ARTICLE

EFFECT OF BANK INDONESIA RATE, BOND RATE, IN YIELD BONDS WITH RETURN ON ASSET AS VARIABLE OF MODERATION

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ABSTRACT

Since BI Rate is likely to have an effect on the bond yield, this paper aims at explaining the role played by BI Rate and bond rating with profitability to bond yield. In this case, the interest rate variable is actually proxied with BI rate. Using the Return On Assets (ROA), it will be possible to measure the profitability variables. The data used in the research is composed of secondary data in the form of financial statements derived from the Indonesian Stock exchange website. The study uses a total of 43 bonds as samples that are based on predefined criteria and analysis of the collected data is done using hypothesis testing as well as multiple linear regression. According to the results of the research, it is evident that the variable of interest level does not in any way have an effect on the bonds yield with the value of -0,844<-1,68107 as well as the significance value 0,404. The variable of bond rating, on the other hand, has a negative effect on the bond yield with a value of -2,275> -1,68107 as well as a significant value of 0,029. Consequently, it is with no doubt that the independent variable has a positive effect on the bond yield with a value of 13,543 and a significance value of 0.000.

INTRODUCTION

As the capital markets continue to develop in Indonesia, so are the stocks and bonds that result in a positive effect on the economy of the country, In fact, investment in capital markets has stood out as the main type of equity instrument in the form of shares of both common and preferred stock. Apart from the two types of stock it also takes the form of bonds [1]. As capital markets develop, the bond market has increased although bonds are still sluggish as compared to the stocks. This is because the existing bond market conditions have not been optimized by the relevant market participants [2]. Also, there is lack of proper understanding of the instruments of the bond market in the associated community [3]. A bond is a form of capital investment that exists in the form of debt securities issued by an issuer for the purposes of obtaining some funds that will then be returned to a given maturity period[4]. It also involves payment of coupons on a periodical basis as per the agreements.

Table [1]: Corporate Bonds Emissions and corporate Bond development

Year	Corporate issued Bonds	Emission Value (trillion rupiah)	Government issued bonds	Emission value (trillion rupiah)
2012	210	328,5	274	379,2
2013	222	385,3	134	115,3
2014	231	430	174	135,8
2015	234	458	142	179,2

Source: *Ministry of Finance (2017) and Indonesian Central Securities Depository.*

Based on Table [1], it is evident that the number of corporate bonds increased between 2012 and 2015. In fact, the number increased in 2015 from 231trillion to 234 trillion. Comparatively, the bond issuance value increased significantly between 2012 and 2014, but there was no significant change in 2015. In that case, it is clear from this trend that corporate bonds have become the sole means by which issuers could obtain funds for long-term financing investment, debt repayment as well as used for working capital [5]. Although there is a positive trend when it comes to bond issuance, it is proper to note that dominance of banks in the corporate bonds of the financial sector is inseparable from the need for bank capital in the long-term expansion [6]. Thus, there is a high risk of mismatch of management that may arise between the sources of funding or far worse lack of funds that result in banks failing to meet their financial obligations at a predetermined time [3]. However, it is important to note that corporate bonds are still being issued and traded in Indonesia as a way of strengthening the economy while at the same time reducing the risks of banks failing [4]. The interest rate has a positive effect on the bond yield while bond rating has a negative effect on the bond yield [7]. Also, return on asset (ROA) has a negative effect on the bond yield. Similarly, the bond rating has a significant and negative impact on the bond yield [8].

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Theoretical basis

According to Halim (2014), bonds are securities that are contractual in nature between the funder and the issuer[9]. In which case, the issuer pays interests on periodically determined dates and at some point redeems the debt upon maturity by returning the interest payable and the principal amount. Before deciding on whether to invest on bond or not, it is proper to consider the amount of bond yields as a factor of annual rate of return to be received [10]. Hartono argues that investment in deposits generates risk-free interests while investing in bonds involves risks such as failure of coupon receipts, loss of opportunity to invest elsewhere [11]. In that case, bond yield should be higher than the deposit rates. In the case of this study, return on assets is used as the profitability ratio. Profitability ratio is used in accessing the abilities of a company as well as seek profit [12]. It is also a measure of management effectiveness of a given company.

Hypothesis development

The interest rate has an influence on bond yield. In accordance with the interest rate theory, as interest rates increase, bond issuers are likely to provide a higher yield (yield), so the price of bonds on the market will decrease, and on the contrary, a decrease in interest rates will cause bond issuers to provide lower yields [3].

In another study, it is clear that bond rating is not a suggestion to buy or sell bonds. However, securities rating agencies can bridge the information gap between issuers or issuing firms and investors through providing standardized information on a company's credit risk [13].Investors generally take advantage of a bond rating to gauge the risks faced in bond purchases [14]. Additionally, BI rate has an effect on bond yield. As per the theory of interest rates, as interest rates rise, bond issuers are deemed to provide higher yields and so is the lower price of the bonds in the market. The existence of profitability- related information is used by investors to assess the likelihood of investment[12]. Hence, investors generally use bond ratings to measure the risks faced in bond purchases. In that connection, the following hypotheses have been formulated;

H1: BI Rate has negative effect on Yield Bond
H2: Bond Rating positively affects the Bond Yield
H3: ROA can moderate the relationship between BI Rate against Yield Bond
H4: ROA can moderate the relationship between the Bond Rating against the Bond Yield
H5: BI Rate, Bond Ranking and ROA (moderator) simultaneously affect the Yield Bon

MATERIALS AND METHODS

The research utilizes quantitative research methods with the sole aim of proving the relationship between BI rate variables. Accordingly, it tries to prove the association between bond rating on yield bonds with the ROA as the moderating variable. Also, the research makes use of purposive sampling where bonds are sampled in accord to a predetermined criterion. The number of bond samples taken is 43 series of state bonds dating between 2012 and 2016. More importantly, the data used comprises of financial statements, annual reports from the Indonesian Capital market directory as well as the Bond Market Directory. Additional secondary data is also obtained from the Indonesian security exchange.

RESULTS

Table 2: Multiple Linear regression coefficients

Multiple Linear Regression Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	18.664	4.369		4.272	.000
X1	-.467	.553	-.296	-.844	.404
X2	-.725	.319	-.904	-2.275	.029
Z	-2.075	.713	-3.769	-2.912	.006
X3	.207	.078	2.876	2.652	.012
X4	.075	.057	1.116	1.317	.196
a. Dependent Variable: Y					

Source: Data Processing Results, 2018

Y = 18,664 - 0,467 (X1) - 0,725 (X2) + 0,207 (X3) + 0,075 (X4) + e Information:
X1: BI rate
X2: Bond Rating
X3: BI rate moderated by ROA
X4: Bond rating moderated by ROA Z: ROA (Moderating Variable)
Yield Bond (Y): the equation above shown in the Table[2] is used to arrive at the yield bond means that if the value of the free variable is zero, then the yield bond is 18, 664. The regression coefficient of -0.467 implies that if the BI rate rises by 1% then the value of the yield bond decreases by the same amount. In the event of bond rating coefficient values of -0.725, an increase in bond rating variables by 1% causes the yield bond to increase by 0.725. In the case of moderate variables (X1 and Z) with coefficients of 0.207, if the BI rate variable is moderated by the ROA being increased by 1%, then the yield bond will increase by 0.207. Consequently, the same effect will be experienced when BI rate is moderated with variables (X2 and Z) with a coefficient value of 0.075.

Therefore, since the results of the T-test for the BI rate variable is 0.404, it is evident that the BI rate does not affect the Yield bond. Given the variable rating of bonds with a significance value of 0.029, it is out rightly clear that the rating bond has a negative effect on the yield bonds. Moreover, given variable X3 where the BI rate is moderated by ROA with a significance level of 0.029, it is right to say that ROA moderates the positive relation between yield bond and BI rate. On the other hand, Variable X4 (rating bonds moderated by ROA) with a significant level of 0.196, it is with no doubt that ROA does not moderate the relationship between bond rating and the bond yield.

Table 3: F-Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.037	5	9.607	13.543	.000b
	Residual	26.248	37	.709		
	Total	74.285	42			

a. Dependent Variable: Y

b. Predictors: (Constant), X4, X1, X2, X3, Z

The results of the F test as indicated in the above table [3] from the ANOVA is 13, 543. This shows that the Bond rating, BI rate, and ROA simultaneously moderate the yield bond.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.804[a]	.647	.599	.842265544

a.   Predictors: (Constant), X4, X1, X2, X3, Z

From the above Table. [4], The R squared is 64.7%. In that case, it is proper to conclude that the effect of Bond rating, BI rate, and ROA simultaneously moderating the yield bond is 64.7%. Hence, the remaining percentage is influenced by other variables such as the age of bonds, due time and inflation rate.

CONCLUSION
From the results of H1, it is true to say that there is absolutely no relationship between Bond yield and BI rate. In that case, if interest's rates increase, it will be more profitable to invest in deposits. Also, given the changes in BI rate between 2012 and 2016, it is evident that the increase or decrease in BI rate does not in any way affect the bond yield. The results of the test against H2 and in accord with the hypothesis that has a negative direction it is clear that the higher the bond rating, the lower the bond yield. In which case, the rating of bonds issued is an important consideration when conducting bond transactions at the ISE. From the results, it is also evident that low rated bonds are likely to have risky bonds. Therefore, low ranking bonds should be in a position of providing higher returns so as to compensate for the possibility of substantial risk. Therefore, investors in Indonesia need to understand that company's prospects are not only influenced by internal factors but also external factors such as market conditions.

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