The Effect of Company Profitability, Leverage, and Firm Size on Bond Ranking of Banking Companies Registered on The Indonesian Stock Exchange (IDX) for The Period 2015 - 2019

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Abstract

This study aims to determine the effect of profitability, leverage and firm size on bond ratings in banking companies listed on the Indonesia Stock Exchange (BEI) for the 2014-2019 period. The sampling technique used was purposive sampling, in order to obtain a sample of 14 companies. This study uses logistic regression data analysis with the help of the eviews application. The results of this study indicate that profitability has no effect on bond ratings, leverage has no effect on bond ratings, firm size has no effect on bond ratings.

Keywords: Profitability, Leverage, Firm Size, Bond Rating.

1. Introduction

In the capital market, there are two types of financial investment, namely stock investment and bond investment. Investment in bonds tends to be more attractive to investors because it can add to the fixed benefits obtained from the principal and interest on bonds that are received periodically at maturity (Ikhsan et al, 2012). Bond ratings are very important for an investor who wants to buy bonds. Bond ratings can measure the risk arising from bonds being traded. Bond ratings can show how safe a bond is issued for investors. The low risk of a bond can be demonstrated by the company's ability to pay interest and repay loans. Investors are looking for information about bonds issued through rating agency services, this information is in the form of the risk level of the bonds of interest (Sunarjanto and Tulasi, 2013).

Financial ratios are an important tool in evaluating a company's financial performance. Apart from sharing important and strategic information, for example for lenders and capital providers, financial ratios can also affect bond ratings. There are several factors that affect bond ratings, namely financial ratios in the form of profitability ratios, liquidity ratios, leverage ratios, activity ratios and firm size and so on (Sari and Badjra, 2016).

Based on the factors that influence the bond rating above, the researcher uses the profitability ratio, leverage ratio, and firm size as independent variables in conducting this research. According to Malia (2015), a high profitability value means that the company has a lower level of risk of inability to pay (default) so that the rating given to the company is getting better. A high profitability ratio indicates that the company's bonds are categorized as investment grade (good). According to Rosa & Musdholifah (2016) and Karlina & Negara (2014) profitability (return on assets) affects the bond rating. Different results are shown by the research of Narandika et al. (2016) that profitability (return on assets) has no effect on bond ratings.

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In addition to the profitability factor, the leverage ratio also shows the proportion in managing long-term debt to finance investment to capital owned. According to Sari and Badjra (2016) the lower the leverage value (long-term debt) of the company, the higher the bond rating given by the company. Companies that have a high leverage value indicate that the company is included in the non-investment grade category because it has a debt interest expense that causes even greater risks. According to research by Sari & Badjra (2016) and Mardiyanti, et al (2015) stated that leverage (debt to equity ratio) has a positive effect on bond ratings. Another result is shown by Hidayat's (2018) research which states that leverage (debt to equity ratio) has a negative effect on bond ratings.

Firm size is also a factor that influences the bond rating. The size of the company is a characteristic of a company when it will pay bond interest and can pay the principal on the loan which can increase the company's bond rating. Large companies have the potential to more easily handle internal risk (unsystematic risk) so that it can reduce the risk of corporate bonds. In research Sari & Badjra (2016) and Pinandhita & Suryantini (2016) state that firm size has a positive effect on bond ratings. Different results are shown by the research of Wijayanti and Priyadi (2014) which states that firm size has no effect on bond ratings.

The level of investor interest in bonds has been quite high in recent years. The amount of increase can be seen from the development of bonds. The number of outstanding bonds is the number of bonds outstanding and currently owned by investors. Below is data on the development of corporate bonds and government bonds in Indonesia over the last five years:

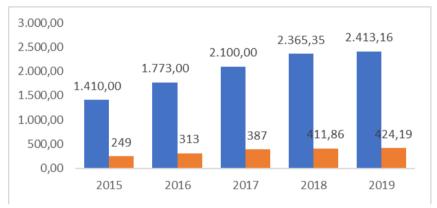


Figure 1. Amount of Outstanding Bonds (IDR Triluin)

From graph 1 shows the data on bond growth since 2015-2019 which tends to experience each year. This illustrates the increasing interest of both companies and the government in offering bonds on the capital market. Investors are more interested in outstanding government bonds than corporate bonds because government bonds guarantee more security. Several bond sectors have seen increased supply in recent years. The following in table 1 is the development of the 2015-2019 bond offerings.

Table 1. Development of Bond Offerings 2015-2019

Tuble 1. Development of Bona Offerings 2012 2019										
	2015		201	6	2017 2018		8 2019		9	
Sectoral	Number Number Number of Score of Score		Number of	Score	Score Number Score		Number of Score			
	Issuers		Issuers		Issuers		Issuers		Issuers	
Basic Industry & Chemicals			2	1000			2	2600	1	850
& Chemicais										

Consumer										
Goods			1	1200	1	2000				
Industry										
Property & Real Estate	1	300	2	1190						
Infrastructure, Utility, &			3	6000	3	4500	3	5500	1	2000
Transportation										
Finance	5	3350	6	4599	8	5860	5	3553	3	3300
Trade, Service & Investment			1	200						

Table 1 shows the development of bond offerings from various sectors. It can be seen that the financial sector is more attractive to investors. Because the financial sector brings more profit. So that the researchers chose the financial sector, namely the banking sub-sector in conducting this research.

2. Literature Review

Bond Rating

Bond rating is a scale measuring the level of risk and security of a bond that is circulated by the government and company and provides informative announcements and provides signals about the risk of a company's debt inability to pay. Through a bond rating agency, investors or investors can get information about the security level of a bond which is shown by the company's ability to pay bond interest and pay the principal debt (Fauziah, 2014). Every bond in circulation must be rated before being offered to investors (bond buyers) (Tandelilin, 2010). The rating given is one of the references for investors when determining whether to buy a bond which can determine whether the bond has a low level of risk (Amalia, 2013). The bond rating is what investors rely on when deciding to buy a bond. Bond rating reports issued by rating agencies assist investors in choosing the right and low-risk bond securities. The bond rating will affect the rate of return of the bond, the low risk level is the small possibility that a bond will fail to pay (Hadianto and Wijaya, 2010 in Wijayanti and Wijaya, 2014).

Profitability

Profitability is the expertise of a company to gain profits (Prihadi, 2013). Meanwhile, according to Danang (2013: 113) Profitability is the ability of a company to earn profits from its business results. Profitability ratios are used by companies to calculate the ability to generate profits or profits. Profitability is the ratio used to calculate the company's ability to earn profits (Kasmir, 2016). Meanwhile, according to Munawir (2010) profitability is the ability of a company to make profits in a certain period by using productive assets or capital, both all capital and its own capital.

Leverage

Leverage ratio is a ratio that shows the company's ability to meet its financial obligations if the company is liquidated, both short-term and long-term financial liabilities (Munawir, 2014: 12). A company is said to be solvable if the company has assets or assets that are able to pay off all its debts.

Conversely, if the number of assets is not capable or is less than the amount of its liabilities, then the company is in insolvable condition. When the liquidity ratio uses its short term to predict cash flows more precisely. Whereas in the long term it is not used because it is less accurate to believe, and therefore the leverage ratio uses a long-term analysis scale (Munawir, 2014: 13). Leverage is the company's ability to meet financial obligations if the company is liquidated, both short-term and long-term obligations (Munawir, 2014: 164). The greater the leverage ratio, showing that the greater the costs that must be incurred by the company to meet the debt it has.

Firm Size

Firm size is the size of a company as measured by total assets, total sales, total profit, tax expense, and others (Brigham & Houston, 2013: 4). Another definition of firm size (firm size) is the size of the company, which can be indicated by the total assets or the size of the company's assets by using the logarithmic value of total assets (Jogiyanto, 2014: 14). Company measurement is the amount of assets used to assess the size of the company, the size of the asset is measured using the natural logarithm of total assets (Jogiyanto, 2014: 282). The measurement of firm size is measured by the natural logarithm (Ln) of the average total assets (total assets) of the company (Harahap, 2015: 23). The use of total assets is based on an estimate that total assets represent the size of the company and are thought to have an effect on timeliness.

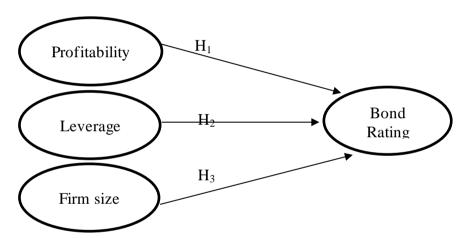


Figure 2. Research Design

H1: Profitability affects the bond rating

This hypothesis is supported by research by Karlina & Negara (2014) and Mardiyanti, et al (2015) which state that profitability (return on assets) has a significant effect on bond ratings.

H2: Leverage has a positive and significant effect on bond ratings

This hypothesis is supported by research by Sari & Badjra (2016) and Mardiyanti (2015) which state that leverage (debt to equity ratio) has a significant and significant effect on bond ratings.

H3: Firm size has a positive and significant effect on the bond rating

This hypothesis is supported by research by Karlina and Negara (2014) and Pinandhita & Suryantini (2016) which state that firm size has a significant effect on bond ratings.

3. Methodology

This research uses quantitative research. In this study, the location chosen was the Indonesia Stock Exchange (BEI) through its official website, www.idx.com and PT.PEFINDO (www.pefindo.com). The object under study is a banking company listed on the Indonesia Stock Exchange that issued financial reports in 2015-2019. In this study, the population is the banking sector companies listed on the Indonesia Stock Exchange (BEI) 2017-2019, namely 44 companies. The sampling technique in this study was purposive sampling. The considerations or criteria set by the researcher in sampling were companies belonging to the group of banking sector companies listed on the Indonesia Stock Exchange (BEI) during the study period, namely 2015-2019. The company makes financial reports and has published complete financial reports for 2015-2019. Companies whose bonds are issued by PT.PEFINDO (bond rating agency). Based on these criteria, a sample of 14 banking companies listed on the Indonesia Stock Exchange (IDX) was obtained in the 2015-2019 study. The statistical analysis tool used is Eviews software with logistic regression analysis.

4. Result and Discussion

Logistic Regression Analysis

This analysis is to obtain an overview of the probability of influence between the independent variable on the dependent variable. The logistic regression equation can be seen in table 2:

Table 2. Regression Results

Variable	Coefficient	Std. Error	z-Statistic	Prob.
С	-43.18745	16.49737	-2.617838	0.0088
ROA	-0.520671	0.872527	-0.596739	0.5507
DER	-0.332099	0.268160	-1.238437	0.2156
SIZE	2.731156	0.949104	2.877617	0.0040
McFadden R-squared	0.638970	Mean depend	lent var	0.914286
S.D. dependent var	0.281963	S.E. of regres	sion	0.151792
Akaike info criterion	0.325494	Sum squared	resid	1.520688
Schwarz criterion	0.453980	Log likelihoo	d	-7.392305
Hannan-Quinn criter.	0.376530	Deviance		14.78461
Restr. Deviance	40.95119	Restr. log like	elihood	-20.47559
LR statistic	26.16658	Avg. log likel	ihood	-0.105604
Prob(LR statistic)	0.000009			
Obs with Dep=0	6	Total obs		70
Obs with Dep=1	64			

The logistic regression equation formed in the regression results is as follows:

$$Ln(p/(1-p)) = -43.18745-0.520671 \times X1-0.332099 \times X2 + 2.731156 \times X3$$

Where:

$$Ln(p/(1-p)) = Logit, X1 = ROA, X2 = DER, X3 = Size, p = Probability.$$

Based on this equation, the logistic regression equation is as follows. A constant value of -43.18745 means that the independent variable consisting of X1 (ROA), X2 (DER) and X3 (Size) is considered constant, so the amount of Y (Bond Rating) is -43.18745. The coefficient value of the profitability variable is -0.520671, meaning that if the profitability increases by 1 unit, the bond rating decreases by 0.520671 and if the profitability decreases by 1 unit, the bond rating will increase by 0.520671. The coefficient value of the leverage variable is obtained -0.332099, meaning that if the leverage increases by 1 unit, the bond rating decreases by 0.332099 and if the leverage decreases by 1 unit, the bond rating will increase by 0.332099. The coefficient value of the firm size variable is 2.731156, which means that if the firm size increases by 1 unit, the bond rating will increase by 2.731156 and if the firm size decreases by 1 unit, the bond rating will decrease by 2.731156.

Simultaneous Significance Test

Based on the results in Table 2, the LR Statistical probability value is 26.16658. The probability value of LR Statistics shows that 0.000009 is smaller than α (0.000009 < 0.05), which means that the independent variables consisting of profitability, leverage, and firm size together have a significant effect on the bond rating.

Model Feasibility Test (goodness of fit)

Table 3. Hosmer and Lemeshow's Goodness of Fit Test Results

=								
	Quantile of Risk		D	ep=0	Dep=1		Total	H-L
	Low	High	Actual	Expect A	ctual	Expect	Obs	Value
_								
1	0.0736	0.7793	5	4.96347	2	2.03653	7	0.00092
2	0.8384	0.9383	0	0.66405	7	6.33595	7	0.73364
3	0.9627	0.9761	0	0.21150	7	6.78850	7	0.21809
4	0.9797	0.9933	1	0.09200	6	6.90800	7	9.08041
5	0.9944	0.9969	0	0.03010	7	6.96990	7	0.03023
6	0.9970	0.9977	0	0.01814	7	6.98186	7	0.01819
7	0.9979	0.9988	0	0.01108	7	6.98892	7	0.01110
8	0.9988	0.9992	0	0.00690	7	6.99310	7	0.00691
9	0.9992	1.0000	0	0.00263	7	6.99737	7	0.00263
1								
0	1.0000	1.0000	0	0.00012	7	6.99988	7	0.00012
_		TD . 1		6.00000	<i>c</i> 1	64.0000	70	10.1022
		Total	6	6.00000	64	64.0000	70	10.1022
H-L Statistic 10.1022 Prob. Chi-Sq(8) 0.2579								
				• • •				
An	Andrews Statistic 58.8593 Prob. Chi-Sq(10) 0.0000							

Based on Table 3, the H-L statistical value shows a value of 10.1022 with a significance probability of 0.2579 whose value is above 0.05, so that H0 is accepted, which indicates that the model is acceptable and hypothesis testing can be done because there is no significant difference between the models and their observation values.

Assessing the Overall Model (Overall Fit Model)

In table 3, the value of Restr.deviance is the value resulting from the Iteration History at block 0 or when the independent variable is not included in the model with N=70 samples. Get -2 Log Likelihood value of 40.95119. Degree Of Freedom (DF) = N-1=70-1=69. Chi-Square (X2) table on DF 69 and probability 0.05 is 89.391. Value -2 Log Likelihood (40.95119) <X2 table (89.391) so that accepting H0 indicates that the model before entering the independent variable is FIT with data. The Deviance value is the Iteration History value in block 1 or when the independent variable is included in the model, which is 14.78461. With a sample size of N=70, then DF = N-number of independent variables-1=70-3-1=66, Chi-Square (X2) table on DF 66 and probability 0.05=85.965. Value -2 Log Likelihood 14.78461 < X2 table (85.965) so that it accepts H0 = which indicates that the model that includes independent variables is FIT with data.

Table 4. Results of the Percentage of Prediction Insurance

	Equation Equation	Estimateo on	-	Constant Probability		
	Dep=0			Dep=0	J	Tota
P(Dep=1)<=C	5	1	6	0	0	
P(Dep=1)>C	1	63	64	6	64	70
Total	6	64	70	6	64	70
Correct	5	63	68	0	64	64
% Correct	83.33	98.44	97.14	0.00	100.00	91.43
% Incorrect	16.67	1.56	2.86	100.00	0.00	8.5
Total Gain*	83.33	-1.56	5.71			
Percent Gain**	83.33	NA	66.67	-		

Based on table 4, it gives a value of the accuracy of this research model of 97.1%, so it can be said that the model is quite good.

Coefficient of Determination

Table 5. Coefficient of Determination

Pseudo R-squareds							
Efron	0.722791						
McFadden	0.722791						
Adjusted Mcfadden	0.443615						
Cox-Snell	0.311891						
Nagelkerke	0.704196						

Based on table 5, the other Pseudo R-square values are not only Mc Fadden's values. To see the ability of the independent variable in explaining the dependent variable, the values of Cox & Snell R Square, Nagelkerke R Square, Efron, Mcfadden and adjusted McFadden are used. These values are also called the Pseudo R-Square or if the linear regression (OLS) is better known as the R-Square. If you use the McFadden R-Square value of 0.638970 which indicates that the ability of the independent

variable to explain the dependent variable is 0.638970 or 63.89% and the rest is explained by other variables not used in this study.

Partial Significance Test (Wald Test)

Wald test is used to determine the effect of each dependent variable (ROA, DER, and Size) on the dependent variable (PO). The results of the partial test of the independent variable on the dependent variable can be explained as follows:

Table 6. Hypothesis Test Results

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-43.18745	16.49737	-2.617838	0.0088
ROA	-0.520671	0.872527	-0.596739	0.5507
DER	-0.332099	0.268160	-1.238437	0.2156
SIZE	2.731156	0.949104	2.877617	0.0040

Testing the effect of Profitability on Bond Ratings.

Based on Table 6, the ROA value as a proxy for the profitability variable has a coefficient of 0.520671 and a probability value of 0.5507. The probability value is greater than α (0.5507 > 0.05) so H1 is rejected because it shows that the profitability variable has no effect on the bond rating.

Testing the effect of Leverage on Bond Rating.

Based on Table 6, the DER value as a proxy for the leverage variable has a coefficient of 0.332099 and a probability value of 0.5507. The probability value is greater than α (0.2156 > 0.05) so H2 is rejected because it shows that the leverage variable has no effect on the bond rating.

Testing the effect of Firm size on Bond Rating

Based on Table 6, the Asset Value as a proxy for the firm size variable has a coefficient of 2.731156 and a probability value of 0.0040. The probability value is smaller than α (0.0040 <0.05) so H3 is accepted because it shows that the firm size variable affects the bond rating.

Effect of Profitability on Bond Rating

Based on the results of research, the proxied profitability of Return on Assets has no effect on the bond rating. The results of this study are inconsistent with previous research conducted by Karlina and Negara (2014) and Mardiyanti et al (2015) which stated that profitability has an effect on bond ratings. Profitability shows the effectiveness of a company using its assets to generate net profit after tax. In this study, the ROA of banking companies fluctuates. The average company experienced a decrease in net income and followed by a decrease in assets as well, this indicates that the company was unable to use assets effectively and efficiently in earning profits.

The Effect of Leverage on Bond Rating

Based on the research results, the leverage proxied by the Debt To Equity Ratio (DER) has no effect on the bond rating. This result is not in accordance with previous research conducted by Sari and Barja (2016) and Mardiyanti et al (2015) which stated that the leverage variable has an effect on bond ratings. Leverage shows the company's ability to fulfill its obligations. In this study, the average DER of banking companies fluctuates. The average DER that has decreased ability to fulfill its obligations. This shows that a low debt ratio has a small risk for investors, but with a low debt ratio it shows that the debt incurred by the company is small, this is related to decreasing bond purchases by investors then decreasing company profits, indicating that the company's condition is not healthy. The company will provide a guarantee of high returns but the prospect of high returns is desired by investors, but investors are reluctant to bear the risk.

The Effect of Firm size on Bond Rating

Based on the research results, firm size affects the bond rating. The results of the study are in accordance with previous research conducted by Karlina & Negara (2014) and Pinandhita & Suryantini (2016). Big companies are less risky compared to small companies because small companies have more risk.

5. Conclusion

Profitability has no effect on bond ratings. This is because most of the studies have low profits while the bond ratings are in the Investment Grade range, which means that the average banking company that issues bonds has a high bond rating, resulting in no effect on the ROA on bond ratings. Leverage has no effect on bond ratings. In these conditions the tendency of investors to invest is reduced because if investors continue to invest, the risk they face will be even higher. Firm size affects the bond rating. If the bigger the company has the potential to diversify the non-systematic risk, it will also get bigger so that the risk of the company's bonds will decrease.

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