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The Effect of Company Size and Liquidity on Firm Value in Infrastructure Sector Companies Listed on the Indonesia Stock Exchange

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Abstract
The purpose of this study was to determine the effect of company size and liquidity on firm value in infrastructure sector companies listed on the Indonesia Stock Exchange (IDX) in 2018-2021. The samples used in this study amounted to 33 infrastructure companies, in the form of annual financial reports selected by purposive sampling method. This study uses multiple linear regression analysis models with classical assumption testing processed using the IBM SPSS V.25 program. The results of this study based on the F test show that simultaneously between independent variables have an effect of 37% on firm value and the rest is affected by other variables outside this study. Based on the t test, company size has an positive but insignificant effect on firm value, while liquidity has a positive and significant effect on firm value.

Keyword *: Firm Value, Company Size, Liquidity.*

1. INTRODUCTION

Over the past few years, the development of economic growth in Indonesia has experienced severe challenges due to the Covid-19 pandemic which has forced various sectors to stagnate. During the recovery period, efforts made by the government to reduce Covid-19 in Indonesia and maintain stability and restore the economy in Indonesia through the National Economic Recovery Program (PEN) can encourage the return of economic activities that were disrupted. The State Budget (APBN) continues to be pursued to meet spending needs including infrastructure spending, as it is believed to have a multiplier effect on economic growth.

This decision will have a direct impact on the performance of the construction sector, especially for state-owned stocks. As a result, investors will increasingly look at infrastructure companies and encourage each company to further maximize its strategy to achieve its respective goals in obtaining profits and prospering the parties involved in the survival of the company.

One of the things that needs to be considered is the value of the company. Firm value can measure whether the company manages its management effectively and efficiently. The better and higher the value of a company can increase the value of the company in the stock market so that it affects the perception of investors to invest their capital. If a company has a high company value, the rate of return on investment obtained by investors will also be higher. Therefore, the company must maximize its company value in order to attract new investors or retain its old investors as one of the

sources of funds owned to develop and maintain the company's survival.

There are several factors that affect company value, one of which is company size. Company size is a ratio that shows the size of a company which can be calculated based on the total assets owned. Large companies will have large capitalization, book value, and profits. Meanwhile, small companies will have small capitalization, book value, and profit. According to research by Yusdianto and Hendrawan (2022) company size has a positive and significant effect on firm value. Meanwhile, according to the research by Harahap (2022) company size has a negative and insignificant effect on firm value.

In addition, another factor that affects firm value is liquidity. Liquidity is the ability of a company to fulfill its short-term liabilities. According to research by Andri and Wijaya (2019) liquidity has a positive and significant effect on firm value. Meanwhile, according to research by Fauzi and Nurmatias (2022) liquidity has a negative effect on firm value.

Based on the description above, the inequality of the results of previous research encourages researchers to take this topic and try to analyze the effect of company size and liquidity on firm value in infrastructure companies listed on the Indonesia Stock Exchange for the period 2018-2021.

2. LITERATURE REVIEW AND HYPOTHES

2.1. Signaling theory

According to Brigham and Ehrhardt (2011), a signal or sign is a step taken by the management of a company by conveying information to investors regarding future management perspectives on the company. The information released by the company is also very important because the information describes how the company was in the past, at this time, and in the future. Signals given from management to investors will affect the value of the company because the company must maintain the condition of its financial statements. The theory proves that investors can compare several companies based on their company value.

2.2. Company Size

According to Hery (2017) company size can be interpreted as a comparison of the big or small the size of the business of a company or organization. The size of the company will affect the ability to bear its own risks, besides that, large companies have more resources to increase company value because they have better access to external funding sources than small companies. To measure company size according to Ghozali (2018) company size can be calculated by the company's total assets, because it is large, this can be simplified by converting it into natural logarithms. So that the calculation of company size is as follows:

$$Company\ Size = Ln(Total\ asset)$$

2.3. Liquidity

According to Kasmir (2014) liquidity is the ability of a company to meet its short-term liabilities. According to Brigham and Ehrhardt (2011) liquidity shows the relationship between the company's current assets and its obligations that must be met in a short period of time and its ability to meet its short-term debt. Companies that have high liquidity are one of the categories of companies with good performance. To calculate the liquidity ratio according to Dwi (2011) can usually use the working capital ratio, current ratio, quick ratio, account receivable turnover, and inventory turnover. The calculation of liquidity using the current ratio with the following formula:

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

2.4. Firm Value

According to Keown et. al (2011) company value is the value of the company's outstanding securities, liabilities and equities and can reflect how the state of a company is a benchmark for the public to assess and see whether the company is doing well or not. Companies that have high company value will make investors believe not only in the company's performance at the present time but also in the future. The method of measuring company value in this study uses the Price to Book Value (PBV) indicator, according to Hery (2017) PBV is the ratio of the comparison of stock prices and the book value of the company's equity, which measures the value that the market gives to management and organization as a company that continues to grow. The following is the formula used to calculate Price to Book Value (PBV):

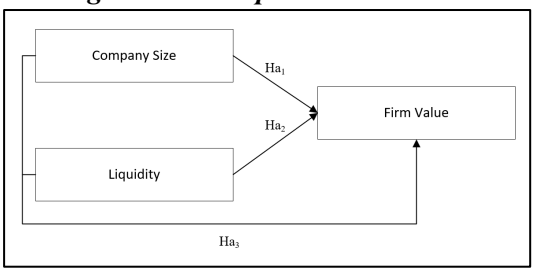
$$PBV = \frac{Market\ price\ per\ share}{Book\ Value\ per\ share}$$

$$Book\ Value = \frac{Total\ Equity}{Number\ of\ shares\ of\ stock\ outstanding}$$

2.5. Conceptual Framework

Based on the review of theories and previous research, the conceptual framework regarding the effect of company size and company liquidity on firm value is prepared as follows:

Figure 1. Conceptual Framework



With the hypothesis according to the figure above, namely:

Ha_1: Company size has a significant effect on firm value.

Ha_2: Liquidity has a significant effect on firm value.

Ha_3: Company size and liquidity have a significant effect on firm value.

3. RESEARCH METHODOLOGY

The method in this study is research with a quantitative approach. According to Sekaran and Bougie (2016) a quantitative approach is research that uses hypotheses using statistical test tools to conclude hypotheses that are causal.

The data used in this research is secondary data. Secondary data is data that are obtained indirectly or through intermediaries made by others. Secondary data used in the form of company financial reports obtained from the official websites of related companies and the Indonesia Stock Exchange (IDX) website.

The subjects and population in this study are infrastructure sector companies listed on the Indonesia Stock Exchange during the 2018-2021 period. Determination of the sample in this study using purposive sampling method with criteria:

a. *Infrastructure sub-sector companies listed on the Indonesia Stock Exchange for the period 2018-2021,*
b. *Companies that have financial statements that end on December 31 and have been audited,*
c. *Companies that have complete and consistent financial reports,*
d. *Companies that have a good financial track record,*
e. *Companies that have data that suitable the selected variables.*

The data collection method used in this research is the documentation observation method by looking at the sample financial statements and calculating company size and liquidity on firm value.

The independent variables used in this study are company size which is assessed by the natural logarithm of the company's total assets and liquidity which is assessed by the company's current ratio. While the dependent variable used in this study is the firm value assessed by the Price to Book Value (PBV).

The data analysis technique used in this research is Multiple Linear Regression Analysis. Multiple linear regression analysis is regression testing and several independent variables on one dependent variable. In this study, multiple regression models were used to test the effect of company size and company liquidity with a tolerable error rate of 5%. The multiple linear regression model can be written as follows:

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \varepsilon$$

Description:

Y = Firm Value (PBV)
β0 = Constant
β1-β2= Regression coefficient of each independent variable
X1 = Company size
X2 = Liquidity
ε = Error terms

4. RESULTS AND DISCUSSION

4.1. Normality Test

Table 1. Normality Test Results

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			*124*
Monte Carlo Sig. (2-tailed)	*Sig.*		*.299[d]*
	99% Confidence Interval	*Lower Bound*	*.288*
		Upper Bound	*.311*

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

d. Based on 10000 sampled tables with starting seed 2000000.

Source: SPSS V.25 processed results

Based on the results of the normality test conducted using the One-Sample Kolmogorov-Smirnov Test with the elimination of outliers, the Monte Carlo sig value. (2-tailed) of 0.299 is greater than (>) the alpha value of 0.05. Thus indicating that the data is normally distributed.

4.2. Multicollinearity Test

Table 2. Multicollinearity Test Results

Coefficients[a]

Model		Sig.	Collinearity Statistics	
			Tolerance	VIF
1	(Constant)	.065		
	Size (X1)	.065	.972	1.028
	CR (X2)	.037	.972	1.028

a. Dependent Variable: PBV (Y)

Source: SPSS V.25 processed results

The multicollinearity test results for the independent variable company size (X1) have a VIF value of 1.028, the independent variable liquidity (X2) has a VIF value of 1.028. The multicollinearity test results of the two independent variables show that the VIF value is smaller (<) than 10. This implies that there is no multicollinearity between the variables used in the regression model.

4.3. Autocorrelation Test

Table 3. Autocorrelation Test Results

Model Summary[b]

Model	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.037	.26048	1.943

a. Predictors: (Constant), CR (X2), Size (X1)

b. Dependent Variable: PBV (Y)

Source: SPSS V.25 processed results

The results of the autocorrelation test using the Durbin-Watson method show a value of 1,943. The value of the Durbin-Watson table which has a significance level of 5%, with a total sample data of 124 (n = 124), and 2 independent variables (k = 2). Resulting in a value of 1.7397 (du) < 1.943 (dw) < 2.2603 (4-du). So it can be concluded that there is no autocorrelation problem in the regression model data of this study.

4.4. Heteroscedasticity Test

Table 4. Heteroscedasticity Test Results

Coefficients[a]

Model		t	Sig.
1	(Constant)	-1.021	.309
	Size (X1)	1.412	.160
	CR (X2)	.115	.909

a. Dependent Variable: ABS_RES

Source: SPSS V.25 processed results

The results of the heteroscedasticity test using the Glejser method for company size variable (X1) have a sig. value of 0.160. and the liquidity variable (X2) of 0.909, the sig. value of the two variables is greater than (>) 0.05 so it can be concluded that there is no heteroscedasticity problem in the regression model data of this study.

4.5. Multiple Linear Regression Test

Table 5. Multiple Linear Regression Test Results

Model		Unstandardized Coefficients	
		B	Std. Error
1	(Constant)	-1.770	.952
	Size (X1)	1.196	.643
	CR (X2)	.136	.065

Source: SPSS V.25 processed results

The multiple linear regression equation between company size and liquidity on firm value in this study can be written as follows:

$$\boldsymbol{PBV} = -1{,}770 + 1{,}196\boldsymbol{Size} + 0{,}136\boldsymbol{CR} + \varepsilon$$

Based on the regression equation, it shows that the constant value is -1.770, meaning that if the company size and liquidity variables are 0 or do not change at all, then the company value is constant, namely -1.770. The coefficient value of company size (X1) is positive 1.196, meaning that there is a unidirectional effect between company size and firm value, indicating that every increase in company size by 1 will increase company value by 1.196.

The liquidity coefficient value (X2) is positive 0.136, meaning that there is a unidirectional effect between liquidity and firm value, indicating that every increase in company liquidity by 1 will increase the company value by 0.136.

4.6. Determination Coefficient Test

Table 6. Determination Coefficient Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.230[a]	.053	.037	.26048

a. Predictors: (Constant), CR (X2), Size (X1)
b. Dependent Variable: PBV (Y)

Source: SPSS V.25 processed results

The results of the determination coefficient test based on the Adjusted R Square value of 0.037 imply that all the variables studied, namely company size (X1) and liquidity (X2) have an influence of 37% on firm value (Y). While the remaining 63% is affected by other variables outside this study.

4.7. Simultaneous Test (F Test)

Table 7. F Test Results

ANOVA[a]

Model		Sum of Squares	df	F	Sig.
1	Regression	.460	2	3.390	.037[b]
	Residual	8.210	121		
	Total	8.670	123		

a. Dependent Variable: PBV (Y)
b. Predictors: (Constant), CR (X2), Size (X1)

Source: SPSS V.25 processed results.

Based on the results obtained from the test, the significance value of F is 0.037. The significance value is smaller than (<) 0.05. So it can be concluded that the independent variables of company size (X1), and liquidity (X2) simultaneously or together have a significant effect on firm value (Y). So that the hypothesis (Ha_3) which states "company size and liquidity have a significant effect on firm value" is accepted.

4.8. Partial Test (t Test)

Table 8. Partial Test Results (t Test)

Coefficients[a]

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	-1.770	.952	-1.859	.065
	Size (X1)	1.196	.643	1.859	.065
	CR (X2)	.136	.065	2.106	.037

Source: SPSS V.25 processed results

The t test results are used to test the relationship of each independent variable with the dependent variable. Based on the t test results in table 8, it shows that the company size variable (X1) has a t value of 1.859 greater than (>) the t table value of 1.196 and a significance value of 0.065 which is greater than (>) 0.05. And it means that company size has a positive and insignificant effect on firm value. So that the first hypothesis (Ha_1) which states "company size has a significant effect on firm value" is rejected.

Based on the t test results in table 8, it shows that the liquidity variable (X2) has a t value of 2.106 greater than (>) the t table value of 0.136 and a significance value of 0.037 which is smaller than (<) 0.05. It means that liquidity has a positive and significant effect on firm value. So that the second hypothesis (Ha_2) which states "liquidity has a significant effect on firm value" is accepted.

4.9. The Effect of Company Size on Firm Value

The results of regression analysis based on partial test show that company size has a positive but insignificant effect on firm value in infrastructure companies listed on the Indonesia Stock Exchange. This indicates that the majority of investors do not prioritize the assessment of companies, especially infrastructure companies, by the size of the company as measured by its total assets, but rather prefer to evaluate the company's value from other factors. The results of this study are in accordance with research conducted by Kamil and Jonnardi (2021), Harahap (2022) which explains that company size has no significant effect on firm value.

4.10. The Effect of Liquidity on Firm Value

The results of regression analysis based on partial test show that liquidity has a positive and significant effect on firm value in infrastructure companies listed on the Indonesia Stock Exchange. Thus, it can be assumed that the higher the liquidity value of a company, the firm value will also increase. This is because liquidity is one of the important aspects that can increase investor trust. Companies that have high liquidity indicate that the company manages its finances well with the ability to fulfill its short-term liabilities which can also indicate the availability of funds owned by the company to pay dividends and investments which can increase investor demand for shares that result in increased company value. The results of this study are in accordance with the results of research conducted by Andri and Henryanto (2019),

Permata and Mulyadi (2020), Taufiqurrahman and Hidayati (2022) which explain that company liquidity has a significant effect on firm value.

4.11. The Effect of Company Size and Liquidity on Firm Value

Based on the results of simultaneous test research, the effect of company size and liquidity on firm value has an F significance value of 0.037 smaller than (<) 0.05. This means that the independent variables of company size (X1), and liquidity (X2) simultaneously or together have a significant effect on firm value (Y). Based on the results of the coefficient of determination, both of these independent variables have a contribution effect of 37% on firm value. The results of this study are in accordance with the results of research conducted by Arpan and Odjan (2020), Yusdianto and Hendrawan (2022) which explain that company size and company liquidity simultaneously or together have a positive and significant effect on firm value. Nevertheless, the contribution is mostly dominated by the company's liquidity because the size of the company does not have much significant effect on the value of the company. Therefore, the limitations in this study are the limited scope of the independent variables studied, which only contains 2 variables, namely company size and liquidity, research subjects that only focus on one sector, and a limited observation period of only 4 years.

5. CONCLUSION

The results of this study indicate that company size has a positive but insignificant effect on firm value while liquidity has a positive and significant effect on firm value in infrastructure companies listed on the Indonesia Stock Exchange in 2018-2021.

Suggestions that can be given by researchers, namely because company size, especially infrastructure companies, does not have a significant effect on firm value, investors can focus on measuring firm value from other things such as company liquidity. Suggestions given for further research are the addition of independent variables, choosing other research subjects that cover more sectors, and a longer research period so that the results of further research outputs can be more comprehensive.

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