International Journal of Environmental, Sustainability, and Social Sciences
ISSN 2720-9644 (print); ISSN 2721-0871 (online)
https://journalkeberlanjutan.com/index.php/ijesss

EFFECT OF LIQUIDITY, PRODUCTIVITY AND FIRM SIZE ON BOND RANKING

Volume: 2
Number: 2
Page: 79-88

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Article History:
Received: 2021-02-16
Revised: 2021-03-15
Accepted: 2021-03-28

Abstract:
The development of the business world which is increasingly rapid and complex causes companies to need more capital or funds. The purpose of this research was to analyze the effect of liquidity, productivity and firm size on bond ratings on non-financial companies in ranked PT PEFINDO and listed on the IDX in the period 2016-2019. The sampling method was purposive sampling method in order to obtain 31 nonfinancial companies with a total research of 93 samples. The data analysis technique used in this research is multiple linear regression analysis with IBM SPSS version 25 software. The results of this research indicate that the liquidity variable which is proxied by current ratio has no significant effect on bond ratings. While the productivity variable which is proxied by total asset turnover and firm size which is proxied by natural log total assets has a significant positive effect on bond ratings.

Keywords:
liquidity, productivity, firm size, bond rating

Cite this as: SUHARMADI, SURIPTO, (2021). "Effect Of Liquidity, Productivity and Firm Size On Bond Ranking". International Journal of Environmental, Sustainability, and Social Sciences, 2(2), 79-88. https://doi.org/10.38142/ijesss.v2i2.78

INTRODUCTION

The development of the business world which is increasingly rapid and complex causes companies to need more capital or funds. The capital or funds are used to improve the quality of the company so that it can continue to compete in the industry. This source of funding can come from creditors or bank loans as well as investments from investors through the capital market (Putri et al, 2019). One of the forms of funding that companies can do through the capital market is by issuing bonds. Bonds are long term, transferable bonds containing an agreement with the issuing party to pay coupon in the form of interest for a certain period and pay off the principal debt at a specified time to the buyer of the bond (Sari and Badjra, 2016). The advantages of investing in bonds over stocks are in terms of return payments. Bonds are able to provide fixed income in the form of coupons. However, the bond is not without risk for the bonds can not be paid off right from the failure of the issuer (corporate/ government) to fulfill its obligation to pay the debt principal and interest (coupon) or commonly referred to by default risk.

A case of default that has occurred in Indonesia, namely the land transportation service issuer, aka PT Express Transindo Utama Tbk (TAXI) taxi, was unable to pay the bond coupon which was supposed to be paid on March 26, 2018. This Rajawali Group issuer released a bond of IDR 1 trillion which matures on 24 June 2019 with a bond

coupon of 12.25% per year. PT Pemeringkat Efek Indonesia (PEFINDO) then lowered the rating for the Bond I Express Transindo Utama 2014 from BB- to D for default. PEFINDO has also lowered the company's rating from BB- to SD or selective default (source: www.cnbcindonesia.com) To avoid the risk of default, investors need to pay attention to several things, one of which is the bond rating. According to Sari and Badjra (2016) bond rating states the risk scale or security level of a bond issued. The security of a bond is indicated by the ability of a company to pay interest and pay off the principal of the loan so that investors get information about the bond rating by using a rating agent.

The rating agency used in this research refers to the bond rating published by PT PEFINDO, established on December 21, 1993 which has the main function of providing an objective, independent and accountable rating for the credit risk of issuing debt securities issued to the public. This research uses variables that can affect the bond rating from financial factors liquidity, productivity and firm size. The first factor that can affect a bond's rating is liquidity. The liquidity ratio is a ratio that shows the company's ability to meet its obligations or pay its short-term debt (Hery, 2015:175). According to Pambudi (2017), a company that is able to fulfill its financial obligations on time means that the company is in a liquid condition and has more current assets than its short-term liabilities. The ability to pay off the company's short-term obligations indirectly affects its long-term obligations (bonds payable). High liquidity levels will indicate the strength of the company's financial condition that the higher level of liquid itas means the better the bond rating.

Productivity is also a factor that can affect a bond's rating. Productivity is a ratio that measures how effectively a company uses its resources. Companies that have high productivity tend to be more able to generate higher profits than companies with low productivity levels because of the high level of sales from the company. This also shows that companies with a high level of productivity will be better able to fulfill their obligations, so that the higher the productivity ratio, the better the company's bond rating (Vina, 2017). Apart from liquidity and productivity, firm size is also a factor that can affect bond ratings. Firm size can be reflected in the total assets, sales or equity owned by a company. With the size of the company, investors can find out the company's ability to pay bond interest periodically and pay off the loan principal which can increase the company's bond rating. Size companies can also be correlated to the level of risk of bankruptcy or failure to pay that may affect the rating of bonds (Utami and Khairunnisa, 2015).

According to Satriadi (2015) a high level of liquidity can provide a signal that the company has the ability to pay off short term obligations well. If the company's ability to pay off short term debt is good, at least the company's ability to pay off its long term debt will also get better. A company that is able to meet its financial obligations on time can give a signal to investors that the company is liquid and has bigger assets than its current debt. This is because the current assets owned are able to pay off the company's short term liabilities. A high level of liquidity will indicate the strength of the company's financial condition so that it will affect the bond rating, which means that the higher the level of liquidity, the better the corporate bond rating. A good bond rating will certainly make it easier for companies to obtain funds from outside parties, because investors will think that the bonds they are going to buy are safer and have a low risk. This is in line with previous research conducted by Damayanti et al. (2017) which states that liquidity has a significant effect on bond ratings.

H1 : Liquidity has a significant positive effect on bond ratings.

According to Susanto (2015) productivity is a tool to measure the effectiveness of a company in using or utilizing its resources. Companies with high productivity levels

can provide good signals for investors, because companies tend to be able to generate higher profits so that companies are better able to fulfill all their obligations to investors better than companies with low productivity levels. If a company has a high productivity ratio, this can signal that the more efficient use of all assets is in generating income which can improve the company's bond rating. Thus, high productivity will increase the company's profits which can then have an impact on the increase in the company's bond rating. This is in line with research conducted by Indah Surya (2015) and Henny (2016) which shows that productivity has a significant positive effect on bond ratings.

H2 : Productivity has a significant positive effect on bond ratings.

According to Tensia, et al. (2015), generally large companies will provide a good rating (investment grade). With the size of the company, investors can find out the company's ability to pay bond interest periodically and pay off the principal of the loan which can increase the company's bond rating and thus the size of the company can also give a signal to investors that the larger the size of the company will affect the higher the bond rating, the more the smaller the size of the company will have an effect on the lower the bond rating. This is in line with research conducted by Sari & Badjra (2016), Indah Surya (2015) and Pinandhita & Suryantini (2016) which gave the result that firm size has a significant positive effect on bond ratings.

H3 : Firm Size has a significant positive effect on bond ratings.

METHODS

This research was conducted in March 2020 - July 2020 on non financial companies whose bonds are rated by the Indonesian Securities Rating Agency (PT PEFINDO) and listed on the Indonesia Stock Exchange (IDX) in the period 2016-2019. The research design used is a causal research with a quantitative approach. Causal research is research that aims to determine the relationship between two or more variables. Operationalization of variables is used to determine the types and indicators of the variables involved in this research.

Table 1. Variable Operationalization

Variable Research	Measurement	Scale
Variable (Y)		
Bond Rating	Declare the bond rating for between levels from lowest to highest value (*Non-Investment Grade - Investment Grade*)	Interval
Variable (X)		
Liquidity	Current Ratio (CR) = Current Assets/Current Liabilities	Ratio
Productivity	Total Asset Turnover (TATO) = Sales/Total Assets	Ratio
Firm Size	Ln = (Total Asset)	Ratio

Source: Literature Review

Descriptive statistics provide an overview of the sample data used in this research, namely showing the lowest value (minimum), higest value (maximum), average value (mean) and standard deviation of each independent variable liquidity (CR), productivity (TATO) and firm size (SIZE) and the dependent variable is the bond rating. The results of the descriptive test can be seen in the table as follows :

Table 2. Descriptive Statistics

	N	Min	Max	Mean	Std. Deviation
CR	93	,241	5,989	1,59649	,959865
TATO	93	,113	3,519	,66129	,669224
SIZE	93	27,869	34,939	30,47818	1,448036
Peringkat Obligasi	93	1	20	15,91	3,056
Valid N (listwise)	93				

Source: Data processed 2021

The results of the descriptive analysis test show that the liquidity variable which is proxied by the current ratio (CR) has a minimum CR value of 0.241 found at PT Sumberdaya Sewatama (SSMM) in 2016, this is because the value of current debt is higher than current assets so that current assets it is not enough to fulfill all current liabilities, it can be seen in the financial statement data for the period that the total current assets owned by the company cannot fulfill one of its current liabilities long term liabilities that mature in one year for bonds payable that have an excess value amount of current assets owned. The maximum value is 5.989 namely at PT Tiphone Mobile Indonesia Tbk (TELE) in 2016, this shows that the company has more current assets than its current debt so that it is able to fulfill all current liabilities with its current assets. Then obtained an average value of 1.59649 and a standard deviation of 0.959865. The average value that is higher than the standard deviation value indicates that the average value has a low level of aberration so that it can be concluded that the data shows a good distribution or even distribution.

Productivity proxied by total asset turnover (TATO) is the ratio of the sales company with total assets of the company. The results of the descriptive statistical test show that the minimum TATO value of 0.113 is found in PT Jasa Marga (Persero) Tbk (JSMR) in 2017, this is because the company is inefficient in managing all assets it has to generate income so that it can increase the risk of the company, that it cannot be paid obligation properly (default risk). The maximum value is 3.519, namely at PT Tiphone Mobile Indonesia Tbk (TELE) in 2019, this shows that the company's performance is good in managing all assets owned to generate income, so that it is able to achieve the predetermined targets. Then obtained an average value of 0.66129 and a standard deviation of 0.669224. The average value which is lower than the standard deviation value indicates that the average value has a high degree of aberration so that it can be concluded that the data shows the distribution is not good or the distribution is uneven.

The firm size variable is the composition of the total assets owned by the company as measured by the natural log of total assets. The results of descriptive statistical testing show that the minimum SIZE value of 27.869 is found in PT Express Transindo Utama Tbk (TAXI) in 2019, this is because the total asset value of the company has the lowest value compared to other sample companies and the total assets owned cannot reflect the company's overall wealth as a company guarantee to fulfill and pay off all of its obligations so that the company experiences default risk . The maximum value is 34.939, namely at PT PLN (Persero) Tbk (PPLN) in 2019, this shows that the assets owned by the company are large and have used all of their assets effectively and efficiently so that they can reflect the company's overall wealth as a guarantee for the company to pay off its obligations. Then obtained an average value of 30.47818 and a standard deviation of 1.448036.

The bond rating variable is the bond rating owned by a company as measured by the bond rating scale. The results of descriptive statistical testing show that the minimum value of Bond Rating of 1 is found at PT Express Transindo Utama, Tbk (TAXI) in 2019, this is because in that year the company was declared to have default risk by the Indonesian Securities Rating Agency (PEFINDO) so that obtaining the lowest bond rating, namely idD or default . The maximum value is 20 in 5 companies, namely PT Angkasa Pura I (Persero), PT Angkasa Pura II (Persero), PT PLN (Persero) Tbk, PT Indosat Tbk and PT Telkom Indonesia (Persero) Tbk for the period 2016-2019, this is shows that the 5 companies during the research period obtained the highest bond ratings and were included in the investment grade category . Then obtained an average value of 15.91 and a standard deviation of 3.056. According to Ghozali (2018:166) the normality test can be done with the One-Sample Kolmogorov-Smirnov Test . The goal is to find out that the rest data is normally distributed. This test is carried out on the unstandardized residual value of the regression model. The data is categorized as normally distributed if it produces the Asymp value Sig. (2-tailed) > 0.05. The results of the normality test can be seen in the table as follows :

Table 3. Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		93
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	2,56654227
Most Extreme Differences	Absolute	,077
	Positive	,064
	Negative	-,077
Test Statistic		,077
Asymp. Sig. (2-tailed)		,200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Source: Data processed 2021

The results of the normality test using One Sample Kolmogorov Smirnov show the Asymp Sig. (2-tailed) of 0.200 is greater than the significant level of 0.05. Thus it can be concluded that the data in this research were normally distributed because of the Asymp Sig. (2-tailed) 0.200 > 0.05. According to Ghozali (2018:107-108) the multicolonierity test aims to test whether the regression model finds a correlation between independent variables. A good regression model should not have correlation between the independent variables. Decision making in the multicolonierity test is to look at the Tolerance and Variance Inflation Factor (VIF). Multicolonierity does not occur if the tolerance value is > 0.10 or equal to the VIF value < 10. Conversely, if the tolerance value is < 0.10 or equal to the VIF value > 10, multicolonierity occurs. The multicolonierity test results show that the independent variables, namely liquidity (CR), productivity (TATO) and firm size (SIZE) have a tolerance value greater than 0.10 (tolerance > 0.10) and a VIF value less than 10 (VIF < 10) . Thus it can be concluded that there is no multicolonierity between the independent variables in the regression

model. The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residual value of one other observation (Ghozali, 2018: 137). A good regression model is a model that has homoscedasticity status or does not occur heteroscedasticity, it can be done by using the Glejser test , which is looking at its significance. The cut off value used in the heteroscedasticity test was > 0.05. So if the significance value is above 0.05, the regression model is free from heteroscedasticity problems. Heteroscedasticity test results with test glejser significance value for the variable liquidity (CR) of 0.895, the variable productivity (TATO) of 0.480 and a significance value for the variable firm size (SIZE) of 0.055. The significance value of the three independent variables is greater than 0.05 (Sig > 0.05). Thus it can be concluded that three is no heteroscedasticity in the regression model.

According to Ghozali (2018:111-112) the autocorrelation test is a testing method that aims to test whether in the linear regression model there is a correlation between confounding errors in period –t with errors in period t-1 (previous). In testing the presence or absence of autocorrelation, it can be detected by the Durbin-Watson test (DW test). It is show that there is no autocorrelation if the value of dU < d < 4-dU. The autocorrelation test results obtained the Durbin Watson value of 0.741. With N = 93 and K = 3, the dL value is 1.5966, dU = 1.7295, 4-dL = 2.4034 and 4-dU = 2.2705. Thus the dw value of 0.741 is smaller than the dU limit of 1.7295 and less than 4-dU 2.2705 (1.7295 > 0.741 < 2.2705), it can be concluded that there are symptoms of autocorrelation in the model used. Because of the autocorrelation, a medication is needed. Autocorrelation medication was performed with the Cochrane–Orcutt test. The results of autocorrelation medication using the Cochrane-Orcutt test obtained a Durbin Waston value of 2.024. Thus, after being calculated and compared with the Durbin Watson table value, that the dw value of 2.024 is between dU and 4-dU, namely 1,7295 < 2,024 < 2,2705. This indicates that this model is free from autocorrelation.

The coefficient of determination (R2) is used to know the percentage influence of independent variables on the dependent variable changes. For every additional one independent variable, the R square must increase, regardless of whether the variable has a significant effect on the dependent variable. Therefore, many researchers recommend using the adjusted R square when evaluating which is the best regression model. The adjusted R square value can go up and down if an independent variable is added to the model (Ghozali, 2018: 97-98). The test results of the coefficient of determination (R^2) show that the value of Adjusted R Square is 0.271 or 27.1%. This means that the independent variables, namely liquidity, productivity and firm size, can explain the variation in the dependent variable, namely 27.1%, while the remaining 72.9% is explained by other variables outside the research model.

The results of the F statistical test show that the calculated F value is 12.400 with a significant level of 0,000. While the value of F table at a significant level of 0.05 was obtained at 3.10. When compared with the F table using α = 0.05, the value of F count > F table (12,400 > 3.10). Because the value of F count > F table with a significant level of 0.000 or (0.000 < 0.05), so overall the independent variables, namely liquidity, productivity and firm size, together have an effect on the bond rating. The T test results will compare the calculated t value with the t table value. The t table value obtained is 1.98698. Liquidity (CR) has a t count value of -0.796 while t table is 1.98698 (t count < t table). The significance probability value of 0.428 is greater than the predetermined significance level of 0.05, so that 0.428 > 0.05. Thus it can be concluded that partially the liquidity variable has no significant effect on bond ratings. Then this shows that H1 is rejected. Productivity (TATO) has a value of t count of 2.309 while t table of 1.98698 (t count>t table). The significance probability value of 0.023 is smaller than the predetermined significance level of 0.05, so that 0.023 < 0.05. Thus it can be concluded that partially the productivity variable has a significant

positive effect on bond ratings. Then this shows that H2 is accepted. Firm Size (SIZE) has a t count value of 5.870 while the t table is 1.98698 (t count >t table). The significance probability value of 0.000 is smaller than the predetermined significance level of 0.05, so that it is 0.000 < 0.05. Thus it can be concluded that partially the firm size variable has a significant positive effect on bond ratings. Then this shows that H3 is accepted.

The results of data processing analysis show that liquidity has no significant effect on bond ratings, which means that the greater or lesser the liquidity value will not affect the bond ratings of non-financial companies. These results indicate that although the current ratio held by the company is high does not guarantee that it will give a good bond rating to the bond issuing company because in addition to assessing the company's liquidity level, PEFINDO also assesses the rating on the basis of a cash flow statement that provides more detailed and relevant information regarding cash receipts and payments from the company in a certain period. Valuation analysis includes a comprehensive review of the company's cash flow and ability to meet its short term and long term financial obligations. So that the size of the liquidity value has no significant effect on bond ratings.

A negative liquidity value indicates that the company has high liquidity but is likely not in an efficient condition, for example the company does not use financing through bonds because the company has large internal funds and tends to prefer to use internal funds first compared to external sources of financing such as issuing bonds so that resulting in a decrease in company value and an effect on the decline in bond ratings. The results show that the current ratio does not have the ability to predict bond ratings can also be caused because in the financial statements, the total current assets not only contain liquid assets but also contain other assets such as receivables, prepaid taxes, prepaid expenses and inventories which cannot be quickly used to pay off the company's upcoming obligations so that it cannot represent the liquidity of a company, which is the company's ability to pay off obligations that are about to mature, such as interest payment obligations (coupons) and repayment of principal bond loans. The result is in line with research conducted by Utami and Khairunnisa (2015) gives the result that liquidity is no significant effect on bond ratings.

The results of data processing analysis indicate that productivity has a significant positive effect on bond ratings. This means that the size of the productivity seen as total asset turnover (TATO) will affect the rating of the company's bonds, this indicates that investors will invest more in corporate bonds that have a great ability to turn over assets and the number of sales earned from each rupiah of assets.

Companies with high productivity tend to be able to generate higher profits so that the company is able to pay bond interest periodically and pay off the principal of the loan. These results also indicate that the higher the productivity ratio, the higher the total sales of non financial companies on the total assets owned. Thus, high productivity will increase the company's profits which can then have an impact on the increase in the company's bond rating. This result is supported by previous research conducted by Indah Surya (2015) and Henny (2016) which showed that productivity has a significant positive effect on bond ratings.

The results of data processing analysis show that firm size has a significant positive effect on bond ratings. The size of the company as measured by the company's total assets will affect the company's bond rating. The greater the total assets owned, the greater the company's ability to pay off its liabilities in the future, given the large amount of assets that can be used as collateral for bond issuance. The size of the company as measured by the total assets owned by the company is also able to predict the good and bad ratings of the bonds issued by the company. Assets that are owned by the company and used effectively can increase sales so as to increase company

profits. With the increase in company profits, it can increase the value of the company and have an impact on increasing the bond rating issued by the company. Large companies tend to have better bond ratings than small companies because they have the ability to pledge their assets so that they have a low risk of being faced. Therefore, with the size of the company, investors can find out the company's ability to pay bond interest periodically and pay off the loan principal which can increase the company's bond rating. This result is supported by previous research conducted by Tensia, et al. (2015), Sari and Badjra (2016) and Pinandhita & Suryantini (2016) which showed that firm size has a significant positive effect on bond ratings.

CONCLUSION

Based on the results of the discussion and hypothesis testing that has been carried out from the problems regarding the relationship of liquidity, productivity and firm size on bond rating of non financial companies that are rated PT PEFINDO and listed on the Indonesia Stock Exchange for the period 2016-2019, it can be concluded that : (1) Liquidity has no significant effect on bond ratings, which means that the greater or lesser the liquidity value will not affect the bond rating of non-financial companies. These results indicate that although the current ratio held by the company is high does not guarantee that it will give a good bond rating to the bond issuing company because in addition to assessing the company's liquidity level, PEFINDO also assesses the rating on the basis of a cash flow statement that provides more detailed and relevant information regarding cash receipts and disbursements from the company in a certain period. So that the size of the liquidity value has no significant effect on bond ratings. (2) Productivity which is proxied by total asset turnover, has a significant positive effect on bond ratings. This indicates that investors will invest more heavily in corporate bonds that have a great ability in asset turnover and the number of sales they get from each rupiah of assets. Companies with high productivity tend to be able to generate higher profits so that the company is able to pay bond interest periodically and pay off the principal of the loan. High productivity will increase the company's profit which can then have an impact on the increase in the company's bond rating. (3) Firm size has a significant positive effect on bond ratings. This indicates that the greater the total assets owned by the company, the more capable it is to pay off liabilities in the future, considering that a large number of assets can be used as collateral for bond issuance. With the size of the company, investors can find out the company's ability to pay bond interest periodically and pay off the loan principal which can increase the company's bond rating.

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