

Bond Rating, Firm Size, Capital Structure and Maturity on Yield to Maturity

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Abstract. This study aims to determine the effect of bond rating, firm size, capital structure and maturity on the yield to maturity of corporate bonds listed on the Indonesia Stock Exchange (IDX) for the 2017-2021 period. The type of data in this study uses secondary data. The research population is companies that issue bonds on the IDX. The research sample was selected using the purposive sampling technique. The study results show that: (1) bond rating has a significant effect on bond yield to maturity. (2) firm size has a significant effect on bond yield to maturity. (3) capital structure has a significant effect on bond yield to maturity. (4) maturity has no significant effect on the yield to maturity of bonds. The company is expected to choose the best alternative as a source of funding for the company and on the other hand be able to maintain the balance composition between debt and equity. Investors are expected to be able to choose the best bonds and be able to provide benefits in the future by taking into account the yield to maturity level of bonds.

Keywords. Bond Rating; Capital Structure; Size; Maturity; Yield to Maturity

Abstrak. Tujuan penelitian ini untuk mengetahui sejauhmana pengaruh rating obligasi, ukuran perusahaan, struktur modal dan maturitas terhadap *yield to maturity* obligasi korporasi yang terdaftar di Bursa Efek Indonesia (BEI) periode 2017-2021. Jenis data dalam penelitian ini menggunakan data sekunder. Populasi penelitian yaitu perusahaan yang menerbitkan obligasi di BEI. Sampel penelitian dipilih dengan menggunakan teknik *purposive sampling*. Hasil penelitian menunjukkan bahwa: (1) rating obligasi berpengaruh signifikan terhadap *yield to maturity* obligasi. (2) ukuran perusahaan berpengaruh signifikan terhadap *yield to maturity* obligasi. (3) struktur modal berpengaruh signifikan terhadap *yield to maturity* obligasi. (4) maturitas berpengaruh signifikan terhadap *yield to maturity* obligasi. Perusahaan diharapkan memilih alternatif yang terbaik sebagai sumber pendanaan bagi perusahaan dan disisi lain mampu menjaga komposisi keseimbangan antara utang dan ekuitas. Investor diharapkan mampu memilih obligasi terbaik dan dapat memberikan keuntungan dimasa mendatang dengan memperhatikan tingkat *yield to maturity* obligasi.

Kata kunci. Imbal hasil; Maturitas ; Rating Obligasi; Struktur Modal, Ukuran Perusahaan,

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INTRODUCTION

The capital market is a long-term market in which investors can consider various capital market instruments. On the other hand, the capital market is also a market that brings together those who need funds and those who need long-term funds. Judging from Indonesia's investment opportunities every year, the average investment opportunity has increased yearly. Even when the global economy is experiencing a slowdown, investment is one of the main components

supporting economic growth to replace export performance which tends to slow down.

Bonds as an investment instrument offer yields for investors. Bond yield is the most crucial factor for investors to consider in purchasing bonds as an investment instrument (Sangiorgi & Schopohl, 2021). Bond yield is a measure of bond income that investors will receive, which tends to be variable. Bond yields are not fixed, like bond interest, because bond yields will be closely related to the level of return that investors are signaling. Meanwhile, according to Sucipto & Chasanah

(2019), yield is the profit on a bond investment expressed in percentage. Investors can use several sizes of bond yields, namely the current yield and yield to maturity (YTM).

Yield to maturity is the level of profit that investors will receive if they buy bonds at the current market price and hold the bonds until maturity (Weniasti & Marsoem, 2019). An investor who buys a bond and holds it until the bond matures will receive the yield to maturity found on the purchase date. However, the calculated bond yield to maturity will often change between the purchase date and the maturity date.

Yield to maturity is a yield measure that is widely used because it reflects the compound rate of return expected by investors. Yield to maturity is also referred to as “book yield” or “redemption yield”. The yield to maturity calculation assumes all coupon payments are reinvested at the same rate as the current bond yield, taking into account the current market price of the bond, par value (principal value received by bondholders at maturity), coupon interest rate and maturity period (Ulfah et al., 2019).

The purpose of investors investing is to earn profits in the form of payment of bond coupons and capital gains. Capital gains are obtained when selling bonds held by investors. An investor who wants to buy bonds must pay attention to credit ratings. Bond ratings are beneficial for potential investors who invest their capital in bonds (Li et al., 2020). By observe at this rating, investors can determine the possible returns obtained and the risks that must be borne. The higher the bond rating, the more it shows that the bond is protected from default risk. On the other hand, the lower the bond rating, the higher the default risk, and the higher the yield. Default risk is the risk of default or default in which the bond issuer fails to fulfill its obligations to pay the principal amount of the investment and the (interest) of the bond (Schwert, 2017).

The size of the company also has an influence on the yield to maturity (Chuluun et al., 2017); (Ghouma et al., 2018). With the size of the company, investors can determine the company's ability to pay bond interest

periodically and pay off the principal, which can increase the company's bond rating (Nurdianti & Marsoem, 2020).

Capital Structure measurement use Debt to Equity Ratio (DER) is also like an indicator of the health of each company's financial condition (Purba & Africa, 2019). That is why, DER is also often a requirement in getting investment from investors. Investors certainly do not want to arbitrarily invest their money in companies that do not have stability and good financial health. The debt ratio is proxied by the debt to equity ratio (DER), calculated by dividing the company's total debt (including short-term liabilities) by shareholder equity (Sukmawardini & Ardiansari, 2018).

Martellini et al. (2018); (Hamid et al., 2019) suspected capital structure to influence yield to maturity. This is because the total cash flow received by investors will depend on the age of the investment. Bonds with a more extended maturity period will have a higher level of risk (Xu, 2018). The yield obtained is also different from bonds with a reasonably short maturity period. Based on research conducted by Latif & Marsoem (2019) The effect of bond ratings on yield to maturity of corporate bonds with the results showing that bond ratings have a significant negative effect on yield to maturity bonds so that bonds with good investment grades have super premium prices and have low yields.

Based on research conducted by Ulfah et al. (2019) The effect of profitability, company size, bi rate, and inflation on the yield to maturity of corporate Sukuk in 2014-2017 shows the result that profitability projected by return on assets has no effect on yield to maturity, size companies have a negative effect on yield to maturity, the bi rate variable has a positive and significant effect on yield to maturity and inflation have a negative effect on yield to maturity. Based on Mointi (2017) research, the results show that the debt to equity ratio variable partially has a positive and significant effect on yield to maturity. The firm size variable has a negative and significant effect on bond yield to maturity.

Previous studies by Nelmidia (2019) show that liquidity, bonds, maturity, and inflation simultaneously significantly affect yield to maturity. Bond liquidity has no significant effect on bond yield to maturity. Maturity has a significant positive effect on bond yield to maturity. And inflation has no significant effect on yield to maturity.

This research is different from previous research conducted by (Mointi, 2017; Nelmidia, 2019) that measure yield to maturity with dummy variable, however in this study use bond rating score. All bonds are made into the research population and are not limited to a particular sector. It is to see the performance of all bonds in various sectors in IDX.

Yield to maturity (YTM) is the total return on a bond if the bond is held to maturity. The yield to maturity is considered the yield on a long-term bond, but is usually expressed as an annual rate (Latif & Marsoem, 2019). In other words, YTM is the rate of return on investment in bonds if investors hold bonds to maturity and if all payments are made on schedule (Maharditya et al., 2018).

Yield to maturity is also referred to as "book yield" or "redemption yield". The yield to maturity calculation assumes all coupon payments are reinvested at the same rate as the current bond yield, considering the bond's current market price, par value, coupon rate and maturity period. YTM is a complex but accurate bond return calculation that can help investors compare bonds with different coupon rates and maturities.

Bond ratings reflect the market's assessment of the bond's risk, not the provided high or low interest rates. Several studies have been conducted to test the market response when the rating changes. It can be concluded that the announcement of a rating change does not provide new information on the capital market. The investigation results stated that the rating change provided old information attached to the bond price. It's just that the price change occurred after one year or more after the rating change occurred (Seltzer et al., 2022); (Reboredo, 2018)

A bond rating issued by a competent company or institution includes an assessment of the potential future risk of the bond. The rating is used as a reference to assess whether the debt securities issuing company (issuer) is solid and able to pay the debt securities in the future. A rating agency carries out the bond rating process. The rating agency in Indonesia is PT. Pefindo (Indonesian Securities Rating Agency), PT. Fitch Ratings and PT. India Credit Rating Agency (ICRA) Indonesia.

Bonds that are sold to the public in the perspective of the buyers, see it based on the rating (rating). The rating describes the credible and prospects as if the bonds were purchased to be used as one of the company's current assets. Therefore, no bonds will be purchased, but the bonds purchased are mainly based on recommendations from rating agencies that have been trusted and tested at the international level. Ratings indicate a company's ability to repay bonds, affecting yields. The higher the bond rating, the lower the interest rate. For this reason, companies with high nominal values do not need to offer high-interest rates (Painter, 2020).

Firm size can be interpreted as a comparison of the company's size as an indicator that can show the condition or characteristics of the company where several parameters can be used to determine the size of a company. Firm size describes the size of a company indicated by total assets. Firm size is measured by total assets which are proxied by the algorithm value of the company's total assets (M'ng et al., 2017). The larger the firm size, the tendency to use external capital is also getting more significant. Large companies require large funds to support their operations, and one alternative to fulfill it is with external funding if the internal funding is insufficient (Allen et al., 2019).

Capital structure is the composition of common stock, preferred stock, various such classes, retained earnings, and long-term debt maintained by a business entity to finance its assets. Measurement of capital structure using debt to equity ratio (Sadiq et al., 2017). Debt to Equity Ratio (DER) is a ratio that compares the amount of debt to equity. This ratio is often

used by analysts and investors to see how much the company's debt is compared to the equity owned by the company or its shareholders. The higher the DER number, it is assumed that the company has a higher risk of its liquidity (Pattiruhu & Paais, 2020).

Investors need to know the health of the company through a comparison between their own capital and loan capital. If the own capital is greater than the borrowed capital, then the company is healthy and not easily bankrupt. DER ratio can also provide an overview of the capital structure owned by the company so that it can be seen the level of risk of non-payment of a debt.

In bond investment, the term maturity is known. Maturity (maturity) is the maturity period to repay all agreed loans. The maturity of a bond is also used to indicate the age of the bond, usually the maturity of a bond is expressed in annual terms (Karpf & Mandel, 2018). Bonds that have a longer maturity will have a higher level of risk, and vice versa. Therefore, investors prefer to buy bonds that have shorter maturities. In addition, the long or short maturity of the bonds will also affect the

price of the bonds due to changes in interest rates that move fluctuately (Gagnon et al., 2018).

If there is a decrease (increase) in the interest rate, the price of the bond will increase (decrease), but a relatively larger percentage change in price will occur in bonds that have longer maturities and lower coupon rates (Black & Scholes, 2019). Therefore, the existence of bonds with a certain maturity can be used as an option for investors to avoid losses if one day interest rates decline. Maturity is defined as the remaining maturity of the payment of the principal value of the bond by the issuer to the owner or buyer of the bond. This variable is measured using the maturity period. The data is obtained from the Indonesian Bond Market Directory contained in IDX.

This study was conducted to examine whether there is an influence between bond rating, firm size, capital structure, and maturity on yield to maturity. Based on the descriptions that have been stated previously related to this research, it can be concluded through a framework as follows in Figure 1:

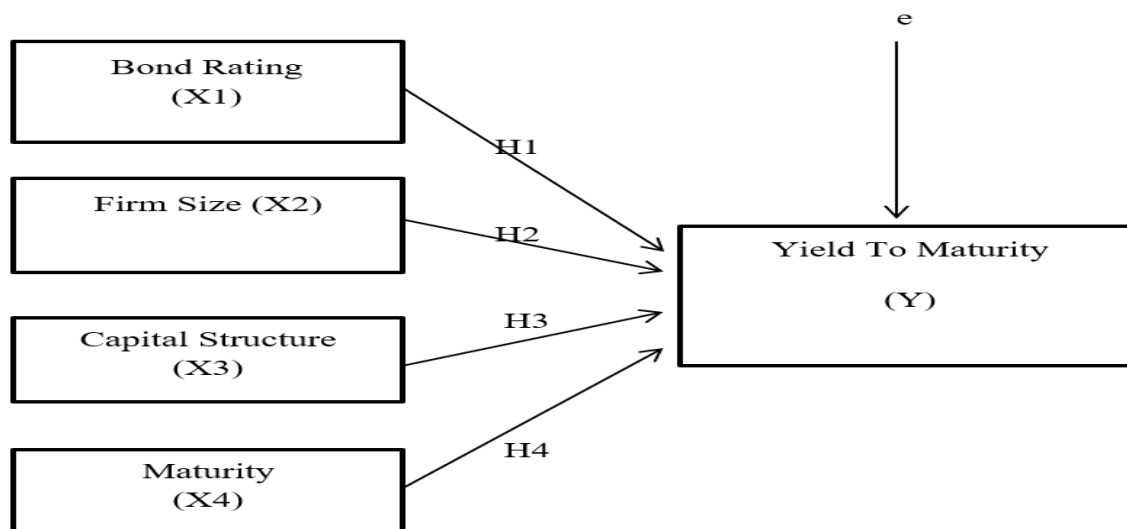


Figure 1. Conceptual Framework

Based on conceptual framework, the hypotheses in this research as follows:

H₁: Bond rating has significant effect on yield to maturity

H₂: Firm size has significant effect on yield to maturity

H₃: Capital structure has significant effect on yield to maturity

H₄: Maturity has significant effect on yield to maturity

| | |
|-----|---|
| AA | 7 |
| A | 6 |
| BBB | 5 |
| BB | 4 |
| B | 3 |
| CCC | 2 |
| D | 1 |

RESEARCH METHODOLOGY

This research was conducted on corporate bonds listed on the Indonesia Stock Exchange (IDX) for the 2015-2019 period. To provide an explanation of the research variables used, namely yield to maturity as the dependent variable (Y), Bond Rating as the independent variable (X1), Firm Size as the independent variable (X2), Capital Structure as the independent variable (X3), and maturity as the independent variable (X4).

Yield to maturity (YTM) is the compound rate of return that investors will receive if the bond buyer is at the current market price and holds the bond until maturity (Latif & Marsoem, 2019). YTM is a yield measure that is widely used because the yield reflects the compounded rate of return expected by investors. If both assumptions are met, the expected yield to maturity will be the same as the realized yield. In obtain a YTM value, the following equation can be used:

$$Yield\ To\ Maturity = \frac{C + \frac{F - P}{n}}{\frac{F + P}{2}}$$

Information:

- YTM : Yield to Maturity
- C : Coupon
- n : Remaining Due Time
- F : Face Value
- P : Price Value

Bond rating is the timeliness of principal payment and interest on bonds that reflect the risk data of the traded bonds (Weniasti & Marsoem, 2019). Rating is a statement in the form of a symbol about the state of the bond issuing company issued by PT. PEFINDO, the bond rating variable is given the symbol RATING and is determined by classifying the ratings according to the category

Table 1.

| Bond Rating Score | |
|-------------------|-------|
| Symbol | Score |
| AAA | 8 |

Firm size is the total value of assets owned by a company (total assets). Firm size is measured by the natural logarithm of the company's total assets (Lumapow & Tumiwa, 2017).

$$Firm\ Size = Log\ of\ Total\ Assets$$

Capital structure is measured by using the Debt to Equity Ratio. The Debt to Equity Ratio (DER) is a ratio that compares the amount of debt to equity (Sukmawardini & Ardiansari, 2018).

$$DER = \frac{Total\ of\ Debt}{Total\ of\ Equity}$$

Each bond has a maturity or known as a maturity date, which is the date on which the bond issuer must repay the principal value of the bond. Maturity is calculated using the number of years until the bond matures (Choi et al., 2018); (Chen et al., 2021). In general, the longer a bond's maturity, the higher the coupon or interest rate.

$$Maturity = The\ age\ of\ bonds$$

The population in this study is the most actively traded corporate bonds based on frequency on the Indonesia Stock Exchange (IDX) for the 2017-2021 period.

The sampling technique used in this research is purposive sampling. So the number of samples that meet the criteria are 14 companies bond. Data analysis used descriptive statistics. Classical assumption test consisting of normality test, heteroscedasticity test, multicollinearity test, autocorrelation test, estimation model selection and panel data regression.

The panel data regression model used in this study:

$$YTM_{it} = \beta_0 + \beta_1 Rat_{it} + \beta_2 Size_{it} + \beta_3 DER_{it} + \beta_4 Mat_{it} + \varepsilon$$

Information:

- YTM* : Yield to Maturity
- β_0 : Constant
- β_1 - β_2 : Regression Coefficient
- Rat* : Bond Rating

- Size* : Firm Size
- DER* : Capital Structure
- ε : Error Terms

RESULT AND DISCUSSION

Result

Based on the stages of data processing that have been carried out, a summary of descriptive statistics of each research variable used is obtained as follow:

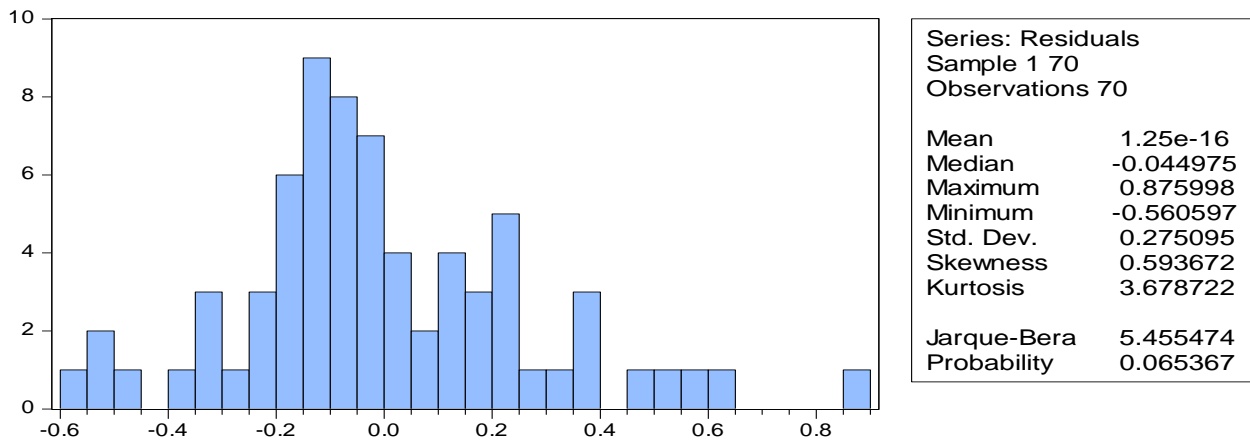
Table 2.
Descriptive Statistics

| | YTM | RATING | SIZE | DER | MATURITY |
|--------------|------------|---------------|-------------|------------|-----------------|
| Mean | 1.492120 | 1.327728 | 1.814050 | 1.161446 | 0.323433 |
| Median | 1.333212 | 1.394959 | 1.695922 | 1.252614 | 0.000000 |
| Maximum | 2.703222 | 2.942027 | 2.383421 | 2.036821 | 2.000000 |
| Minimum | 0.832555 | 0.000000 | 1.626646 | 0.190481 | 0.000000 |
| Std. Dev. | 0.537186 | 0.968990 | 0.264900 | 0.458245 | 0.440757 |
| Skewness | 0.624953 | 0.129176 | 1.579693 | -0.274943 | 1.218492 |
| Kurtosis | 2.359058 | 2.214668 | 3.572719 | 2.438954 | 4.206473 |
| Jarque-Bera | 5.754792 | 1.993520 | 30.07003 | 1.800015 | 21.56721 |
| Probability | 0.056281 | 0.369073 | 0.000000 | 0.406567 | 0.000021 |
| Sum | 104.4484 | 92.94098 | 126.9835 | 81.30121 | 22.64028 |
| Sum Sq. Dev. | 19.91126 | 64.78699 | 4.841864 | 14.48921 | 13.40442 |
| Observations | 70 | 70 | 70 | 70 | 70 |

Source: Data processed by authors, 2022

The descriptive statistical analysis results in table 2 show that from 70 observations, the Yield to Maturity data ranged from 0.83 to 2.70 with a median value of 1.33 and an average (mean) of 1.49 with a standard deviation of 0.53. The descriptive statistical analysis results in table 2 show that from 70 observations, the rating data ranged from 0.00 to 2.94 with a median value of 1.39 and an average (mean) of 1.32 with a standard deviation of 0.96. Firm Size data ranges from

1.62 to 2.38 with a median value of 1.69 and an average (mean) of 1.81 with a standard deviation of 0.26. DER ranges from 0.19 to 2.03 with a median value of 1.25 and an average (mean) of 1.16 with a standard deviation of 0.19. Maturity data ranged from 0.00 to 2.00 with a median value of 0.00 and an average (mean) of 0.32 with a standard deviation of 0.44. Normality test result is presented in figure 2 below:



Source: Data processed by authors, 2022

Figure 2. Normality Test Result

The distribution of the research residuals can be seen in the Jarque-Bera test results in the picture above, it is known that the Jarque-Bera value is 5.45 with a probability of 0.06 because the profitability value is 0.06 > from 0.05, it can be said that the residuals in this research model are normal.

The multicollinearity test result is presented in table 3 below:

Table 3.
Multicollinearity Test Result

| Variable | Coefficient Variance | Uncentered VIF | Centered VIF |
|----------|----------------------|----------------|--------------|
| RATING | 0.002292 | 5.369140 | 1.848426 |
| SIZE | 0.040489 | 118.5407 | 2.440335 |
| DER | 0.009360 | 12.68962 | 1.688111 |
| MATURITY | 0.006862 | 1.770407 | 1.144944 |
| C | 0.081776 | 71.25595 | NA |

Source: Data processed by authors, 2022

In table 3, the results of the multicollinearity test (correlation matrix) show that each independent variable used in this study has a correlation coefficient below < 10, so it can be concluded that each independent variable used in this study is free from multicollinearity symptoms.

The results of the multicollinearity test are in table 4 below:

Table 4.
Heteroskedasticity Test Result

| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | |
|--|----------|---------------------|--------|
| F-statistic | 1.668346 | Prob. F(4,65) | 0.1680 |
| Obs*R-squared | 6.517577 | Prob. Chi-Square(4) | 0.1637 |
| Scaled explained SS | 7.526871 | Prob. Chi-Square(4) | 0.1105 |

Source: Data processed by authors, 2022

Based on table 4, it can be seen that the probability value of the R-squared observation generated is 0.16. The results obtained indicate that the probability value generated shows 0.1637 > 0.05, so it can be concluded that all research variables, both independent and dependent variables that will be formed into the panel data regression model, are free from heteroscedasticity symptoms.

The results of the autocorrelation test are in the Table 5 below:

Table 5.
Autocorrelation Test Result

| | |
|--------------------|-------|
| Durbin-Watson stat | 0.992 |
|--------------------|-------|

Source: Data processed by authors, 2022

Based on Table 5 above, it can be seen that the Durbin-Watson statistical value is 0.992. Note that because the Durbin-Watson statistic is between 1 and 3, i.e. $-2 < 0.992 < 2$, the non-autocorrelation assumption is met. In other words, there is no autocorrelation

symptom in the residual, or it can be said that the data is free from autocorrelation symptoms.

The results of the estimation model selection using the Chow test, Hausman test and Lagrange Multiplier test. Based on the tests carried out using the Chow test with the Fixed Effect model approach, the Hausman

test for model selection has been carried out with the Random Effects model approach. And in the Hausman test, the model selection has been carried out using the Random Effects model approach. Then the best one is chosen, namely the random effect.

The results of the panel data regression analysis are in table 6 below:

Table 6.
Panel Data Regression Test Result

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|-----------------------|-------------|--------------------|-------------|--------|
| RATING | 0.366006 | 0.049000 | 7.469519 | 0.0000 |
| SIZE | 0.870672 | 0.205948 | 4.227636 | 0.0001 |
| DER | -0.293568 | 0.099019 | -2.964775 | 0.0042 |
| MATURITY | -0.142475 | 0.084783 | -1.680473 | 0.0977 |
| C | -0.186235 | 0.292685 | -0.636299 | 0.5268 |
| Effects Specification | | | S.D. | Rho |
| Period random | | | 4.04E-08 | 0.0000 |
| Idiosyncratic random | | | 0.290094 | 1.0000 |
| Weighted Statistics | | | | |
| R-squared | 0.737749 | Mean dependent var | 1.492120 | |
| Adjusted R-squared | 0.721611 | S.D. dependent var | 0.537186 | |
| S.E. of regression | 0.283434 | Sum squared resid | 5.221747 | |
| F-statistic | 45.71355 | Durbin-Watson stat | 0.882367 | |
| Prob(F-statistic) | 0.000000 | | | |
| Unweighted Statistics | | | | |
| R-squared | 0.737749 | Mean dependent var | 1.492120 | |
| Sum squared resid | 5.221747 | Durbin-Watson stat | 0.882367 | |

Source: Data processed by authors, 2022

Based on the selected estimation model, the panel data regression model is obtained as follows:

$$Y = -0.186 + 0.366 \text{ Rating} + 0.870 \text{ Size} - 0.293 \text{ DER} - 0.142 \text{ Maturity} + e$$

From table 6, the analysis results show that rating has a probability value of 0.00 less than 0.05 or (0.00 < 0.05). So it can be concluded that the Rating variable partially has a significant effect on Yield To Maturity in banking companies listed on the Indonesia Stock Exchange. So Ho is rejected and H1 is accepted.

Firm size has a probability value of 0.00 less than 0.05 or (0.00 < 0.05). So it can be concluded that the Firm Size variable partially has a significant effect on Yield To Maturity in banking companies listed on the Indonesia Stock Exchange. So Ho is rejected and H2 is accepted.

DER has a probability value of 0.00 less than 0.05 or (0.00 < 0.05). So it can be concluded that the DER variable partially has a significant effect on Yield To Maturity in banking companies listed on the Indonesia Stock Exchange. So Ho is rejected and H3 is accepted.

Maturity has a probability value of 0.09 which is greater than 0.05 or (0.09 > 0.05). So

it can be concluded that the Maturity variable partially has no significant effect on Yield To Maturity in banking companies listed on the Indonesia Stock Exchange. So H_0 is accepted and H_4 is rejected.

Table 6 also shows that the F-statistical probability value obtained is 0.00 less than sig (0.05). It indicates that the multiple linear regression model is accepted or this regression model shows a fit level so that it can be used to predict or it can be said that the independent variables have simultaneously effect on the dependent variable.

Table 6 also shows that the coefficient of determination generated in the R-squared test is 0.72. The results obtained indicate that the independent variable can contribute in influencing the yield to maturity of 72% while the remaining 28% is influenced by other variables that are not included in the research model.

Discussion

From table 6 for H_1 , the analysis results show that bond rating has a probability value of 0.00 less than 0.05 or ($0.00 < 0.05$). So it can be concluded that the Rating variable partially has a significant effect on Yield To Maturity in banking companies listed on the Indonesia Stock Exchange. Bond ratings are beneficial for potential investors who will invest their capital in bonds because by looking at this rating, investors can find out the possible returns that will be obtained and the risks that must be borne .

The higher the bond rating, the more it shows that the bond is protected from default risk. On the other hand, the lower the bond rating, the higher the default risk, the higher the yield given. Default risk is the risk of default or default where the bond issuer fails to fulfill its obligations to pay the principal amount of the investment and the interest (interest) of the bond. Thus, in accordance with the hypothesis or the sign of the coefficient which has a negative direction, it indicates that the higher the bond rating, the lower the bond's yield to maturity. This result is in line with research conducted by (Li et al., 2020);

(Bonsall & Miller, 2017); (Almeida et al., 2017).

It indicates that the bond rating issued or rated by PT. Investors consider Pefindo to conduct bond transactions on the Indonesia Stock Exchange. Although bonds have a lower risk than stocks, bonds are still assets that contain risk (default risk). To avoid the default risk or the risk of default, investors must be careful in buying bonds that are not included in the investment grade. The bond rating is an important indicator to determine the level of risk faced by the bond issuing company. If the bond rating is low, the bond has a higher risk. As a result, the lower-rated bonds must provide a higher yield to maturity to compensate for the possible significant risk.

For H_2 , firm size has a probability value of 0.00 less than 0.05 or ($0.00 < 0.05$). So it can be concluded that the firm size variable partially has a significant effect on Yield To Maturity in banking companies listed on the Indonesia Stock Exchange. Based on firm size, investors can determine the company's ability to pay bond interest periodically and pay off the principal, increasing the company's bond rating. If investors who are risk-takers want to invest in bonds, then it is better to invest their capital in bonds issued or sold by small-scale companies because they offer large yields. Meanwhile, investors who are risk averters should invest in bonds sold or issued by large-scale companies with lower yields but a greater security level.

Therefore, investors do not need to consider the firm size information contained in the financial statements of the issuing company to be used in the decision to buy the bonds and companies with large and small sizes will prioritize their obligations. This result is in line with previous studies by (Husna & Satria, 2019); (Weniasti & Marsoem, 2019); (Latif & Marsoem, 2019).

For H_3 , DER has a probability value of 0.00 less than 0.05 or ($0.00 < 0.05$). So it can be concluded that the DER variable partially has a significant effect on Yield To Maturity in banking companies listed on the Indonesia Stock Exchange. The Debt to Equity Ratio (DER) is also like an indicator of the health of

each company's financial condition. That is why, DER is also often a requirement in getting investment from investors. Investors certainly do not want to arbitrarily invest their money in companies that do not have stability and good financial health. The debt ratio is proxied by the debt to equity ratio (DER), calculated by dividing the company's total debt (including short-term liabilities) by shareholder equity.

A leverage ratio that is too high indicates excessive debt and the possibility that the company will not be able to generate sufficient profit to pay its bond obligations. This ratio shows the relationship between the number of long-term loans provided by creditors and the amount of own capital provided by the company's owners. Firms with relatively high debt ratios have higher returns in normal economic situations. This result is in line with previous studies by (Prasetya et al., 2015); (Suryaningprang & Suteja, 2017); (Kabir & Chowdhury, 2014).

For H₄, Maturity has a probability value of 0.09 greater than 0.05 or ($0.09 > 0.05$). So it can be concluded that the Maturity variable partially has no significant effect on Yield To Maturity in banking companies listed on the Indonesia Stock Exchange. Maturity (maturity period) is also thought to influence yield to maturity. It is because the total cash flow received by investors will depend on the age of the investment. Bonds with a longer maturity period will have a higher level of risk so that the yield obtained is also different from bonds with a fairly short maturity. Smaller than bonds that have a maturity period of 5 years. With a smaller level of risk, an investor will get a low yield not as big as the yield of bonds that have a maturity of 5 years. Logically, the longer the bond term, the higher the risk of uncertainty, so that the expected interest rate will also be higher or the bond's maturity will be longer. Based the results of the study that the age of a bond has a significant and positive effect if the shorter the term of the bond, the more attractive it will be to investors because it is considered a smaller risk. After all, in the short period, the bond issuer is likely to be able to return the principal and interest of the bond

as previously promised. This result is not in line with the research conducted by (Weniasti & Marsoem, 2019); (Nurdianti & Marsoem, 2020); (Putri et al., 2020).

CONCLUSION

Based on the analysis and discussion of the Effect of Bond Rating, Company Size, DER and Maturity on Yield to Maturity of Corporate Bonds on the Indonesia Stock Exchange, the conclusions are as follows:

Bond Rating partially has a significant effect on Yield To Maturity in companies listed on the Indonesia Stock Exchange for the 2017-2021 period. Company size partially affects Yield To Maturity in companies listed on the Indonesia Stock Exchange for the 2017-2021 period. DER partially has a significant effect on Yield To Maturity in companies listed on the Indonesia Stock Exchange for the 2017-2021 period. Maturity partially affects Yield To Maturity in companies listed on the Indonesia Stock Exchange for the 2017-2021 period.

Limitations

This study only used four independent variables and limited data for 5 years 2017-2021. Then the number of samples is limited due to the sampling criteria using purposive sampling. The total bonds are 14 teams with 5 years of data. This means that only 70 data are processed. The researcher could not increase the number of samples because of limited data.

Suggestions

Some suggestions from this research for companies are the need for company management to pay special attention to increasing Yield To Maturity. maximizing each management division by increasing assets and reducing the level of liabilities within the company so that the company's performance will be better and attract the attention of investors and potential investors. Companies must always remain consistent to increase profits by means of making cost efficiency to avoid excess production costs. Avoiding waste or excess production costs can indirectly trigger companies to increase profits so that

profits continue to increase and can provide added value for the company.

Some suggestions from this research for future researchers are to add other variables that are not used in this study. It is advisable to extend the year or period of research so that the results obtained are better than this research. We recommend using another proxy to calculate Yield To Maturity to get more comprehensive results from the results of this study.

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