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Determinants of Bond Rating, Profitability, Liquidity, and Company Size are Moderated Leverage on the Yield to Maturity

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Abstract
This study aims to identify the determinants of yield to maturity of corporate bonds in Indonesia with leverage as a moderating variable. The data for this study is 25 corporate bonds as a sample from a total population of 59 corporate bonds. The research sample was tested using panel data analysis techniques, namely descriptive and inferential statistics. The test results show that profitability with the Yield of Assets indicator and company size has a positive effect, liquidity with the Current Ratio indicator has a negative effect and bond ratings do not affect the yield to maturity of corporate bonds in Indonesia. Furthermore, it was found that there is a role of leverage as a moderating variable, namely, leverage weakens the effect of ROA and bond ratings on the yield to maturity of corporate bonds and strengthens the effect of the Current Ratio on the yield to maturity of corporate bonds.

Keywords— Yield to Maturity, Profitability, Bond Rating, Liquidity, Company Size, and Leverage

Abstrak
Penelitian ini bertujuan untuk mengidentifikasi determinan yield to maturity obligasi korporasi di Indonesia dengan leverage sebagai variabel moderasi. Data penelitian ini berjumlah 25 obligasi perusahaan sebagai sampel dari total populasi 59 obligasi korporasi. Sampel penelitian diuji dengan menggunakan teknik analisis data panel yaitu statistik deskriptif dan inferensial. Hasil pengujian menunjukkan bahwa profitabilitas dengan indikator Yield of Asset dan ukuran perusahaan berpengaruh positif, likuiditas dengan indikator Current Ratio berpengaruh negatif dan peringkat obligasi tidak berpengaruh terhadap yield to maturity obligasi korporasi di Indonesia. Selanjutnya ditemukan adanya peran leverage sebagai variabel moderasi, yaitu leverage memperlemah pengaruh ROA dan peringkat obligasi terhadap yield to maturity obligasi korporasi serta memperkuat pengaruh Current Ratio terhadap yield to maturity obligasi korporasi.

Kata kunci— Yield to Maturity, Profitabilitas, Peringkat Obligasi, Likuiditas, Ukuran Perusahaan, dan Leverage

I. INTRODUCTION

A stock market is a place where companies sell their stocks and bonds to get more capital (Dutordoir et al., 2023). The stock market is designed as a potential investment during long-term monetary and is called a financing resource (Fahmi, 2018), and the stock market has an important role in Indonesia's economic development (Sepehrdoust, 2018). Investment is a commitment to increase business income by allocating funding to fixed assets (Ayuningtyas et al., 2020), had been grown yearly (Sorongan, 2017), and is allocated as a financial instrument to stimulate the export sector. As an investment instrument, bond securities are a letter of debt confirmation and are released at a certain time to get the interest income compensation. Corporate bonds are released by companies with high risk and high yield, while government bonds are released by a country with zero risk and less yield.

During 2017-2021, the amount of bond issuers moved inconsistently, and its price decreased significantly in 2020. In 2018, the bond issuers decreased their price from Rp159,72 billion to Rp110,02 billion. Then, the

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number of bond issuers decreased from Rp 124,3 billion to Rp28,15 billion in 2020 because most of them had delayed the issuance of bonds. In early 2019, the number of bond issuers was higher because the stock market had to wait during the presidential election. PEFINDO is a bond ranking institution that stated high bonds rank reached Rp. 75,58 billion on 30th June 2021, while it was collected as much as Rp. 30 billion from 42 companies in the first semester of 2021. The increase in bond issuers is allowed by the market optimism to Indonesia's growth recovery. After that, the number of bond issuers had grown over time. Based on the Indonesia stock exchange, the bond issuer of the multi-finance and the special funding sectors significantly increased by Rp. 8,56 billion and Rp. 7,11 billion. Next, the telecommunication issuer released a bond letter of Rp. 4,96 billion and the constructing issuer released a bond letter of Rp. 3 billion (Indonesia Stock Exchange).

Indonesia bond index with the code INDOBeX is a reference to describe the bonds market trend overall. The effective yield is calculated by the bond yield movement to the gross redemption yield and is accumulated by the accrued interest and the bond yield movement. Meanwhile, the gross redemption yield is calculated by the value of bond duration, accrued interest, and yield movement to describe the gross redemption yield. Based on the Indonesia stock exchange report, the effective yield decreased significantly during 2019 – 2021 because the COVID-19 pandemic influenced foreign bond markets to walk out from the bonds market. The reason is the company financial performance decreased their bond prices, such as the number of total assets, total liabilities, total incomes, and corporate bonds rank.

The factors that can impact the yield-to-maturity curve of the corporate bond can be formed into bond market development and its funding is allocated by the capital. The relationship between yield and time of yield formed the yield curve movement in parallel ways or in contrast. Corporate yield contributes influencing the yield curve because of the economic effect, and it is part of the company's financial by the total assets, total liabilities, and total income (Febriawan and Santosa, 2017). Meanwhile, signaling theory represents the published financial report by the management of assets and investments (Akerlof, 1970) to represent a signal of the bond rank. This information is analyzed to predict the yield to maturity for the next project implementation. The obligation is an instrument of debt issuance to finance the project which is the bond issuer promised the high yield to the investors. Bonds are an investment instrument to produce the yield to maturity, while the yield to maturity calculates the bond price (Sihombing, 2018).

Profitability is an indicator of investment and credit bond decisions because financial performance is mostly analyzed by the amount of profit. Profitability has an internal impact on the yield to maturity, while high profitability ratio impacted on the less yield to maturity (Mokoagouw et al., 2022). In contrast, profitability had no impact on the yield to maturity (Fitriadi and Marsoem, 2022). Then, high bond rank will influence the less yield to maturity, and vice versa. In contrast, there is a negative relationship between bond risk and the yield to maturity, while bond rank had no impact on the yield to maturity (Hendaryadi et al., 2019; Sembiring and Meliyanti, 2021). Then, bond rank affected the yield to maturity significantly (Dayanti and Janiman, 2019). Next, the company size had a positive impact on the yield to maturity (Hamid et al., 2019), because a large firm is assessed as more secure bond, has less risk potential, and has high competitiveness (Faizah, 2019). In contrast, the company size had impacted to the less yield to maturity (Megananda et al., 2021).

Leverage is the proportion rate to analyze the debt before investment and is represented by the debt-to-equity rate (DER). DER is a balanced ratio between capital and liabilities and is used to assess the funding supply of the debtor. A small firm has a low debt-to-equity ratio, and it would impact on the high bond yield to attract the investor and investing their bond stock. The company proves the investor should focus on debt-equity ratio, while the investor assumes selling the bond to the public will mitigate the risk (Listiawati and Paramita, 2018), and prove that leverage had a negative impact on the yield to maturity (Listiawati and Paramita, 2018).

The novelty of this research lies in the inclusion of a moderating variable called leverage ratio. Moderating variables can enhance or weaken the impact of the independent variable on the dependent variable. This research proves the variable of the yield to maturity uncertainty can be influenced by investment variables, such as bond ranks and company size, then the financial report such as profitability and liquidity ratio. In addition, the observation period carried out was 2019-2021 to prove whether the results of previous research were situational or not.

II. LITERATURE REVIEW

A. Yield to maturity (YTM)

Term structure interest rate is a series of interest rates from the due date of payment. There are four theories of the yield curve, such as the pure expectation theory means the yield curve is calculated at a certain time with accrued interest in the short term. Next, the pure risk premium theory divides into 2 the liquidity premium while the investor holds the bond timing to get more yield and the preferred habit that the investors are not ready to sell their bonds because of the investment liability effect. Then, the market segmentation theory means investors allocated their money in various investment liabilities segmentation. Last, the biased expectation theory means a combination of the risk premium theory and the pure expectation theory that yield interest liquidity is not fixed (Salim et al., 2021). Meanwhile, term structure interest rate or yield curve is a relationship between investment yield and investment time (Nawalkha and Soto, 2015). The component of yield calculation estimates the yield curve by the continuously compounded method, and it was caused by discounted bonds having no continuous due date that impacted the unobserved continuous yield curve.

The obligation type is classified by the issuer such as the government, municipal, and corporate bond (Brigham and Houston, 2019). Then, the type of obligation is classified by interest rate payment system such as zero-coupon, coupon, fixed-rate, and floating coupon bonds. Meanwhile, the type of obligation is classified by the bond guarantee such as bonds with and without asset guarantees. The obligation type is classified by the bond rank such as an investment grade bond, and a non-investment grade bond. Lastly, obligation is type is classified to the call feature such as freely callable bond (the bond publisher can buy the bond is owned by the investor before the due date), and non-callable bond (the bond publisher cannot buy the bond is owned by the investor before the due date) and deferred callable bond that a combination of freely callable bond and non-callable bond.

The bond investment has a higher yield than the dividend because the yield is obtained by the bond interest rate and the capital gain at the same time. Generally, the bonds are long-term promissory notes and are released by a certain institution at a certain time and price. The published bonds of government and corporations with coupon bonds contain a fixed interest rate at certain times (Kartika et al., 2017). Bond characteristics have a primary price at certain times. Next, a coupon bond accepts the amount of interest rate bond periodically. Then, yield to maturity is accepted with the primary bond price at the contracted time. The yield to maturity is an internal rate of yield and is obtained from the due date of the bond contract (Brigham and Houston, 2019; Hamid et al., 2019). The current price of yield to maturity has the same as the future price of interest coupon bonds (Sihombing, 2018). The high price of yield to maturity will impact on the less the bond price change. If the change in bond price had the same as the yield to maturity, then it would impact the bond price more than the yield to maturity. If the real yield was higher than expected, the bond price would be underpriced or undervalued.

B. Profitability

Profitability is the main target of financial management because it can maximize the company's assets and allocate to operational cost-efficiently to obtain more profit (Kasmir, 2018). The profitability ratio is described as earned profit with high investment. The total assets are obtained by the foreign capital and are allocated to the total active and operational costs (Camino-Mogro and Bermúdez-Barrezueta, 2019). Profitability is an indicator to maximize the company’s assets and describes good financial performance. A company that has lower profitability is described as the most operational cost distributed by the number of liabilities. To measure the company performance by increasing the profit, assets, and capital stock is analyzed by profitability ratio. The higher profitability ratio would impact the company's efficiency by allocating assets as operational costs and increasing the net profit. One of the profitability ratios is the return on assets (ROA), which measured the total profit to the total of assets. This equation represents how efficiently the company operates its business by the total asset (Camino-Mogro and Bermúdez-Barrezueta, 2019). The higher ROA will impact operational efficiency and vice versa. On the management side, the profitability dynamic will increase over time because it shows how successfully the management operates the business, especially if the management knows about the variable profitability dynamics (Nuryana et al., 2019).

H_1: Profitability has a positive impact on the yield to maturity of corporate bonds.

C. Bond Rank

Bond rank is an indicator of investment decisions, especially investing in corporate bonds (Kusriyanto and Nelmida, 2019). Bond rank is a default measurement in calculating the capital cost and bond interest rate (Dayanti and Janiman, 2019) and can influence the yield to maturity. Bond rank can transfer the company information and contains liability default probability. Bond rank is the main indicator to assess the suitable bond. The number of bond ranks impacted the published bond determination (Zulfa and Nahar, 2020). There are three components of bond rank, such as the capability of the bond publisher to fulfil the liability on the bond contract.

Next, bond structure and determination are managed in the bond contract. Last, bond claim protection to avoid the liquidity risk which impacts the creditor's responsibility. Bond rank is one indicator of company risk analysis while the low bond rank contains the company risk potential. In the end, a low bond rank will create a high yield to maturity as compensation for company risk. Bond rank is represented by credibility and prospected bonds while it is recommended by the trusted bond ranking institution (Megananda et al., 2021).

H_2: Bond rank has a negative impact on the yield to maturity of corporate bonds.

D. Liquidity

Most bonds with high liquidity are sold in the bond market. If the amount of the bond is more liquid, then it would impact the high amount of bond price or even seems more stable. The benefit of bond liquidity is the bond issuer will be able to sell its bond easily (Putri et al., 2020). Bond liquidity can be seen from the quantity of bond trading and the bond has a high liquidity ratio. High liquidity will impact the bond price because it can increase the bond risk and decrease the yield to maturity (Pramita Sari and Rahyuda, 2019). The bond liquidity has high transaction volume and frequency in the bond market, and it will make the bond more liquid than before. High bond liquidity attracted investors to buy easily (Listiawati and Paramita, 2018), making the bond more stable and impacting the low bond yield (Barrunanto, 2020) The liquidity ratio measures the company's capability to fulfil the company liabilities in the short-term (Nuriasari, 2018). Liquidity is a scale of trading frequency while a bond is more liquid, then it would impact on the high bond price and decrease the yield to maturity (Pramita Sari and Rahyuda, 2019). The company's asset position is shown by the liquidity ratio and becomes the bond investment decision from the internal side. The company's performance is assessed by the liquidity ratio while this ratio is represented as an external factor of investment decision, and it will impact the high bond yield (Ernawati et al., 2019). Based on previous research, liquidity had a negative impact on the yield to maturity (Listiawati and Paramita, 2018; Putri et al., 2020; Trinh et al., 2020). High liquidity ratio will describe a good company performance and it will impact on the low investment risk and less yield to maturity. Meanwhile, liquidity has d positive impact on the yield to maturity (Putri et al., 2020; Trinh et al., 2020). Then, liquidity had no impact on the yield to maturity (Hamid et al., 2019).

H_3: Liquidity has a negative impact on the yield to maturity of corporate bonds.

E. Company Size

The company size is depended on the total assets, number of sales, and market capitalization size (Abubakar, 2019). The company size is a scale and is classified to the total assets, total of log size, and the value of stock market (Hamid et al., 2019). The company size is proxied to the total assets, number of sales, or equity. The purpose of the liquidity ratio is to see the company's capability were able pay the short-term liabilities in a certain time. The company size had impacted on the business cycle (Alarussi and Gao, 2021). The big company has benefited from economic scale and its operational more efficiency than the small company (Ajao & Ogieriakhi, 2018). The big company has big resources for the operational cost, while this resource is allocated into the current asset, the fixed asset, and the product demand. The increasing sales will impact well to the company and to cover the production cost (Rahman and Yilun, 2021). The small company has struggled to because it has less competitiveness and less power to control the market (Isayas, 2022). Meanwhile, the big company has more chance to get more income and predicted the market scope as the company's risk potential in the future. This reason is used by investors prefer investing in the large company than the small company. The company size is shown by the total assets owned by the company, while large company size is described by big total assets and allocate it to operational costs (Arseto and Jufrizen, 2018). The company size is classified into three categories, such as large firm, medium firm, and small firm (Khaiririah Ulfah et al., 2019), while it can be measured by the number of sales and total of active (Ferri and Jones, 1979) In general, a large firm has a big total of active to attract investors while the company size is measured by the total sales and capital expense.

H_4: Company size has a negative impact on the yield to maturity of corporate bonds.

F. Leverage

A growing company prefers to avoid more cost allocation to mitigate leverage risk. A higher leverage will increase the bankruptcy risk potential and the debtholder will take the assets to cover it. Leverage describes the company's capability to cover long-term liabilities as operational costs (Hendaryadi et al., 2019). Leverage is the allocation of assets and funds where assets and funding allocation have a fixed cost such as debt. High debt will impact badly to the company because it is classified as the extreme leverage category (Kasmir, 2018). Leverage represents a main risk for the investor while a high debt will be allocated to obtain income and it will

increase the amount of leverage. High leverage is represented by the debt-to-equity ratio (DER) will impact the low yield to maturity. DER is a ratio to compare debt and capital and this ratio is used to measure the capital percentage from the creditor and the company. The debt-to-equity ratio compares total liabilities to the total capital while the amount of capital is allocated from the creditor and its capital. This ratio is used to check how big the amount of equity covers the third-party debts. The high debt-to-equity ratio represents the company's capability to pay its debt, and the company should give debt protection to the creditor during asset depreciation and mitigate the bankruptcy risk potential (Horne, 1998). Leverage moderates the profitability effect on the yield to maturity (Fabian and Philip, 2017), leverage movement will impact on the profitability and the bond quality. High debt will increase the operational cost to fulfil the fixed liabilities. If the company has high leverage, then investors will check the margin of bond safety. The margin of safety is described by the low operational income and the company can cover its fixed liabilities.

H_5: Leverage moderates profitability's effect on the yield to maturity of corporate bonds.

Leverage moderates the bond rank effect on the yield to maturity (Xie et al., 2018). Leverage can influence the relationship between the bond rank and the yield to maturity. A higher bond rank then it would impact the low default risk and vice versa. Investment decision is determined by the bond rank while the investor can plan to sell or buy the bond strategically. Then leverage and bond interest can be referenced to compare a bond to another bond's qualities. Based on previous research, leverage is used to evaluate the bond rank quality because high leverage describes high debt risk.

H_6: Leverage moderates the bond rank's effect on the yield to maturity of corporate bonds.

Leverage can moderate liquidity effect on the yield to maturity. Leverage can influence the relationship between liquidity and yield to maturity (Beck et al., 2017). A high bond transaction frequency will impact the high liquidity, then it would impact the high bond price. Liquidity uncertainty times will impact the investment risk potential. There is a preference theory that investors would change sector maturity preference if the expected yield to maturity is given as compensation. Based on the previous research, leverage compared the debt to the company assets and compared the total income to the cash flow to cover the liabilities. If the company has low leverage, then it would impact the high liquidity capability to change the asset to cash on hand in a short time to cover the short-term liabilities.

H_7: Leverage moderates the current ratio effect on the yield to maturity of corporate bonds.

Based on the literature and supported by the previous research, the researchers implement a thinking framework to explain the current hypothesis as Figure 2 1 below:

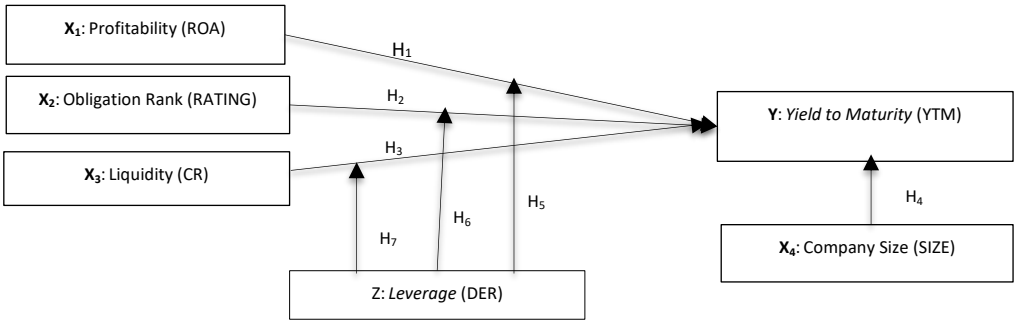

Figure 2 1 Thinking Framework

(Source: Literature and Previous Research)

III. RESEARCH METHODOLOGY

This research explains a causality relationship between the independent variable to the dependent variable with the moderating variable. A data population is a generalized area that contains an object with certain qualities and characteristics (Sugiyono, 2017) and is limited to 59 listed industrialism sectors in the Indonesia stock exchange. The sample is part of population data and has quantity and characteristics (Sugiyono, 2017), and using a purposive sampling technique is based on the technique of certain determination and criteria (Sugiyono, 2017). There are 25 (twenty-five) industrialism bonds with complete financial reports as sample data. Then, there

are two types of research methods, such as descriptive analysis means data is analyzed by the amount of mean, the value of minimum and maximum, and the standard deviation (Ghozali, 2018), and inferential means a data analysis technique is executed based on the probability value (Sugiyono, 2017).

Then, panel data is implemented as inferential analysis while panel data multi-regression is a combination between the cross-section and the time-series data and is collected at different times (Basuki, 2017). There are three approaches to choose a suitable model of panel data multi-regression, such as the Chow test, Hausman test, and Lagrange multiplier test. Then, the suitable panel data statistical is implemented into Equation 3 1 to validate the current hypothesis as below:

Equation 3 1

$$YTM=\beta_0+\beta_1 ROA_{it}+\beta_2 Rating_{it}+\beta_3 CR_{it}+\beta_4 Size_{it}+\beta_5 DER*ROA_{it}+\beta_6 DER*Rating_{it}+\beta_7 DER*CR_{it}+\varepsilon$$

Note

YTM	:Yield to maturity ($\frac{(C + ((F - P)/n))}{(F + P)/2}$)
β_0	: Constanta
$\beta_1 - \beta_7$	: Coefficient regression
ROA	: Return on asset (net income / total asset)
Rating	: Bond rank
CR	: Current ratio (current asset / current liability)
Size	: Company size (LN (asset))
DER	: Deb-to-equity ratio (total liability / total equity)
DER*ROA	: Debt-to-equity ratio moderates return on assets.
DER*Rating	: Debt-to-equity ratio moderates bond rank
DER*CR	: Debt-to-equity ratio moderates credit ratio

IV. RESULT

A. Descriptive Analysis

Table 4.1 Descriptive Statistics

	YTM	ROA	RATING	CR	SIZE	DER
Mean	9,2195	0,0490	0,1200	1,6415	38,5309	3,1144
Maximum	18,0680	0,6070	1,0000	12,7570	179,3562	78,6090
Minimum	3,5800	-0,0980	0,0000	0,2340	0,1908	-2,1270
Std. Dev.	3,2279	0,1003	0,3272	1,8963	43,5000	9,3727
Observations	75	75	75	75	75	75

Source: Eviews 10, (2022)

Descriptive statistics describe the research data by the value of minimum, maximum, mean, and standard deviation (Ghozali, 2018). Table 4.1 describe the research variable in this study. First, the dependent variable is represented by the yield to maturity has minimum value of 3,58%, a maximum value of 18,06%, and a mean value of 9,21%. Then, the moderating variable is represented by debt-to-equity ratio has minimum value of -2,125, a maximum value of 78,6%, and a mean value of 3,11%.

Third, the independent variable is represented by return on asset has minimum value of -0,098%, a maximum value of 0,6%, and a mean value of 0,04%. Then, bond rank has a minimum value of 0,00%, a maximum value of 1%, and a mean value of 0,12%. There is a credit ratio that has a minimum value of 0,23%, and a maximum value of 12,75%, and a mean value of 1,64%. Lastly, the company size has a minimum value of 0,19%, a maximum value of 179,3%, and a mean value of 38,5%.

B. Inferential Analysis

The inferential analysis is executed to explain the effect of return on assets (ROA), bond rank, company size, and current ratio on the yield to maturity while the debt-to-equity ratio is applied as the moderating variable.

There are three types of panel data regression models, such as the common effect model, the fixed effect model, and the random effect model (Widarjono, 2018).

Table 4.2 The Statistical Result of the Chow and Hausmann Test

Model Test	Test Summary	Statistic	Df	Prob.	Result
Chow Test	Cross-section F	4.138178	(24,36)	0.0001	The fixed effect model is accepted
Hausman test	Cross-section Random	29.797012	7	0.0001	The fixed effect model is accepted

Source: Eviews 12

To determine a suitable model, the researchers executed the sample data by three approaches, such as Chow test that compared between common effect and fixed effect model. Next, the Hausman test compares between fixed effect and random effect model. Last, Lagrange multiplier test to compare between the random effect and common effect model. Table 4.2 explains the suitable model is the panel data multilinear regression with the fixed effect model as the final result in this study.

Table 4.3 Statistical Result of F Test

Cross-section fixed (dummy variables)	
Prob(F-statistic)	0.000000
Durbin-Watson stat	2.633795

Source: E-views 12

Next, Table 4.3 explains the value of the F-test with a probability value as much as 0,0000 is lower than 0,05 and decides H_0 is accepted. The result states all independent variables such as return on asset, bond rank, company size, current ratio, debt-to-equity ratio moderates return on asset effect, debt-to-equity ratio moderates bond rank effect, and debt-to-equity ratio moderates current ratio effect have significant impact on the yield to maturity simultaneously.

Table 4.4 Statistical Result of Determination Coefficient

Cross-section fixed (dummy variables)	
R-squared	0.958167
Adjusted R-squared	0.922145

Source: E-views 12

Table 4.4 explains the capability of all independent variables to explain the dependent variable by analyzing the value of the determination coefficient (R^2) as much as 92,21%. It means the yield to maturity is influenced by return on asset, bond rank, company size, current ratio, debt-to-equity ratio moderates return on asset effect, debt-to-equity ratio moderates bond rank effect, and debt-to-equity ratio moderates current ratio as much as 92,21%. Meanwhile, other variables will influence the yield to maturity as much as 7,79%.

Table 4.5 Statistical Result of Partial Test

Dependent Variable: YTM
Method: Panel Least Squares
Date: 01/18/23 Time: 15:31

Variable	Coefficient	Statistical	Prob.	Result
C	0.779124		0.0000	
ROA	0.212215		0.0025	H_1 is accepted

RATING	-0.123399	0.2443	H_2 is rejected
CR	-0.009070	0.0011	H_3 is accepted
SIZE	0.079662	0.0000	H_4 is accepted
ROA*DER	-0.593901	0.0001	H_5 is accepted
RATING*DER	-0.038494	0.0183	H_6 is accepted
CR*DER	0.005785	0.0001	H_7 is accepted

Source: E-views 12

Based on Equation 3 1, the statistical result of panel data multi-regression is converted into the equation as below:

YTM_{it} = 0,7791+0,2122ROA_{it}–0,1234$RATING_{it}$–0,0091CR_{it}+0,0797$SIZE_{it}$–0,5939$ROA*DER_{it}$–0,0385 $RATING*DER_{it}$+0,0058$CR*DER_{it}$

V. DISCUSSION

A. Return on assets have a positive impact on the yield to maturity of corporate bonds.

Return on the asset has a positive impact on the yield to maturity of corporate bonds representing a high amount of yield will describe good financial performance by increasing the profit. The high profitability capability will attract investors and add more capital to cover its operational cost. Then, the research statistics prove the current hypothesis that high profitability impacted the investment risk. In the bond market, less investment risk will create safety funding and less yield of maturity. In case a company with high profitability will decrease the default risk, in contrast the company's management implemented investment regulation on how to increase the yield to maturity. A company targeted good financial performance and high yield to maturity at the same time by implementing the regulation while it burdens itself with the liabilities cost. The financial report of Bumi Resource Corp, Lautan Luas Corp, and Pupuk Indonesia Corp increased the yield to maturity, the long-term liabilities, and the profit significantly. A large firm can collect the external funds by selling the corporate bond and succeed in optimizing the capital and the profit. This result is supported by previous research that returns on the asset have a positive impact on the yield to maturity (Badoer and Demiroglu, 2017; Poghosyan, 2014; Radier et al., 2015).

B. Bond rank has a negative and no impact on the yield to maturity of corporate bonds.

The statistical result contradicts the current hypothesis that high bond rank credit has no impact on the high yield to maturity, and it will not impress investors to distribute their funds. This condition explains the bond rank in the Indonesia stock exchange is the main indicator of bond investment decisions. For investors, the bond market fluctuation will face a problem and they calculate the bond risk and the investment decision. During the COVID-19 pandemic spreads, most companies released bond securities had been struggling with their companies and impacted on the financial performance uncertainty. To mitigate these cases, PEFINDO Corporation decreased the bond rank of the listed companies to stabilize the bond market. Most companies fought for their business and avoided bankruptcy potential happening. To mitigate bankruptcy risk, they paid the long-term liabilities by increasing the bond credit rating to attract investors, and this decision confused the investors. This result approves the previous research about the bond rank had no impact on the yield to maturity (Megananda et al., 2021).

C. The current ratio (CR) has a negative impact on the yield to maturity of corporate bonds.

The statistical result proves the current hypothesis that high liquidity ratio will reduce the investment risk, and it will impact on the low yield to maturity. A company with high liquidity can cover its short-term debt easily, then it will decrease the default risk and the expected yield to maturity. There are many ways to get internal and external funding while external funding can be collected by selling bond securities. The company increases the amount of debt to increase the company productivity, while the amount of debt increases the interest cost, and it will influence the default risk potential. It is clear that allocating more debt into the capital to mitigate the investment risk will influence to another business risk. The investor analyzed the low profit, and the interest cost represents the company operates its business inefficiently and it will impact on the investment decision and less yield to maturity of corporate bonds. This result validates the previous research that the current ratio had a negative impact on the yield to maturity (Radier et al., 2015).

D. The company size has a positive impact on the yield to maturity of corporate bonds.

The result contradicts the current hypothesis that the company size had a negative impact on the yield to maturity of corporate bonds. The large firm is assessed by the total of assets, while it will influence the investment risk potential and low yield to maturity. The current hypothesis stated that company size has a positive impact on the yield to maturity while a large firm with big assets will attract investors to invest their capital. In this case, most total assets are allocated from the number of liabilities, and it will increase the yield to maturity to mitigate the company risk potential. Based on the financial report of Bumi Resources Corp, Hartadinata Abadi Corp, Pyridam Farma Corp, and Sinar Mas Agro Resource and Technology Corp, their high asset represents high debt and high yield to maturity. Most of these companies allocated liabilities to businesses operational. This result proves the previous research that the company size had a positive impact on the yield to maturity (Ramadhan et al., 2022).

E. The debt-to-equity ratio (DER) moderates the return on assets (ROA) and has a negative impact on the yield to maturity of corporate bonds.

In the statistical result, the debt-to-equity ratio (DER) moderates the return on assets and hurts the yield to maturity of corporate bonds. It means high leverage will weaken the effect of profitability to influence the yield to maturity of corporate bonds. This result explains most of the debt is allocated to the operational cost and obtain profit. High debt will impact the decreasing profit because it allocates to cover the interest rate of debt and it will impact the yield to maturity of corporate bonds. Based on the financial report of Angkasa Pura I (Persero) and Mayora Indah Corporation, high debt will influence the decreasing profit and impact the yield to maturity of corporate bonds. These companies obtain the funds by increasing liabilities that impact the increasing interest rate of debt and decrease the net profit. The result validates the previous research about debt-to-equity ratio moderates return on assets hurt the yield to maturity of corporate bonds (Aggarwal et al., 2021; Koijen et al., 2017; Poghosyan, 2014; Sembiring and Meliyanti, 2021).

F. The debt-to-equity ratio (DER) moderates the bond rank and has a negative impact on the yield to maturity of corporate bonds.

In the statistical result, the debt-to-equity ratio (DER) moderates the bond rank and has a negative impact on the yield to maturity of corporate bonds. High debt-to-equity ratio will decrease the bond rank effect on the yield to maturity. The high debt allocation to the operational cost increases the investment risk potential, even if the company had the best rank of corporate bond. Using high debt will influence the investor to buy or sell their own bond securities. The evidence is shown by Bumi Resources Corp, Sarana Multi Infrastruktur (Persero), Angkasa Pura I (Persero), and Indosat Corp. These companies have high bond ranks in grades AA and AAA. In contrast, their financial reports contain a high debt-to-equity ratio while the amount of debt is greater than the average of industrialism liabilities. Most of these companies owned more than 81% of the debt-to-equity ratio contradicts their high yield to maturity is more than 7%. The result supports the previous research that the debt-to-equity ratio moderates bond rank and has a negative impact on the yield to maturity of corporate bonds (Aggarwal et al., 2021; Koijen et al., 2017; Poghosyan, 2014; Sembiring and Meliyanti, 2021).

G. Debt-to-equity ratio (DER) moderates credit ratio (CR) and has a positive impact on the yield to maturity of corporate bonds.

In statistical results, the debt-to-equity ratio moderates the credit ratio and has a positive impact on the yield to maturity of corporate bonds. It means high leverage will strengthen the effect of liquidity ratio to influence the yield to maturity of corporate bonds. High debt allocation to the capital and distributed it to pay the short-term liabilities as a company strategy. Adding more debt and allocating it into assets will impact on the investment decision and obtain low yield to maturity. The evidence is explained by the Indofood Sukses Makmur Corp, Barito Pacific Corp, and Semen Indonesia (Persero). These companies increased their total liabilities that its purpose to increase their finances more liquid and to anticipate the short-term liabilities risk. Their target was to increase assets by adding more debt that had negatively impacted on the yield to maturity directly. The investors analyzed these bonds had to be invested in after they checked the liquidity ratio. In contrast, they denied investing while recognized these companies had assets are allocated from the high debt. The result approves the previous research that the debt-to-equity ratio moderates the current ratio and had a positive impact on the yield of maturity (Ahmad and Wahyudiani, 2019; Ramadhan et al., 2022; Xie et al., 2018).

VI. CONCLUSION AND RECOMMENDATION

A. Conclusion

The authors conclude that return on asset (ROA), company size, and debt-to-equity ratio (DER) moderate credit ratio (CR) and have a positive impact on the yield to maturity of corporate bonds. High ROA represents good financial performance which is assessed by the investor to get a high yield to maturity. It explains that the company succeeded in implementing the bond investment policy to attract more investment by giving high yield, high profit, and less default risk potential at the same time. Next, some large firms are allocating their assets with the debt that impacted the high default risk potential. To attract investor potential, these companies give high yield to maturity as compensation. Last, DER can moderate the credit ratio effect on the yield because high debt allocation as the operational cost will add more liquidity ratio while a high credit ratio will impact the high default risk potential and high expected yield to maturity. The reason is investors analyze the liquidity ratio resource as funded by a debt ratio with high default risk.

In contrast, the current ratio (CR), and debt-to-equity ratio (DER) moderate the return on assets (ROA), and debt-to-equity ratio (DER) moderates the bond rank and hurts the yield to maturity of corporate bonds. The company allocates the operational with the current ratio representing the company's finances as more liquid that can cover its short-term liabilities easily. This capability will impact the less investment risk potential and low yield to maturity that investors will avoid investing in it. Next, a high amount of debt allocation on the operational impacts the return on assets. Because of high liabilities, the company should pay a debt interest rate that decreased the net profit. Investor analyzes decreasing ROA as the company defaults to operate its business and impact on the less yield to maturity. Last, the company with the best bond rank is good for investment decisions contradicting companies' operational are funded that impacted directly bond rank qualities. Investors analyzing this bond rank will not impact the high yield to maturity.

Meanwhile, Bond rank has a negative and no impact on the yield to maturity of corporate bonds explains that bond rank qualities are not an indicator of bond investment decisions. During the COVID-19 pandemic, bond-ranking institutions such as PEFINDO decreased all the bond ranks to stabilize the bond fluctuation and mitigate the companies' default risk. Investors did not analyze the bond rank as a bond investment indicator.

B. Recommendation

The researchers recommended to the next researcher add macroeconomic variables and other financial variables, such as good corporate governance (GCG), earnings before interest rate (EBIT), company ownership, inflation rate, BI interest rate, and exchange rate.

Then, the future researcher can expand the scope of company size, such as small and middle firms. Another suggestion is the next research can expand the sample of time-series or the sample of the cross-section is more classified into certain business sectors, such as the financial sector.

REFERENCE

Abubakar, A. (2019). Effect of Firms' Characteristics on Timeliness of Financial Reports of Quoted Insurance Companies in Nigeria. Research Journal of Finance and Accounting. https://doi.org/10.7176/RJFA/10-24-06

Aggarwal, R., Bai, J., & Laeven, L. (2021). Safe-Asset Shortages: Evidence from the European Government Bond Lending Market. Journal of Financial and Quantitative Analysis, 56(8), 2689–2719. https://doi.org/10.1017/S0022109020000770

Ahmad, G. N., & Wahyudiani, W. (2019). Analisis Determinan Obligasi Korporasi. Jurnal Aplikasi Bisnis Dan Manajemen. https://doi.org/10.17358/jabm.5.3.361

Ajao, M. G., & Ogieriakhi, E. (2018). Firm Specific Factors and Performance of Insurance Firms in Nigeria. In Amity Journal of Finance ADMAA (Vol. 3, Issue 1). https://amity.edu/UserFiles/admaa/67576Paper%202.pdf

Akerlof, G. A. (1970). The Market for "Lemons": Quality Uncertainty and the Market Mechanism. The Quarterly Journal of Economics, 84(3), 488. https://doi.org/10.2307/1879431

Alarussi, A. S., & Gao, X. (2021). Determinants of profitability in Chinese companies. International Journal of Emerging Markets. https://doi.org/10.1108/IJOEM-04-2021-0539

Arseto, D. D., & Jufrizen, J. (2018). Pengaruh Return on Asset dan Current Ratio Terhadap Dividen Payout Ratio Dengan Firm Size Sebagai Variabel Moderating. Maneggio: Jurnal Ilmiah Magister Manajemen, 1(1), 15–30. https://doi.org/10.30596/maneggio.v1i1.2237

Ayuningtyas, Y., Wiyani, W., & Susilo, E. A. (2020). Kebijakan Hutang, Keputusan Investasi, dan Profitabilitas dalam Mengungkit Nilai Perusahaan. Jurnal Bisnis Dan Manajemen, 7(1). https://doi.org/10.26905/jbm.v7i1.4231

Badoer, D. C., & Demiroglu, C. (2017). The Relevance of Credit Ratings in Transparent Bond Markets. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2933327

Basuki, A. T. & P. N. (2017). Analisis Regresi dalam Penelitian Ekonomi & Bisnis: Dilengkapi Aplikasi SPSS & Eviews. PT. Rajagrafindo Persada.

Beck, R., Ferrucci, G., Hantzsche, A., & Rau-Göhring, M. (2017). Determinants of sub-sovereign bond yield spreads – The role of fiscal fundamentals and federal bailout expectations. Journal of International Money and Finance, 79, 72–98. https://doi.org/10.1016/j.jimonfin.2017.08.003

Brigham, E. F., & Houston, J. F. (2019). Fundamentals of Financial Management. www.benjerry.com

Camino-Mogro, S., & Bermúdez-Barrezueta, N. (2019). Determinants of profitability of life and non-life insurance companies: evidence from Ecuador. International Journal of Emerging Markets, 14(5), 831–872. https://doi.org/10.1108/IJOEM-07-2018-0371

Dayanti, N., & Janiman, J. (2019). Pengaruh Maturity, Peringkat Obligasi, dan Debt to Equity Ratio terhadap Yield to Maturity Obligasi. Jurnal Kajian Akuntansi, 3(1), 78. https://doi.org/10.33603/jka.v3i1.2030

Dutordoir, M., Pappas, K., Xu, A. L., & Zeng, C. (Colin). (2023). Covenants in convertible bonds: Boon or boilerplate? Journal of Corporate Finance, 80, 102392. https://doi.org/10.1016/j.jcorpfin.2023.102392

Ernawati, L., Muhamadiyah, U., Program, Y., & Manajemen, S. M. (2019). Analisis Faktor-Faktor yang Mempengaruhi Yield Spread Obligasi Konvensional dan Obligasi Syariah Dengan Penerapan Error Correction Model (ECM). https://www.unisbank.ac.id/ojs/index.php/ncab/article/view/7724

Fabian, E., & Philip, A. (2017). Journal of Internet Banking and Commerce Macroeconomic and Institutional Determinants of Domestic Corporate Bond Yield Spread in Nigeria. In Journal of Internet Banking and Commerce (Vol. 22, Issue 1). http://www.icommercecentral.com

Fahmi I. (2018). Pengantar Manajemen Keuangan (Vol. 256). Alfabeta.

Faizah, Y. L. N. (2019). Pengaruh Laverage Maturity dan Size Perusahaan Terhadap Yield Obligasi Dengan Peringkat Obligasi Sebagai Variabel Intervening. Journal of Economic, Management, Accounting and Technology, 2(1), 43–54. https://doi.org/10.32500/jematech.v2i1.574

Barrunanto, F. (2020). Pengaruh Likuiditas, Waktu Jatuh Tempo, dan Kupon terhadap Harga Obligasi Korporasi.

Febriawan, M., & Santosa, P. W. (2017). Return Saham dan Faktor Fundamental Pada Pra Krisis Ekonomi Global 2008 di Bursa Efek Indonesia. In Journal of Economics and Business Aseanomics (JEBA (Vol. 2, Issue 2). www.jurnalakademikjeba.yarsi.ac.id

Ferri, M. G., & Jones, W. H. (1979). Determinants of Financial Structure: A New Methodological Approach. Journal of Finance, 34(3), 631–644. https://EconPapers.repec.org/RePEc:bla:jfinan:v:34:y:1979:i:3:p:631-44

Fitriadi, S., & Marsoem, B. S. (2022). Analysis of the Effect of Fundamental and Maturity Factors on Yield to Maturity of Corporate Bonds Traded on the Indonesia Stock Exchange in 2020. European Journal of Business and Management Research, 7(5), 39–44. https://doi.org/10.24018/ejbmr.2022.7.5.1627

Ghozali, I. (2018). Aplikasi Analisis Multivariate dengan Program IBM SPSS 25. Badan Penerbit Universitas Diponegoro.

Hamid, A. A., Siagian, A., Razak, A., & Endri, E. (2019). Determinants of Bond Rating and its Implications to Corporate Bond Yield. International Journal of Engineering and Advanced Technology, 9(2), 195–200. https://doi.org/10.35940/ijeat.B3358.129219

Hendaryadi, Yusniar, M. W., & Hadi, A. (2019). Pengaruh Tingkat Suku Bunga, Bond Rating, Ukuran Perusahaan, Debt to Equity Ratio (Der) Terhadap Yield to Maturity Obligasi Korporasi di BEI Periode Tahun 2010 - 2012. JWM (Jurnal Wawasan Manajemen), 6(3), 295. https://doi.org/10.20527/jwm.v6i3.170

Isayas, Y. N. (2022). Determinants of banks' profitability: Empirical evidence from banks in Ethiopia. Cogent Economics & Finance, 10(1). https://doi.org/10.1080/23322039.2022.2031433

Horne, J. C. V. ; W. J. J. M. (1998). Prinsip-prinsip Manajemen Keuangan. Salemba Empat.

Kartika, N. P., Putri, E., Bagus, I., Astika, P., & Dewi, A. A. (2017). Pengaruh Tingkat Bunga Pasar dan Karakteristik Obligasi pada Imbal Hasil Obligasi yang Tergolong Investment Grade (Vol. 19). https://ojs.unud.ac.id/index.php/Akuntansi/article/view/29617

Kasmir. (2018). Analisis Laporan Keuangan. PT Rajagrafindo Persada.

Khaiririah Ulfah, H., . K., Aprilliani, S., & Adirestuty, F. (2019). Influence of Micro Economic and Macro Economic on Yield to Maturity of Ijarah Sukuk Corporation Year 2014-2017. KnE Social Sciences, 3(13), 126. https://doi.org/10.18502/kss.v3i13.4200

Koijen, R. S. J., Lustig, H., & Van Nieuwerburgh, S. (2017). The cross-section and time series of stock and bond returns. Journal of Monetary Economics, 88, 50–69. https://doi.org/10.1016/j.jmoneco.2017.05.006

Kusriyanto, D., & Nelmida. (2019). The Impact of Interest Rate, Inflation Rate, Time to Maturity and Bond Rating: Indonesia Case. International Journal of Economics, Business, and Entrepreneurship, 2(1), 27–40. https://doi.org/10.23960/ijebe.v2i1.52

Listiawati, L. N., & Paramita, V. S. (2018). Pengaruh Tingkat Suku Bunga, Inflasi, Debt to Equity Ratio, dan Ukuran Perusahaan Terhadap Yield Obligasi pada Perusahaan yang Terdaftar di Bursa Efek Indonesia Tahun 2010 - 2016. Jurnal Manajemen, 15(1), 18–32. https://doi.org/10.25170/jm.v15i1.97

Megananda, D., Endri, E., Oemar, F., & Husna, A. (2021). Determinants of Corporate Bond Yield: Empirical Evidence from Indonesia. Journal of Asian Finance, Economics and Business, 8(3), 1135–1142. https://doi.org/10.13106/jafeb.2021.vol8.no3.1135

Mokoagouw, M. M., Tumiwa, R. A. F., & Lumapow, L. S. (2022). Pengaruh Kupon Obligasi, Likuiditas Obligasi, Profitabilitas Terhadap Imbal Hasil Obligasi Korporasi Yang Terdaftar di Bursa Efek Indonesia Periode 2014-2019. Manajemen Dan Kewirausahaan, 2(2), 91–109. https://doi.org/10.53682/mk.v2i2.1061

Nawalkha, S. K., & Soto, G. M. (2015). Term Structure Estimation. http://ssrn.com/abstract=1096182Electroniccopyavailableat:https://ssrn.com/abstract=1096182

Nuriasari, S. (2018). Analisa Rasio Likuiditas Dalam Mengukur Kinerja Keuangan PT. Mustika Ratu, Tbk (Tahun 2010-2016). Jurnal Riset Bisnis Dan Investasi, 4(2), 1–9. https://doi.org/10.35313/jrbi.v4i2.1181

Nuryana, Y., Dwi, &, & Surjandari, A. (2019). The Effect of Good Corporate Governance Mechanism and Earning Management on Company Financial Performance Global Journal of Management and Business Research: D Accounting and Auditing The Effect of Good Corporate Governance Mechanism, and Earning Management on Company Financial Performance. http://maksi.pasca.mercubuana.ac.id/wp-content/uploads/2022/06/16.01_Nuryana-_-Surjandari.pdf

Poghosyan, T. (2014). Long-run and short-run determinants of sovereign bond yields in advanced economies. Economic Systems, 38(1), 100–114. https://doi.org/10.1016/j.ecosys.2013.07.008

Pramita Sari, K. A. A., & Rahyuda, H. (2019). PENGARUH KUPON, MATURITAS, LIKUDITAS DAN SUKU BUNGA TERHADAP YIELD OBLIGASI KORPORASI. E-Jurnal Manajemen Universitas Udayana, 8(10), 5966. https://doi.org/10.24843/EJMUNUD.2019.v08.i10.p05

Putri, R. M., Siregar, H., & Andati, T. (2020). Effects Of Coupon, Maturity, Liquidity, And Bond Rating On The Yields Of Banking Bonds. Jurnal Ilmiah Bisnis Dan Ekonomi Asia, 14(1), 1–13. https://doi.org/10.32812/jibeka.v14i1.125

Radier, G., majoni, akios, Njanike, K., & Kwaramba, M. (2015). Determinants of Bond Yield Spread Changes in South Africa. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2742963

Rahman, Md. J., & Yilun, L. (2021). Firm Size, Firm Age, and Firm Profitability: Evidence from China. Journal of Accounting, Business and Management (JABM), 28(1), 101. https://doi.org/10.31966/jabminternational.v28i1.829

Ramadhan, Z., Sutanti, Munawaroh, A., & Oktariani, D. (2022). Company Size and Debt to Equity Ratio to Corporate Bond Yield to Maturity. Procedia of Social Sciences and Humanities, 3, 520–527. https://doi.org/10.21070/pssh.v3i.132

Salim, M., Alfansi, L., Anggarawati, S., Saputra, F. E., & Afandy, C. (2021). The role of perceived usefulness in moderating the relationship between the DeLone and McLean model and user satisfaction. Uncertain Supply Chain Management, 9(3), 755–766. https://doi.org/10.5267/j.uscm.2021.4.002

Sembiring, F., & Meliyanti. (2021). Pengaruh Peringkat Obligasi, ROA, DER, FIRM SIZE Terhadap Yield Obligasi. JRB-Jurnal Riset Bisnis, 4(2), 185–195. https://doi.org/10.35814/jrb.v4i2.2088

Sepehrdoust, H. (2018). Impact of information and communication technology and financial development on economic growth of OPEC developing economies. Kasetsart Journal of Social Sciences. https://doi.org/10.1016/j.kjss.2018.01.008

Sihombing, P. (2018). Corporate Financial Management (IPB Press).

Sorongan, F. A. (2017). ANALISIS PENGARUH CAR, LOAN, GDP DAN INFLASI TERHADAP PROFITABILITAS BANK DI INDONESIA. Jurnal Akuntansi, 10(2), 116–126. https://doi.org/10.25170/jara.v10i2.42

Sugiyono. (2017). Metode Penelitian Bisnis: Pendekatan Kuantitatif, Kualitatif, Kombinasi, dan R&D. CV. Alfabeta.

TRINH, Q. T., NGUYEN, A. P., NGUYEN, H. A., & NGO, P. T. (2020). Determinants of Vietnam Government Bond Yield Volatility: A GARCH Approach. The Journal of Asian Finance, Economics and Business, 7(7), 15–25. https://doi.org/10.13106/jafeb.2020.vol7.no7.015

Widarjono, A. (2018). Ekonometrika Pengantar Dan Aplikasinya Disertai Panduan Eviews (Kelima). UPP STIM YKPN .

Xie, Y., Tian, Y., Xiao, Z., & Zhou, X. (2018). Dependence of credit spread and macro-conditions based on an alterable structure model. PLOS ONE, 13(5), e0196792. https://doi.org/10.1371/journal.pone.0196792

Zulfa, M., & Nahar, A. (2020). FAKTOR DETERMINAN YIELD OBLIGASI PERUSAHAAN KORPORASI. KRISNA: Kumpulan Riset Akuntansi, 11(2), 117–128. https://doi.org/10.22225/kr.11.2.1418.117-128