THE IMPACT OF PROFITABILITY, LEVERAGE, AND LIQUIDITY ON BOND RATINGS OF FINANCIAL SECTOR FIRMS LISTED ON THE INDONESIA STOCK EXCHANGE

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Abstract - This research was conducted to obtain empirical evidence regarding the effect of profitability, leverage, and liquidity on bond ratings. Bond ratings significantly influence funds raised from bond issuances, as a decrease can lead to undersubscription, while an increase can result in oversubscription. Investors should pay attention to bond ratings for informational materials and signals about a company's future obligations. This study's originality is rooted in its empirical examination of the key determinants—profitability, leverage, and liquidity—that affect bond ratings within Indonesian financial sector companies. Purposive sampling was used to choose the 19 financial sector companies, listed on the Indonesia Stock Exchange from 2019 to 2023, that released bonds and rated by PT PEFINDO in period 2020-2024. The analysis method used is ordinal logistic regression. The results of this study indicate that profitability and liquidity do not affect bond ratings, whereas leverage has a significant negative impact on bond ratings. Prioritizing equity-based funding sources, such as issuing shares, is advisable for the company. This approach will enhance the bond rating by reducing reliance on debt, thereby lowering the risk of default and minimizing capital-related financial risks. By strengthening its equity position, the company can improve its financial stability and foster long-term growth.
Keywords: Bond Ratings; Leverage; Liquidity; Profitability

1. INTRODUCTION

Bonds are a source of company funding, in the form of long-term debt instruments issued by companies to investors. In issuing bond, testing will be carried out by the Financial Services Authority as the capital market supervisor to evaluate its risk, especially the risk of debt default (Suprapto & Aini, 2019). To support the risk assessment, a bond rating is necessary. Bond rating is a risk scale given by a rating agency, which indicates the level of safety and quality of the bonds issued by the company (Bareksa, 2023). In Indonesia there are several rating agencies that are used to rate bonds in Indonesia that have been recognized by the Financial Services Authority such as Fitch Rating, Moody's Investor Service, Standard & Poor's, PT Fitch Rating Indonesia, PT Pemeringkat Efek Indonesia (PT PEFINDO). There are two classification categories for bonds in general: investment grade and non-investment grade.

Table 1. Bond Rating per Sector IDX (2019-2023)

Sector	2019	2020	Sector	2021	2022	2023
Agriculture	0	3	**Energy**	2	4	8
Basic Industry And Chemicals	9	11	**Basic Materials**	16	18	18
Consumer Goods Industry	6	5	**Industrials**	2	3	2
Finance	56	57	**Financials**	54	56	54
Infrastructure, Utilities, And Transportation	19	20	**Consumer Non-Cyclicals**	7	5	6
Mining	5	6	**Consumer Cyclicals**	4	4	5
Property, Real Estate And Building Construction	11	11	**Healthcare**	2	0	4
Trade, Services & Investment	7	9	**Infrastructures**	21	25	24
Miscellaneous Industry	1	1	**Properties & Real Estate**	6	6	6
			Transportation & Logistics	3	5	3

Source: (IDX, 2023)

Table 1 shows that the financial sector has always been the largest sector with investment-grade bond ratings (AAA to BBB-) from 2019 to 2023, and there are no companies in the financial sector with ratings below investment grade. The bond rating is very important to study because both a decrease in the bond rating and an increase in the bond rating have an impact on the funds obtained from the subsequent bond issuance. This is because a decrease in the bond rating can result in the amount of funds raised being less than the target, also known as being undersubscribed, while an increase in bond ratings can result in the amount of funds raised being greater than the target, also known as being oversubscribed. Investors of bonds must pay attention to bond ratings for informational materials and signals about a company's future failure to meet its obligations (Alisha & Ananda, 2023; Novtaviani & Oetomo, 2019).

This study uses rating bonds issued by PT PEFINDO. There are several risk aspects used by PT PEFINDO in rating the bonds: industrial risk, business risk, and financial risk. This study employs variables believed to affect bond ratings, namely profitability, leverage, and liquidity. The first factor that is thought to influence is profitability, measured by return on assets (ROA). The profitability ratio assesses the income or success of a company's operations over a specified time period (Gracias & Osesoga, 2024; Weygandt et al., 2019). Return on assets is the ability of a company to utilize its assets to earn profits. This profitability ratio will still be of interest to analysts because it can indicate a company's financial health (Alisha & Ananda, 2023; Rudi & Marsoem, 2019). The greater the company's profitability, the greater the profit generated, which will have a greater impact on the bond rating assigned (Suprapto & Aini, 2019). A company with a high ROA also has a decent rate of return, thereby reducing the likelihood of default (Aji et al., 2019) and will have an impact on the higher bond ratings. Previous studies argued that profitability has a

positive influence on bond ratings (Aji et al., 2019; Hidayatun et al., 2024; Wijaya, 2019). However, there is a study suggested that profitability has no effect on bond ratings (Alisha & Ananda, 2023; Suprapto & Aini, 2019).

The leverage ratio is a ratio used to evaluate the capital structure of a company. A company is solvable if its assets or wealth are adequate to cover its debts, and vice versa. Companies that lack sufficient assets to satisfy their debts are referred to as insolvent (Septiana, 2019). The lower the DER, the lower the risk faced so that the company will be given a better rating (Kaltsum & Anggraini, 2021; Rivandi & Gustiyani, 2021; Rudi & Marsoem, 2019). In contrast, Aji et al. (2019) stated that leverage has no effect on bond ratings.

The third factor that is thought to influence bond ratings is liquidity, which measured by the current ratio. Liquidity measures a company's short-term ability to pay maturing obligations and to meet unexpected cash needs (Weygandt et al., 2019). Current ratio measures a company's ability to fulfill its current debt obligations using its current assets (Agustinus & Yoewono, 2022). The greater a company's liquid assets, the more it will indirectly effect the settlement of long-term obligations (bonds), thereby reducing the risk of default and increasing the likelihood that the company's bond rating will improve (Rivandi & Gustiyani, 2021; Rudi & Marsoem, 2019). It can be concluded that the higher the current ratio, the higher the bond rating (Hidayat, 2018; Hidayatun et al., 2024; Novtaviani & Oetomo, 2019; Rivandi & Gustiyani, 2021).

Based on explanation above, the hypotheses development are:

Ha1 : Profitability has a positive effect on bond ratings.

Ha2 : Leverage has a negative effect on bond ratings.

Ha3 : Liquidity has a positive effect on bond ratings.

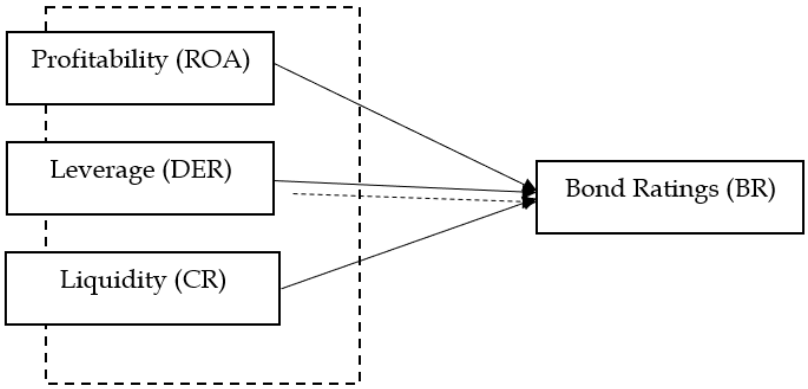

Figure 1. Research Model

2. RESEARCH METHODOLOGY

This study uses financial sector companies listed on the Indonesia Stock Exchange in 2019-2023 and also ranked by PT PEFINDO in 2020-2024. In this study, secondary data were collected from www.idx.co.id for information on financial reports and the website www.pefindo.com to obtain rating data. Purposive sampling is used to select the sample and the ordinal logistic regression method is used to analyse data.

Table 2. Summary of Measurements of Variables

Variable	Acronym	Measurement
Dependent: Bond Ratings	BR	Ordinal scale based on rankings; idAAA=18, idAA+=17, idAA=16,…..,….. idD=1
Independent:		
Profitability	ROA	$ROA = \frac{Net\ Income}{Average\ Total\ Assets}$
Leverage	DER	$DER = \frac{Total\ Debt}{Total\ Equity}$
Liquidity	CR	$\text{Current Ratio (CR)} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$

3. RESULT AND DISCUSSION

Data used in this study are from all financial sector companies listed on the Indonesia Stock Exchange from 2019 to 2023 that issue bonds and have been ranked by PT PEFINDO from 2020 to 2024 consecutively, as PT PEFINDO assess the quality of bonds in the next period after the bonds are issued. The table below is a table of details in sampling:

Table 3. Sample Selection

Criteria	Firm years
Financial sector companies that are listed on the IDX in 2019-2023:	
Firm-year observations:	205
Less did not issue a bond	(20)
Less did not rate by PT PEFINDO	(51)
Less did not experience positive net income consecutively during 2019-2023	(21)
Less did not declare the classification of current assets and liabilities consecutively during 2019-2023	(18)
Final observations	**95**

Table 4. Descriptive Statistics Result

	N	Range	Minimum	Maximum	Mean	Std. Deviation
ROA	95	0.0881	0.0003	0.0885	0.0231	0.0165
DER	95	10.3545	0.9759	11.3303	5.8951	2.2207
CR	95	5.0195	0.1725	5.1920	0.8649	0.9576
Valid N (listwise)	95					

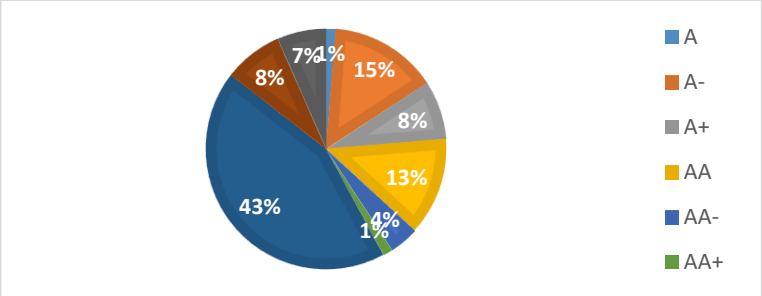

Figure 2. Proportion of Bond Ratings

The overall ratings of the bonds in this study fall into the investment grade category. Investment

grade is given by PEFINDO to companies that have ratings from idAAA to idBBB.

Table 5. Result of The Fit Model Test

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	332.324			
Final	0.000	332.324	85	0.000

Link function: Logit

Table 5 is a table of the results of the fit model test which shows -2 Log Likelihood using only constants of 332.324 and -2 Log Likelihood values using constants and independent variables (ROA, DER, and CR) of 0.000. Models with constants and independent variables experienced a decrease in the chi-square value of 332.324. Furthermore, the significance value in the results of the fit model test in this study is equal to 0.000 which is below the significant value of 0.05 which means that models with constants and independent variables are better when compared to using only constants so that it is concluded that the model is fit with the data.

Table 6. Result of Goodness-of-Fit Test

	Chi-Square	df	Sig.
Pearson	5.286	595	1.000
Deviance	9.223	595	1.000

Link function: Logit

The goodness of fit test shows the Pearson chi-square value of 5.286 and has a significance value of 1 and higher than 0.05 so it can be concluded that the model is able to predict the observed value of this study so that the model is acceptable or feasible.

Table 7. Result of Pseudo R-Square

Cox and Snell	0.870
Nagelkerke	0.890
McFadden	0.893

Link function: Logit

McFadden's value is 0.893 so it can be concluded that the independent variables are profitability proxied by Return on Assets (ROA), leverage proxied by Debt to Equity Ratio (DER), and liquidity proxied by Current Ratio (CR) is able to explain the dependent variable, namely the bond rating of 89.3%, while 10.7% is explained by other variables not tested in this study.

Table 8. Result of Parallel Lines Test

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	323.134			
General	26.344	296.79	595	0.861

Link function: Logit

The parallel lines test using the link function logit yielded a significant 0.861 which is higher than 0.05 so it can be concluded that the model can be used in this study because there are no different categories of all the variables of this study.

Table 9. Result of Parallel Lines Test

		Estimate	Std. Error	Wald	df	Sig.
Location	ROA	0.757	19.832	0.002	1	0.875
	DER	-0.759	0.170	17.087	1	0.000
	CR	0.066	0.443	0.049	1	0.870

Link function: Logit

Based on Table 9, the regression equation is formulated as follows:

Logit (po9+⋯+po16)= -3,325+0,757ROA-0,759DER+0.066CR

Based on Table 9, the profitability (ROA) has a positive direction with an estimated value of 0.757 and a significant value of 0.875 (> 0.05). So it can be concluded that the profitability has no effect on bond ratings in this study, therefore Ha1 is rejected. The results of this study are in line with research conducted by Suprapto and Aini (2019) which states that the profitability ratio proxied by ROA has no effect on bond ratings.

There is a ranking system that determines the profitability of a financial company. If the company's profitability is above 1.5%, it indicates a high level of anticipation of potential losses and an increase in capital (Bank Indonesia, 2007). If it exceeds 1.25% and is less than or equal to 1.5%, it means high profitability to anticipate potential losses and increase capital. If it exceeds 0.5% and is less than or equal to 1.25%, it means that profitability is high enough to anticipate potential losses and increase capital. If it exceeds 0% and is less than or equal to 0.5%, it means low profitability to anticipate potential losses and increase capital. If the profitability is less than or equal to zero percent, it indicates a very poor ability to predict possible losses and raise capital. From the results of this study, ROA has no effect on bond ratings because even though the ROA obtained is small, it is still in the investment-worthy category. ROA values above 1.5% in this study were 69 observations or 72.63% of 95 observations with bond ratings dominating idAAA with 29 observations or 42.02% of 69 observations.

The ROA value is exceed 1.25% and less than or equal to 1.5% in this study as many as 5 observations or 5.26% of 95 observations with bond ratings dominating namely idAAA with 4 observations or 80% of 5 observations. The ROA value exceeds 0.5% and less than equal to 1.25% in this study as many as 12 observations or 12.63% of 95 observations with the dominating rank idAAA as many as 8 observations or 66.67% of 12 observations. The ROA value is more than 0% and less than equal to 0.5% in this study as many as 9 observations or 9.47% of 95 observations with the dominating rank idBBB- as many as 5 observations or 55.55% of 9 observations. In conclusion, even though the ROA values are low, namely more than 0.5% and less than 1.25%, the bond ratings in this study are always dominated by the idAAA rating, there is no difference from the bond ratings which dominate when the ROA value is more than 1.25% and more than 1.5%.

The average value of ROA is 0.0231. A total of 38 observations or 40% of the 95 observations obtained ROA values above the average, while as many as 57 observations or 60% of the 95 observations obtained ROA values below the average. From 38 observations, total assets of IDR 9,445,282,481,142,660 and IDR 5,655,873,106,988,880 or 59.88% came from loans given to customers. Of the 38 observations, 20 observations or 52.63% had credit given to customers above the average, with an average of 58.78%. Of the 20 observations, 15 observations or 75% experienced an increase in interest income with an average increase of 4.65%. While as many as 8 observations

or 53.33 of the 15 observations experienced an increase in interest expense with an average increase of 14.69%. In addition, from 8 observations, 6 observations or 75% experienced an increase in total assets with an average increase of 7.31%. As many as 5 observations or 83.33% of the 6 observations experienced an increase in cash acquisition, with an average increase of 21.18%. From the 5 observations, the highest rating is idAA and the lowest is idBBB- so it is still in the investment grade category. Even though the ROA value is low, the bond rating given is still in the investment grade category. This is due to an increase in cash receipts thereby increasing the company's ability to pay off the interest and principal of the bonds. Therefore, it is concluded that ROA has no effect on bond ratings in this study.

Based on Table 9, the test results for the parameter estimation of the leverage (DER) have an estimated value of -0.759 and a significance of 0.000 (<0.05), so it can be concluded that DER has a significant negative effect on bond ratings, thus Ha2 can be accepted. These findings are consistent with those of Kaltsum and Anggraini (2021) and Rudi & Marsoem (2019), who found that DER has a negative impact on bond ratings.

Based on Table 9, the test results for the parameter estimation of the liquidity variable (CR) have a positive estimated value of 0.066 and a significance of 0.870 (>0.05), so it can be concluded that liquidity has no effect on bond ratings, therefore Ha3 is rejected. The results of this study are in line with research conducted by Suprapto & Aini (2019).

The companies with good performance have a current ratio that is greater than or equal to 1 . Companies that have a current ratio lower than 1 show negative net working capital, so the company will experience financial distress (Abubakar et al., 2015). In this study, 22 observations or 23.16% of 95 observations obtained a CR value above 1 and the dominating bond rating, namely the idAAA rating, consisted of 15 observations or 68.18% of 22 observations. CR values below 1 in the study were 73 observations or 76.84% of 95 observations and the dominating bond rating, namely the idAAA rating, consisted of 27 observations or 36.98% of 73 observations.

The mean value of CR is 0.8649. There were 72 observations or 75.79% out of 95 observations that had a CR value below the average value and as many as 23 observations or 24.21% of the 95 observations had a CR value above the average. Of the 72 observations, current assets were dominated by those that did not have a maturity of up to 1 month's maturity, which was 36.83%, followed by short-term liabilities which were dominated by those that did not have a maturity of up to 1 month's maturity. As we know, cash is important as in need in making payments of short-term obligations. A total of 47 observations or 65.28% of the 72 observations experienced an increase in cash with an average increase of 20.58%. From 47 observations of the bond ratings obtained, the highest rating was idAAA to the lowest rating namely idBBB- which was still included in the investment grade category. Even though the CR value is low, the rating given is still in the investment grade category. This is because there is an increase in cash receipts which can reduce non-performing receivables and increase the company's ability to pay off the principal of bonds and interest. Therefore it can be concluded that the current ratio has no effect on bond ratings.

4. CONCLUSION

This study demonstrates that profitability (ROA) and liquidity (CR) have no influence on bond ratings, whereas leverage (DER) has a significant negative impact. The implication of this study is that in order for a company to attain a high bond rating, it must reduce its Debt to Equity Ratio (DER). The findings suggests that managers should optimize their company's capital structure by reducing the Debt to Equity Ratio (DER), which indicates lower financial risk. To

improve bond ratings, managers should shift towards equity financing, manage debt levels carefully, communicate financial stability, and mitigate risk by reducing debt levels and focusing on equity. This will make the company less vulnerable to economic downturns and financial distress, and increase investor confidence. This strategic move could also help secure financing on favorable terms in the future.

5. LIMITATION

This study has limitations due to the fact that it only examines finance companies from 2019 to 2023; consequently, the research findings cannot be generalized, and the value of Pseudo R Square McFadden indicates that there are additional variables that influence bond ratings. Therefore, suggestions for future research include extending the research period to make the results more generalizable and adding other independent variables, such as company size, auditor reputation, and company development, which may affect bond ratings.

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