The Influence of Liquidity and Solvability on the Bond Ratings of Indonesia Stock Exchange : Evidence From the Raw Materials Sector

Rifma Istifariana [1] , Sumilir [2] , Yudi Nur Supriadi [3]
rifmaistifariana@upnvj.ac.id
[1 23] Jakarta Veterans National Development University

Abstract

Bonds are issued by companies and government agencies seeking capital with long-term debt. Bonds still carry risks for investors, namely the possibility of default, like other financial assets . Bond ratings are one indicator that can be used to measure this risk. Liquidity and sovability ratios can be used as indicators that can assess a company's capacity to pay all short and long term debts on time. The aim of this research is to examine the influence of liquidity ratios and solvency ratios on the bond ratings of basic materials sector companies listed on the Indonesia Stock Exchange. The objects of observation in this research are all public companies in the basic materials sector which are listed on the Indonesia Stock Exchange and whose bonds are rated by PT. Pefindo during the 2017-2021 period. Observations were taken using a purposive sampling technique because they have certain criteria. The method used in this research uses panel data regression analysis techniques with the help of E-Views 12. The research results show that 1) liquidity can be used as a benchmark to influence the rating of a bond and 2) the solvency ratio cannot be used as a benchmark that can influence the rating of a bond.

Key words: bonds; bond ratings; liquidity ratio; solvency ratio; *cash ratio; debt to equity ratio*

1. Introduction

Bonds are securities that represent a loan from a company or government where the loan will be repaid with interest and paid periodically over the life of the bond or in a single payment at maturity. According to Brigham & Houston (2019) bonds issued by companies and government agencies seeking capital with long-term debt . In Indonesia, bonds play a big role, where corporate bond issuance until the end of 2021 has increased with an average growth of 4.95%.
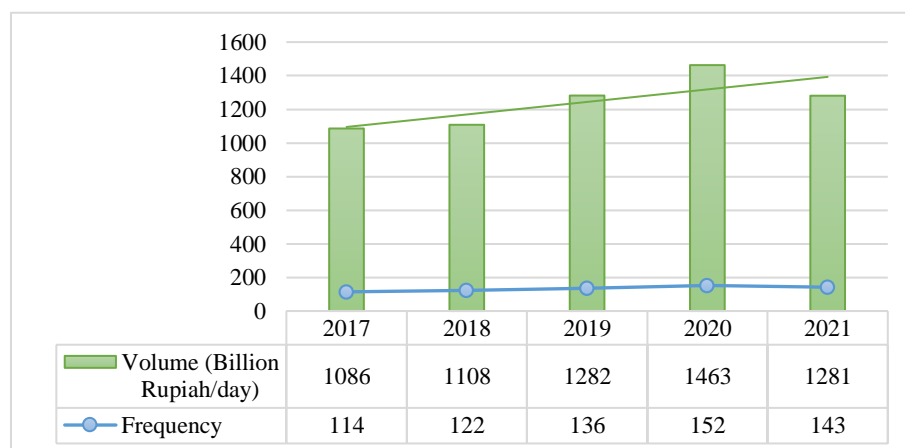
Source: Indonesian Securities Price Appraiser (processed data)
Figure 1. Volume Levels and Annual Frequency of Corporate Bonds

However, bonds still contain risks for investors, namely the possibility of default, like other financial assets. According toCagan (2016) Bonds have an inherent danger that the bond issuer may go out of business or experience default, which means the investment amount for purchasing the bond cannot be returned, which can result in financial losses. The findings regarding the level PEFINDO (2022)*of company* defaults that occurred between 2017 and 2021 show that *the trend* in the company's default rate in paying off debt tends to increase with the

bond *default rate* in 2021 amounting to 5.91% with a value of IDR 9.46 trillion and a total of 12 issuers experiencing *default* . PT. Penilai Harga Efek Indonesia (2021)stated that the raw materials sector *was* one of the sectors experiencing *default cases* . This is proven by one of the industries, namely the chemical industry, which has a default ratio of 9.09% in 2021.
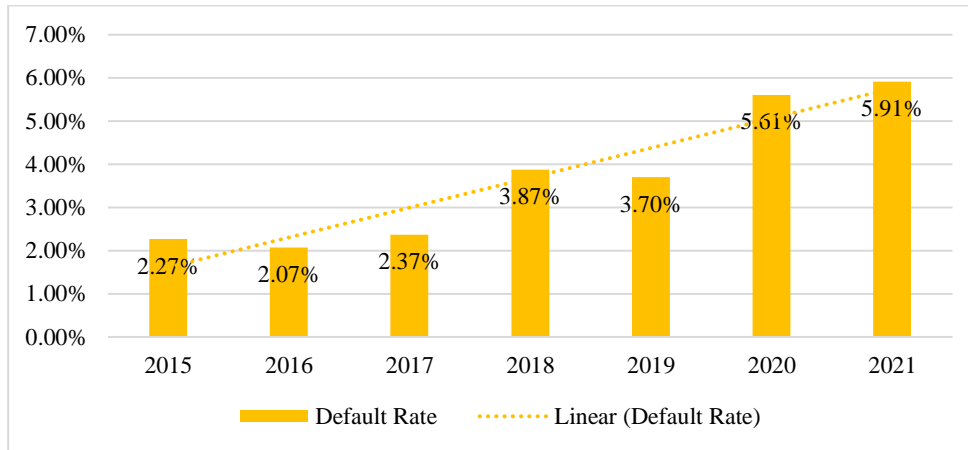

Figure 2. Company Default Rate

Therefore, investors need signals to measure the risk of default on bond instruments. Indicators that can be used to measure *default risk* include bond ratings. A bond rating, according to Higgins et al. (2022), is a letter rating assigned to an issue, such as AA, that reflects an analyst's assessment of the *default risk* of the bond.

The liquidity ratio can be used as an indicator that can assess a company's capacity to pay all short-term debt on time. Corporate performance improves with increasing liquidity ratios. Apart from liquidity ratios, solvency ratios can be used to assess a company's capacity to meet all its debts using various company resources. This ratio is used to measure how big the risk of *default* on bonds is given in the bond rating. *Debt to Equity Ratio* (DER) is one illustration of several of these ratios which shows that company performance increases when the DER value decreases. This is because DER evaluates how much debt a company has on the amount of capital it has.

Table 1. Performance of Raw Materials Sector Company Bonds

Company	Year	Rating	Cash Ratio	Debt to Equity Ratio
Polytama Province	2020	idBBB+	0.41	2.81
	2021	idBBB+	0.94	1.87
J Resources Asia Pacific Tbk.	2019	idA	0.02	2.37
	2020	idA	0.03	1.57
	2021	idBBB+	0.03	1.11
Tridomain Performance Materials Tbk.	2017	idA-	0.03	1.12
	2018	idA-	0.06	1.13
	2019	idA-	0.28	1.25
	2020	idA-	0.01	1.26
	2021	idSD	0	0
Waskita Beton Precast Tbk.	2019	idBBB-	0.08	0.99
	2020	idBBB-	0.03	8.12
	2021	idBBB-	0.01	-3.48
Kapuas Prima Coal Tbk.	2018	idBBB	0.19	1.24
	2019	idBBB	0.23	0.83
	2020	idBBB	0.24	0.72
	2021	idBBB	1.65	1.32

Source: Indonesian Securities Price Appraiser (processed data)

However, it can be seen in table 1 that the company Tridomain Performance Materials Tbk experienced an unusual phenomenon where the company experienced default or received an idSD rating in 2021 after experiencing a stable rating during the 2018 to 2020 period with a rating value of idA-. The same thing was also experienced by the company J Resources Asia Pacific Tbk where the bond rating experienced a decline in 2021 from idA to idBBB+ even though liquidity using the *Cash Ratio* was constant at 0.03 in 2020 to 2021 and solvency using *the Debt to Equity Ratio* (DER) experienced a decrease of 0.46 from the original 1.57 in 2020 and to 1.11 in 2021. Meanwhile for the companies Polytama Propindo, Waskita Beton Precast Tbk, and Kapuas Prima Coal Tbk the bond ratings were constant even though for example Kapuas Prima Coal Tbk The bond rating did not increase from 2018 to 2020 with a rating of idBBB even though *the Cash Ratio* increased by 1.41 from 0.24 in 2020 to 1.65 in 2021 and there was an increase in *the Debt to Equity Ratio* of 0.6 from originally 0.72 in 2020 to 1.32 in 2021. The above should be a signal where the bond rating should increase or decrease.

Apart from that, there are differences in the results of research by Kaltsum & Anggraini (2021), Darmawan et al. (2020)and Fadah et al. (2020)which concludes that liquidity and *leverage* have an influence on bond ratings. However, a different conclusion is expressed, namely Wibowo & Linawati (2020)that liquidity has no influence on bond ratings, while solvency has an influence on bond ratings. The results of other research also state Alie & Febrinta (2020)that the partial liquidity ratio has no influence on bond ratings and the solvency ratio has no influence on bond ratings.

There are inconsistencies in research results and differences between theoretical concepts related to bond rating indicators and data in the field Further research is needed to examine the influence of liquidity ratios and solvency ratios on the bond ratings of *basic materials sector companies* listed on the Indonesia Stock Exchange.

Research purposes

To determine and analyze the influence of liquidity and solvency ratios on bond ratings in the *basic materials sector* listed on the Indonesia Stock Exchange.

Research Uses

1. Theoretical aspect

So that readers and researchers can use this research as a source of knowledge and it is hoped that it can increase their understanding of aspects of liquidity ratios, solvency ratios and bond ratings. Apart from that, it can be used as academic literature on financial management, especially in the context of managing a company's financial performance portfolio, especially in bond ratings through the use of liquidity ratios and solvency ratios.

2. Practitioner aspect

a. For Institutions and Investors

It is hoped that it can become a reference for companies in managing the rating of a bond by considering the liquidity ratio and solvency ratio indicators. Research can help investors make choices regarding bond products and company management can manage bond ratings well.

b. For Researchers

It is hoped that researchers can apply the understanding and information learned in the Financial Management courses they took while studying in the Bachelor of Management Study Program and increase the understanding that can be applied in selecting bond products using bond ratings with indicators of liquidity ratios and solvency ratios.

2. Literature Review
Signal Theory

Signal theory is a method for companies to communicate information that is relevant or irrelevant to the company's finances to external parties, based on the idea that companies and external parties have different information. Brigham & Houston (2019)assumes investors and management have the same information about the company's potential. The term for this is symmetric information. However, management often has more information than outside investors which is known as asymmetric information, and significantly impacts the optimal capital structure.

So that rating agencies can determine bond ratings, company management provides information on liquidity ratios and solvency ratios in financial reports to bond rating agencies. Meanwhile, ratings provide data to investors regarding bond ratings. The liquidity ratio is used as a benchmark because this ratio illustrates the company's capacity to meet all short-duration debt in a timely manner. One type of this ratio is the *Cash Ratio* , which explains that a large liquidity ratio means that the company's performance is greater and gives a positive signal so that the bond rating is higher (*investment grade*) and vice versa, the smaller the ratio, the lower the company's performance and gives a negative signal. so the bond rating becomes lower (*non-investment grade*).

Apart from that, there is a solvency ratio which is used to assess a company's ability to meet its debts. One type of this ratio is the *Debt to Equity Ratio* , where the smaller the ratio, the better the company's performance and it gives a positive signal so that the bond rating (*investment grade*) increases, and vice versa, if the ratio is bigger, it reduces the performance of a company and gives a negative signal so that bond rating decreased (*non-investment grade*).

Bond Ratings

Like other types of debt, bonds are evaluated based on debt ratings issued by investment rating organizations. An example of a bond rating agency in Indonesia is PT Pemeringkat Efek Indonesia (PEFINDO). According to Higgins et al. (2022)corporate bond issuers can issue ratings of their bonds if they contract with a rating agency to review and rate the bonds, and to maintain the ratings throughout the life of the bonds. Fees are paid by the publisher for this service. In addition, customers must pay for publication to the rating agency. Based on their analysis of bond offerings, rating agencies issue rating opinions using letter grades for investors to read. In their ratings, rating agencies attempt to rank the level of concern according to the likelihood of a company defaulting. Issues with the lowest perceived risk of default are rated *triple* -A, followed by *double* -A, *single* -A, B- *double* -A or *triple* -B, and so on down to C and D, which are the lowest ratings. Bond ratings are intended to provide prospective investors with accurate data regarding the company's business position and financial performance issuing the bonds.

Table 2. Bond Ratings

Rating Category Bond		Rating	Ability to Fulfill Obligations
Investment Grade		id AAA	Superior
		ID AA	Very strong
		id A	Strong
		ID BBB	Adequate
Non Investment Grade		ID BB	Somewhat Weak
		id B	Weak
		CCC id	Prone to
		SD ID	Some Failed
		id D	Payment Failure (*default*)

Source: www.pefindo.com

https://ijbtob.org

The top bond rating as seen in table 2 is idAAA which indicates the bond has the highest performance and the lowest default rate. Meanwhile, the lowest ranking category is idD, which shows that the company has failed to pay. A bond rating between idAAA and idBBB is considered advisable for investing in these bond instruments (*investment grade*), while bonds with a rating below idBBB are considered speculative (*non-investment grade*).

Table 3. Ratings Outlook

Outlook	**Ability to Meet Long Term Finances**
Positive	Ratings can be improved
Negative	Ratings may be lowered
Stable	Ratings may not change
Developing	Ratings can be increased or decreased

Source: www.pefindo.com

Furthermore, as illustrated in table 2, the ratings from idAAA to idB can be adjusted by providing a positive (+) or negative (-) axis that is used to indicate the relative influence within the rating categories. This indicator is known as a potential rating (*outlook rating*).

Liquidity

According to (Brigham & Houston, 2019)the liquidity ratio, it is a ratio that describes the relationship between cash and company assets using current debt and other current assets. Liquid assets are assets that are frequently sold in the market and therefore can be easily converted into cash at current market prices. Ratio analysis provides a quick and easy assessment of liquidity by relating cash and other current assets to current liabilities.

Solvency

According to Brigham & Houston (2019)the use of debt such as bonds, the company's ROE increases if the company produces more assets than the interest rate it pays on debt. But, debt exposes companies to greater risks than equity financing. Relatively high debt-to-equity ratios often experience greater expected returns during a normal economy, but smaller returns and the possibility of bankruptcy during a recession. Consequently, companies must weigh higher expected returns against increased risk when making decisions about the use of debt.

Liquidity and Bond Ratings

According to Brigham & Houston (2019)liquid assets are assets that are frequently sold in the market and therefore are easily converted into cash at the current market price. A high liquidity ratio means that the business's ability to pay short-term debt is higher, so it can be concluded that the bond rating is better. In signal theory, companies provide data to investors so that they can find out data on liquidity and how strong the financial condition of a company is.

According to Darmawan et al. (2020), the liquidity ratio has a significant positive effect on bond levels. Pasca (2020)also stated from the results of his research that a high liquidity ratio indicates a strong company condition, able to fulfill its obligations and the company's performance will look good so that the bond rating increases.

H1: There is an influence of Liquidity Ratio on Bond Rating

Solvency and Bond Ratings

According to Brigham & Houston (2019)debt exposes a company to greater risks than equity financing. Relatively high debt-to-equity ratios often experience greater expected returns during a normal economy, but smaller returns and the possibility of bankruptcy during a recession. Consequently, companies must weigh higher expected returns against increased risk when making decisions about the use of debt. The impact on the bond rating illustrates that the

lower the level of the company's solvency ratio, the greater the company's ability to pay debts, so it can be concluded that the bond rating is getting better.

Research Kaltsum & Anggraini (2021)produces a significant negative influence between the solvency ratio and bond levels. Apart from that, the research Fadah et al. (2020)also concluded that the solvency ratio had a significant negative effect on bond ratings.
H2: There is an influence of the Solvency Ratio on Bond Ratings

3. Research Methodology

Method of collecting data

In this research, the dependent variable (Y) uses bond ratings which are assessed based on ratings with an ordinal value of 1-19. Meanwhile, the independent variable (X) uses the liquidity ratio which is calculated using the *Cash Ratio* (CR) indicator and the solvency ratio which is calculated using the *Debt to Equity Ratio* (DER) indicator. The population consists of all companies in the raw materials sector *that* have bond instruments and are listed on the Indonesia Stock Exchange (BEI) between 2017 and 2021. The research sample here is all companies in the raw materials sector listed on the BEI between 2017 until 2021 using a *purposive sampling strategy* because it requires certain requirements. Among the requirements for this research are:

1. *Basic materials* sector companies that publish financial reports on the Indonesia Stock Exchange (BEI) in the 2017-2021 period.
2. Companies in the raw materials sector *that* issued bonds in the 2017-2021 period.

Judging from the source, the information in this research comes from secondary data obtained from outside the company (bond ratings) which can describe the possibilities that will influence the company's performance. Meanwhile, at the time of collection, this data is a type of panel data because it is historical in nature, obtained from annual financial reports for five years from 2017 to 2021.

The method of collecting information used in this research uses document analysis, where this method focuses more on concrete evidence. The documentation analysis method carried out is in the form of reviewing bond performance reports in the *basic materials sector* listed on the *Indonesia Stock Exchange* during the 2017-2021 period which are downloaded via www.idx.co.id. This research uses a type of data collection in the form of collecting, recording, studying and storing the necessary documents and is supported by several research references, including books, national and world periodicals, as well as other relevant written sources.

Data analysis technique

The data type is quantitative research because it uses financial indicators which are included in the panel data type which is unbalanced *and* data with dummy indicators so that the research uses statistical techniques with support from *E-Views* 12 and *Microsoft Excel software* . In this descriptive statistical research, the difference between the average (mean) of each financial ratio, namely profitability and liquidity, is determined. This method mixes time series and *cross-sectional data* . The term " *time series data* " refers to data collected according to time sequence, and " *cross section data* " refers to information collected in various components of panel data regression analysis using the t test and coefficient of determination test.

4. RESULTS
Descriptive statistics

Descriptive statistics summarize information starting from the *mean value* , standard deviation, maximum value and minimum value for each variable in this observation. Bond rating is the dependent variable, while liquidity and solvency are independent.

Table 4. Descriptive Statistical Test Results

	Y	Liquidity	Solvency
Mean	13.81250	0.419841	1.202775
Median	14,00000	0.298507	1.107183
Maximum	19,00000	1.655465	8.121550
Minimum	2,000000	0.000000	-3.476878
Std. Dev.	2.605702	0.390053	1.172723

Source : EViews 12 output

From the test results in table 4, it is known that the research sample was 64, coming from 16 companies in the raw materials sector with a research period of five years where the average value of the bond rating was 13.81. This means the average bond rating in the raw materials sector is 13.81. If rounded, this average value has a value of 14 or the equivalent of an IDA (*investment grade) rating* . Furthermore, the median value of the bond rating is 14. Apart from that, the lowest bond rating value is 2, namely a company that has defaulted so it is given an idD rating and the highest is 19 or the highest rating, namely idAAA, in the raw materials sector. Finally, the standard deviation shows that there is a difference in bond ratings for each financial ratio, which is 2.61.

Furthermore, the liquidity ratio has a mean value of 0.30 with an average value of 0.41. It can be concluded that the average liquidity ratio or average ability of companies in the raw materials sector to pay short-term debt is 41%, with a maximum liquidity value of 1.65 or a maximum liquidity ratio of 165%. Meanwhile, the lowest liquidity value is 0, because the company experienced bankruptcy so the annual financial report was not published. The standard deviation shows that there is a difference of 0.39 in the liquidity of each organization.

Finally, the solvency ratio has a median value of 1.11 and an average value of 1.20. This shows that the average level of company capital financed by debt based on the solvency variable for 2017-2021 is 120%, with a maximum value of 8.12 or the highest solvency ratio of 812%. The minimum solvency ratio is -3.47 or the lowest solvency ratio is -347%. This is due to the company's equity having a negative value. The standard deviation reveals a value of 1.17, which shows the difference between the solvency ratios of each company of 1.17.

Panel Data Regression Model Used

After testing the model determination, it was shown that *the Fixed Effect Model* (FEM) was the most suitable model for this research. The FEM observation model regression analysis approach has the following results:

Table 5. Panel Data Regression Analysis

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	13.72128	0.545413	25.15761	0.0000
CR	1.535554	0.743459	2.065418	0.0434
DER	-0.460157	0.253974	-1.811825	0.0753

Source: EViews 12 output

In table 5, the correlation between the independent variables and the dependent variable can be identified. The regression equation found is:

$$\text{Bond Rating} = 13.72128 + 1.535554\ (CR) - 0.460157\ (DER)$$

The explanation of the regression equation above is as follows:

1. The C value if the independent variables in the regression, namely liquidity (CR) and solvency (DER) are considered constant or zero (0), then the constant for the bond rating equation for raw materials sector companies listed on the Indonesia Stock Exchange is 13.72128.

2. *Cash Ratio (CR)* value used to calculate the Liquidity regression coefficient has a positive value of 1.535554. This means that for every one unit increase in CR, it is assumed that all other variables have a value of zero (0), so that the bond rating will increase by 1.535554. The resulting coefficient is positive, indicating a positive correlation between credit ratings and bond ratings. When CR rises, the bond rating will also rise. Conversely, a bond rating downgrade could occur if the CR decreases.

3. The solvency regression coefficient value assessed by *the Debt to Equity Ratio* (DER) is -0.460157, which indicates that the bond rating will decrease by 0.460157 every time the DER increases by 1 unit assuming all other variables have a value of zero (0). The coefficient obtained is negative, indicating a negative relationship between DER and bond rating. The bond rating will be lowered along with the increase in DER. Bond ratings may increase in response to a decrease in the DER.

Hypothesis testing

1. Partial Test (t Test)

The t-test results obtained in table 6 between the influence of the two independent variables on the dependent variable are explained below:

Table 6. Partial Test Results

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	13.72128	0.545413	25.15761	0.0000
CR	1.535554	0.743459	2.065418	0.0434
DER	-0.460157	0.253974	-1.811825	0.0753

Source: EViews 12 output

a. The Effect of Liquidity on Bond Ratings

The liquidity ratio variable with Cash Ratio (CR) gives $t_{count} > t_{table}$ of 2.065418 > 1.99897 and the probability produces a value of $0.0434 < 0.05$, which shows that Ho is rejected and Ha is accepted. Liquidity has a significant effect on the bond rating.

b. The Effect of Solvency on Bond Ratings

In this observation, solvency is proxied by *the Debt to Equity Ratio (DER), resulting in a* $_{calculated}$ t table of $-1.811825 < -1.99897$ and the probability of obtaining a value of $0.0753 > 0.05$ which indicates that Ho is accepted and Ha is rejected, or that solvency has no significant effect on bond ratings.

5. Discussion

The Effect of Liquidity on Bond Ratings

From the results of the data panel regression t test, it was found that liquidity as illustrated by the Cash Ratio (CR) produces tcount > ttable of 2.065418 > 1.99897 and the probability of producing a pcount value of $0.0434 < 0.05$ so that Ho is rejected and Ha is accepted , which means that the liquidity variable has a significant influence on bond ratings. From this statement

it can be concluded that the first hypothesis or H1 which states that "There is an influence of liquidity ratios on bond ratings" is accepted.

These results are comparable to the findings of Kaltsum & Anggraini, (2021), Darmawan et al., (2020), Fadah et al., (2020), Hasan & Dana, (2017), and Pasca (2020) which show that liquidity influences corporate bond ratings. . Total liquidity measures an entity's ability to pay off its debts using its assets. Liquidity, which is reflected by the cash ratio, measures an entity's ability to pay its current obligations with cash and cash equivalents so that it can have an influence on bond ratings because it can measure the company's capability to pay debts from a company so that the company does not experience default.

The Effect of Solvency on Bond Ratings

Research conducted to determine the effect of solvency on bond ratings apparently shows that the solvency variable does not have a significant influence on bond ratings. This is proven by the results of the statistical t test, namely tcount < ttable of -1.811825 < -1.99897 and the probability of obtaining a value of 0.0753 > 0.05. From this statement it can be concluded that the second hypothesis or H2 which states that "There is an influence of the solvency ratio on bond ratings" is rejected.

The reason is because bond investors do not only look at the average value of the solvency ratio, but also look at the profits earned by the company. If a company has large debts and large profits, the company can pay its debts before they mature. Company profits in this research sample show that the average profit growth of companies in the raw materials sector is 30.62%. Apart from that, the average profit from this sector increased by 191.04% with an average profit in 2020 of 598 billion rupiah to 1.7 trillion rupiah in 2021.

This finding is similar to the results of research conducted by Alie & Febrinta (2020) which shows that solvency has no impact on bond ratings even though research conducted by Kaltsum & Anggraini (2021), Darmawan et al. (2020) and Fadah et al. (2020) explains that the solvency ratio has an influence on bond ratings. It can be concluded that the amount of debt that can be paid using specific capital in the raw materials sector has no influence on the bond rating.

6. Conclusion and Recommendation

Conclusion

Some conclusions from the discussion in this research include:

1. The results of observing the liquidity variable using *the Cash Ratio* (CR) as a projection reveal that the liquidity ratio has a significant effect on the bond ratings of raw materials sector companies listed on the Indonesia Stock Exchange. So it can be concluded that liquidity can be used as a benchmark that can influence the rating of a bond.
2. The results of observing the solvency variable using the *Debt to Equity Ratio* (DER) proxy reveal that the solvency variable does not have a significant influence on the ranking of raw materials sector bond companies listed on the Indonesia Stock Exchange. So it can be concluded that the solvency ratio cannot be used as a benchmark to influence the rating of a bond.

Recommendations

Some useful suggestions for adding further references to research findings and limitations in this research include:

1. Theoretical Aspects

It is hoped that future examinations will cover other criteria that could influence company valuation, such as profitability, bonds, company size, and

external factors such as currency and inflation. In addition, researchers can expand the observation sample to a larger number of companies that do not yet have complete data to produce observation findings that are different from previous observations in order to assess the value of basic materials sector companies listed on the *IDX* .

2. Practical Aspects
   a. For Investors
      It is hoped that this insight can explain factors for making decisions related to company value, as seen through corporate liquidity and solvency.
   b. For Companies
      It is hoped that these observations will provide information for decision making to evaluate which company policies will improve the company's welfare by improving the performance of the solvency ratio thereby increasing the company's ranking.

References

Alie, M. S., & Febrinta, H. (2020). *Pengaruh Manajemen Laba , Rasio Likuiditas, Rasio Solvabilitas dan Rasio Profitabilitas Terhadap Peringkat Obligasi Pada Perusahaan Manufaktur Sub Sektor Makanan dan Minuman yang Terdaftar di Bursa Efek Indonesia (BEI) Tahun 2011-2018*. Jurnal Ekonomi, 22.

Brigham, E. F., & Houston, J. F. (2019). *Fundamentals of Financial Management* (15 ed.). Boston: Cengage Learning, Inc.

Cagan, M. (2016). *Investing 101 From Stocks and Bonds to Etf's and Ipo's, an Essential Primer on Building a Profitable Portfolio*. Massachusetts: Adams Media.

Darmawan, A., al Fayed, Y. F., Bagis, F., & Pratama, B. C. (2020). *Pengaruh Profitabilitas, Likuiditas, Leverage,Umur Obligasi dan Ukuran Perusahaan Terhadap Peringkat Obligasi Pada Sektor Keuanganyang Terdapat di BEI Tahun 2015-2018*. DERIVATIF: Jurnal Manajemen, 14, 99–114.

Dewi, W. P., & Khrisna, D. P. M. (2019). *The Effect of Company Sizes, Growth and Secure to Bond Rating (Empirical Study on Manufacturing Companies on The Consumer Goods Sector Rated in PT PEFINDO Period 2013-2017)*. E-Proceeding of Management, 6, 3668–3674. Diambil dari www.kontan.co.id,

Economic Research Division. (2022). *The Default Study of Corporate and Corporate Debt Securities Rated by PEFINDO 2007-2021*. Jakarta. Diambil dari www.pefindo.com

Fadah, I., Ayuningtyas, A., Puspitasari, N., & Yuswanto, I. B. (2020). *Analysis of financial and non-financial factors affecting bond ratings*. IOP Conference Series: Earth and Environmental Science, 485(1). https://doi.org/10.1088/1755-1315/485/1/012019

Fikriyah, S. H. (2018). *Pengaruh Likuiditas, Profitabilitas dan Ukuran Perusahaan Terhadap Peringkat Obligasi pada Industri Perbankan yang Terdaftar di Bursa Efek Indonesia.* Jurnal Akuntansi Berkelanjutan Indonesia, *1*(3).

Hasan, D. A., & Dana, I. M. (2017). *The Effect of Profitability, Liquidity, Maturity And Assurance Against Highest Bond Ranking In Financial Sector In Indonesia Stock Exchange.* E-Jurnal Manajemen Universitas Udayana, 7(2), 643. https://doi.org/10.24843/ejmunud.2018.v7.i02.p04

Higgins, R. C., Koski, J. L., & Mitton, T. (2022). *Analysis for Financial Management* (13 ed.). New York: McGraw-Hill LLC.

Indriyanti, D., Novianti, Apriliana, R., Adelia, R., & Nofrayanti. (2020). Pengaruh Pertumbuhan Perusahaan, dan Umur Obligasi Terhadap Peringkat Obligasi. *PROSIDING WEBINAR "Insentif Pajak Untuk WP Terdampak Covid-19" Program Studi Sarjana Akuntansi Universitas Pamulang.*

Kaltsum, H., & Anggraini, D. T. (2021). *Analisis Dampak Likuiditas, Leverage, dan Company Size Terhadap Peringkat Obligasi.* Jurnal Akuntansi dan Governance, 1(2). Diambil dari http://jurnal.umj.ac.id/index.php/jago

Mcclave, J. T., Benson, P. G., & Sincich, T. (2021). *Statistics for Business and Economics* (14 Global). Pearson Education Limited.

Pasca, Y. D. (2020). *Pengaruh Laba, Rasio Keuangan dan Corporate Governance Terhadap Peringkat Obligasi*. Syntax Literate : Jurnal Ilmiah Indonesia, 5, 209–220. Diambil dari https://jurnal.syntaxliterate.co.id/index.php/syntax-literate/article/view/1337/1426

PT. Penilai Harga Efek Indonesia, R. and M. I. D. (2021). *Indonesia Bond Market Directory 2021*. Jakarta: PT Penilai Harga Efek Indonesia.

Sujarweni, V. W. (2019). *Metodologi Penelitian Bisnis dan Ekonomi Pendekatan Kuantitatif*. Yogyakarta: PUSTAKABARUPRESS.

Wibowo, A. E., & Linawati, L. (2020). *Pengaruh Likuiditas, Profitabilitas dan Leverage Terhadap Peringkat Obligasi Perusahaan di Indonesia.* Jurnal Riset Manajemen Sekolah Tinggi Ilmu Ekonomi Widya Wiwaha Program Magister Manajemen, 7(2), 143–152. https://doi.org/10.32477/jrm.v7i2.201