long-term debt is owned by the number of companies listed in the food and beverage sub-sector in Indonesia so that it has no significant effect on investment decisions. Therefore this research is not in line with [2], [4] who obtained a positive influence on the structure of debt maturity on investment decisions.

H2: There is an effect of lagged investment on investment decisions

Lagged investment has a probability value of 0.0051 <0.05 which indicates a significant effect. The magnitude of the coefficient is 0.164863. The results of this study conclude that there is a positive and significant influence between lagged investment and investment decisions. The results of this study are in line with [2], [5] which has a significant positive effect on lagged investment on investment decisions. It can be said that the higher the remaining fixed assets, the higher the company's

investment decision. Companies that make high investments can be seen from the high fixed assets of the company in the previous year. This means that there is an accelerator effect on investment for companies in food and beverage sub-sector in Indonesia.

H3: There is an effect of fixed asset turnover on investment decisions

Fixed assets turnover has a probability value of 0.0000 <0.05 which shows a significant effect. The magnitude of the coefficient is -0.032016. The results of this study conclude that there is a negative and significant effect of fixed assets turnover on investment decisions. The results of this study are not in line with [2] which obtained a significant positive effect of fixed assets on investment decisions. This is because the higher the total fixed assets, the value of depreciation will also increase, which reduce firm profits and result in decreased firm investment.

H4: There is an effect of leverage on investment decisions

Leverage has a probability value of 0.5312 > 0.05 which indicates an insignificant effect. The results of this study concluded that there is no influence between leverage on investment decisions. The results of this study are in line with [2] which obtains that there is no influence of leverage on investment decisions. It is concluded that the level of financial leverage does not play a significant role in the investment decisions of listed companies. Because the characteristics of each company are different and the level of use of debt is different, the leverage factor does not have a major impact on the investment decisions of companies in the food and beverage sub-sector in Indonesia.

H5: There is an effect of return on total assets on investment decisions

Return on total assets has a probability value of 0.0440 <0.05 which indicates a significant effect. The magnitude of the coefficient is 0.263063. The results of this study conclude that there is a positive and significant influence between return on total assets on investment decisions. Financial return on assets shows the level of efficiency in managing and using business assets. Therefore, when ROA increases, it means profit after tax on the company's total assets increases. This shows that companies use assets more efficiently and optimize available resources, so companies create stable sources of capital to help invest. The results of this study are in line with [2] which have a significant positive influence on investment decisions.

H6: There is an effect of liquidity on investment decisions

Liquidity has a probability value of 0.6653 > 0.05 which indicates an insignificant effect. The results of this study concluded that there is no influence between liquidity on investment decisions. The results of this study are not in line with [2] which has a significant negative effect on investment decisions.

H7: There is an effect of cash flow on investment decisions

Cash flow has a probability value of 0.4957 > 0.05 which indicates an insignificant effect. The results of this study

concluded that there is no influence between cash flow and investment decisions. The results of this study are not in line with [2] which has a significant negative effect on investment decisions.

H8: There is an effect of firm size on investment decisions

Firm size has a probability value of 0.0017 <0.05 which indicates a significant effect. The magnitude of the coefficient is 0.261541. The results of this study conclude that there is a positive and significant influence between firm size on investment decisions. The results of this study are not in line with [2] which obtains that there is no effect of firm size on investment decisions. The results of this study are in line with [22], [14] who obtained a positive effect of firm size on investment decisions. So it can be concluded that the larger the size of the company, the higher the company's investment decisions. The size of total assets as a company size has given confidence to investors about the company's ability to manage existing assets.

Table 5 : Individual Test Results (T-test)

Independent Variable	Dependent Variable		
	INV		
	Coefficient	Probability	Result
Constant	7.619472	-	-
MAT	-0.060654	0.6589	Not Significant
INVB	0.164863	0.0051	Significant Positive
FA	-0.032016	0.0000	Significant Negative
LEV	-0.066266	0.5312	Not Significant
ROA	0.263063	0.0440	Significant Positive
LIQ	-0.009333	0.6653	Not Significant
CFO	0.008912	0.4957	Not Significant
SIZE	0.261541	0.0017	Significant Positive

Source : Data is processed using E-views

Research Regression Model

The panel data regression model can be written as follows:

$INV = 7.619472 - 0.060654MAT + 0.164863INVB - 0.032016FA - 0.066266LEV + 0.263063ROA - 0.009333LIQ + 0.008912CFO + 0.261541SIZE$

Information :
INV   = *Investment Decision*
MAT = *Debt Maturity Structure*
INVB = *Lagged Investment*
FA   = *Fixed Assets Turnover*
LEV   = *Leverage*
ROA = *Return on Total Asset*

LIQ   = *Liquidity*
CFO   = *Cash Flow*
SIZE = *Firm Size*

6. Conclusion

Based on the results of the tests performed, the following conclusions were obtained:

1. The debt maturity structure variable has no significant effect on investment decisions

2. The control variables for lagged investment, return on total assets and firm size have a positive and significant effect on investment decisions

3. The control variable fixed assets turnover has a negative and significant effect on investment decisions

Leverage, liquidity, and cash flow variables have no significant effect on investment decisions

Implication

Based on the results of the research that has been done, there are benefits to be gained as implications for financial managers and investors which are taken into consideration in making decisions. Some of the implications obtained are as follows:

a. For Finance Managers

Financial managers can pay attention to lagged investment, return on total assets, and firm size which have a positive effect while fixed assets turnover has a negative effect on investment decisions. This can be used as a consideration for financial managers to be able to improve their performance to increase lagged investment, return on total assets, and firm size which have a positive influence on investment decisions. When the return on total assets increases, it means that profit increases as well as retained earnings, so that it can become a stable source of finance to help companies invest. Companies need to take steps to increase the return on total assets. The company can also pay attention to the company's fixed assets in the previous year because they can provide an indication of domestic economic conditions so that they have the potential to positively influence investment decisions. On the other hand, financial managers need to pay more attention to the use of fixed assets turnover

b. For Investors

Investors can invest in companies that have a high rate of return on total assets. Investors can do this by looking at the company's total assets and the level of the company's fixed assets in the previous year. Therefore, a good company can maximize the company's investment decisions seen from the total assets and fixed assets owned by the company.

Limitations and Advice

Based on the results of the research that has been done, there are several limitations that can be taken into consideration by related parties, including company managers need to consider factors that can influence company investment decisions such as lagged investment, fixed assets turnover, return on total assets, and firm size because of this. This can create optimal investment decisions for the company. For future researchers, if they are going to carry out the same research, it is advisable to be able to research other sectors and a larger number of samples and it is hoped that they will add other variables in order to show other factors that can influence investment decisions. Variable that can be added include Corporate Governance [24].

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