

ARTICLE

THE EFFECTS OF BANK INDONESIA RATE, COUPON AND QUICK RATIO ON BOND PRICE

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ABSTRACT

The aim of this research paper is to look at and analyze what are the effects of coupons, interest rate and the liquidity on bond prices. The variables for liquidity are measured using the quick ratio (QR), and the variables for interest rate are provided using the BI rate. The Indonesian website for the stock exchange and BI provide the financial statements for companies which are treated as the secondary sources of data in doing the research. The data obtained is analyzed using the multiple linear regression tests and testing the hypothesis. The sample used for the research uses as many as 43 corporate bonds consumer sectors which have been listed on the Indonesia stock exchange from the year 2012 to 2016. The results indicated that the coupon variable has a significant negative effect to the prices of the bonds with a value of significance of 0,021. The partial variable of the BI had a significant and negative effects on the bond prices which had a value greater than 6790 but was less than 198498 and the value of significance was 0,006. The quick ratio (QR) variable has does not have any effect on the prices of the bonds and has a significance value of 0.0072. Altogether it can be established that the independent variable has a positive and significant effect on bonds which value is $49353 > 270$ and significance value of 0,000.

INTRODUCTION

There has been a significant development of capital market in Indonesia which has seen an increase in both stock and bonds which has had a relatively positive effect on the Indonesian economy. According to Litzenberger, investors use the existence of the capital markets as the container to find sources for finances or invest their funds [1]. The capital market is a very important area which allows several long-term tradable financial tools which can be both in the form of debts (bonds) and private equity shares which are issued by withering private institutions or by the government [2]. Before any investor decides to buy bonds there are things they have to look at is the prices of the bonds. According to Chen et al. [3], the prices of any bond is influenced by many factors which include liquidity, coupon, SBI rate, rating and the time take to mature which are all discussed below. According to Saunders, the rate of interest is the main aspect which has an effect on the dynamics of the bond market [4]. Any changes in the interest rate can affect and lead to changes in the value of all debt securities which includes security bonds which can affect the decisions made by the issuers like when is it appropriate to issue bonds and for the buyers or investors when to buy a long or short-term bond. When the BI and SBI rate of interest reduces, the company will not issue any bonds because they will be more profitable. Additionally, Jiang [5] argues that the liquidity of the bonds is very crucial and affects the prices of the bonds significantly. When the bonds have higher liquidity, it means that holders can sell their bonds at any time which makes them more attractive to both the sellers and buyers. As per Duffee and Gregory Bonds are also more appealing to the investors if the coupon rate is higher because it results in better yields [6] Min HG concludes that the higher the coupon rate is for the bond, the higher the rate of change in the price of the bonds [7]. The study below will analyze if the quick ratio, the BI rate, coupon and the rate of interest affects the prices of state bonds which have been listed in Indonesia stock exchange between the year 2012 and 2016. Companies can use the research to improve their performance while issuing bonds and also help investors in their decision making before they invest their money.

Development of the hypothesis

The reference rate of the bank Indonesia is the BI rate. Eichengreen argues that the bank of Indonesia uses this rate as the main policy instrument which helps to control the activities of the economy to ensure the country has a low and stable rate of inflation [8]. This mechanism of controlling the economy is called the monetary policy transmission mechanism, and it illustrates the action of the Indonesian bank through alteration of the monetary instruments and operational targets which affects the various economic and financial variables before it can affect the inflation rate [9]. According to Pak pahan (4), the impact of the bank Indonesia rate on the financial market measured the significance of financial market tools in response to the monetary policy. He established that only bond yields and the interest rate on deposits had a significant response to changes in the BI rate where the bond yields had a positive and significant response. According to Holthausen et al. [10], naturally, bonds will tend to change in the opposite direction from variations of interest rates, for instance, if there is a rise in the interest rate the price for the bonds will tend to fall and vice versa. The rate of interest is one of the major risks which can cause a fall or a rise in the price of the bonds [11]. Based on this a hypothesis can be formulated as H1: the BI rate has a negative effect on the prices of bonds in the Indonesia stock exchange.

Coupons

According to Edwards [12] coupons can be defined as a form of interest income which is received by holders of bonds in line with the agreement with the bond. Normally the coupons have a positive effect on

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the prices of the bonds. The payments for coupons are usually paid within a distinct period of time which can be quarterly, half year or yearly. A higher coupon will give higher yields, and the prices of bonds will tend to increase. According to a study by Elton et al. [2]. Coupons have no significant effect on the changes in the prices of low rated bonds but have a significant and positive effect on the changes in the prices for highly rated bonds. In Edwards [12] they concluded that coupon free variable has a significant influence on the change in the prices of bonds in a positive way. From this a hypothesis can be formulated as H2: coupon positive affects the bond prices in the Indonesia stock market exchange.

Quick ratio

According to Herring, the quick ratio bond liquidity is the frequency, and the volume of bonds trade transactions in the stock exchange market [13]. A high liquidity level of the bonds the prices of the bonds will tend to stabilize or increase. As Mohanty puts it, the relationship between the bond price and liquidity is positive [14]. According to Elton et al. [5], the quick ratio liquidity has no effect on the price of low rated bonds but has a positive and significant effect on the price highly rated bonds. Edwards says that [12], in the partial testing to their hypothesis they established that liquidity has a significant and positive impact on the price of bonds in the Indonesia stock market exchange for the period 2010 to 2012. Based on the above a hypothesis can be formulated as H3: the quick ratio liquidity has a positive effect on the prices of bonds in the Indonesia stock market exchange.

MATERIALS AND METHODS

The data which has been used to carry out this research is secondary data which has been obtained from the stock market exchange website in Indonesia. The sampling technique which is used in this research is purposive sampling method whereby the researcher chooses bonds in line with specific predetermined criteria and have a complete set of data. The multiple regression technique is used to analyze the data, manage and discuss the information which is obtained. This technique is important for this research because it can directly conclude about each independent variable used partially or simultaneously. It also uses the hypothesis tests consisting of the t-test, F test, and determination of the coefficient.

RESULTS

Table 1: Multiple linear regression analysis

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	121,335	4,212		28,810	,000
	BI Rate	-1,696	,582	-,436	-2,912	,006
	Coupon	-,862	,359	-,349	-2,401	,021
	QR	-1,652	,893	-,232	-1,849	,072

Source: SPSS v. 23

Based on the results of data analysis as in [Table 1], can be formulated multiple linear regression equations as Obligatory price = 121,335 - 1,696 (X1) - 0,862 (X2) - 1,652 (X3) + e

$$\text{Bond prices} = 121,335 - 1,696 (X1) - 0,862 (X2) - 1,652 (X3) + e$$

Information: Y = Bond Price

X1 = BI Rate

X2 = Coupon

X3 = Quick Ratio Hypothesis Test Results a. Partial Test (t test)

Table 2: Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	121,335	4,212		28,810	,000
	BI Rate	-1,696	,582	-,436	-2,912	,006
	Coupon	-,862	,359	-,349	-2,401	,021
	QR	-1,652	,893	-,232	-1,849	,072

Source: SPSS v.23

Partially indicates that based on the above table[2] t value of the BI Rate of -1.696 with a significance level of 0.006. This result can establish that the value of t arithmetic has a negative value > -t table = -2, 912, which means there is significant and negative influence between the variable of BI Rate to bond. The second variable is Coupon with t value equal to -2.401 with a significance level of 0,021. The results show that the value of t arithmetic has a negative value > -t table = -2.401, meaning there is a significant and negative influence on the variables BI rate to bonds. The third variable is Quick

Ratio with t value equal to -1,849 and significance equal to 0,072 this result indicate that there is no influence and negative to bond price

a. Simultaneous Test (F Test)

The result of F test calculation in this research can be seen as below [Table 3]

Table 3: F test

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	201,718	3	67,239	10,438	,000 ^b
	Residual	251,218	39	6,441		
	Total	452,936	42			
a. Dependent Variable: obligasi						
b. Predictors: (Constant), QR, Coupun, BI Rate						

CONCLUSION

The research was able to establish the negative and significant impact of the BI rate to the prices of the bonds whereby the significance value which was generated 0.006 is lower than the significant level of 0.05, and the negative regression coefficient is -1.696. This shows that increase in the BI rate leads to a decrease in the prices of bonds. The research was also able to find the negative and significant effect of coupon on the bond prices whereby the significance value of 0.021 is smaller than 0.05 with a negative regression coefficient of -2.401. Additionally, the study established that there was no significant influence between liquidity and bond prices which are in contrast to the research done by Edwards [8]. The research is however in line with Elton et al. [8] which stated that liquidity had no influence on low rated bonds but has a positive and significant influence on highly rated bonds.

CONFLICT OF INTEREST

No conflict of interest

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