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Muhammad Jihadi

M. Jihadi

- Scopus ID : 57198436160
- Orchid : https://orcid.org/0000-0003-2618-7101
- Universitas Muhammadiyah Malang

CORPORATE BOND PRICE PHENOMENON ON THE INDONESIA STOCK EXCHANGE IN 2016-2018.

Yunike Berry[1], Elsa Yuristianti [2]

Universitas Islam 45, yunikeberry@gmail.com, and Indonesia[1] Universitas Islam 45, elsayuris@gmail.com, and Indonesia[2]

ABSTRACT

This research was conducted at the companies which issuing corporate bonds in the Indonesia Stock Exchange in periode of 2016-2018. Total sample used are 64 corporate obligation, with purposive sampling method. This research used quantitave data. The analysis technique data used in this research is multiple linear regressions. Based on the results of the analysis found that interest rates have a significant positive effect on changes in bond prices. Bond coupons have a significant positive effect on bond prices. The age of the bonds does not have a significant effect on changes in bond prices. Bond ratings do not have a significant effect on changes in bond prices.

Keywords: Interest Rates, Bond Coupons; Bond Age ; Bond Ratings

INTRODUCTION

Every company needs quite a lot of funds in developing its business for long-term financing. The company will face problems in matters relating to funds, such as funding, using funds, and returning funds with a period that is indicated by the funder. In obtaining funds, two alternative options can be taken, namely, funds that come from external and internal sources. Funds obtained from externals are companies that can issue licenses. In contrast, funds obtained internally are profits that are not given to the company or profits obtained (retained earnings) obtained from a specific period.

Investors are faced with several choices in obtaining the return received, including investing in stocks and bonds. For investors who prefer fluctuating returns, stocks are the right choice. For investors

who like fixed returns, bonds are the right choice to invest.

An investor has several alternative assets to invest in the capital market, one of which is bonds. Bonds are a source of funding for the government and companies that can be obtained through the capital market. Harjito (2010) states that a bond is an acknowledgement of a company's debt to another party which has a specific nominal value and a certain period and the company that issues the bonds is obliged to pay a

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[1] *yunikeberry@gmail.com*

particular interest stated on the letter. The types of bonds that will be discussed in this study are corporate bonds. According to Tandelilin (2010), corporate bonds are bonds issued by a private entity that declares debt and will be returned at the end of maturity and pay periodic interest. Corporate bonds are attractive because they provide relatively high coupons. One of the things that an investor should consider when choosing bonds in his investment is the price of the bonds. The bond price is a nominal that must be paid or received when making transactions for sellers or buyers of bonds. Several explanatory variables affect bond prices. Some of the explanatory variables identified in this study include interest rates, bond coupons, bond age and bond rating.

One of the factors that influence changes in interest rate decline. The level of interest used by investors as a basis for looking at the expected level. The interest rate used is the Bank Indonesia Certificate (SBI) interest rate. Based on empirical, the relationship between the interest rate and the resignation is negative as well as the relationship between the resignation is negative. Interest rate conditions in 2016 experienced a decrease in the impact of the macro rate of rising inflation. This is supported by the theory (Brigham et al., 2011), namely that interest rate compliance that occurs in the market has decreased. In that case, the download price will increase; the result is the risk is of lowering interest rates, which measures the increase in interest rates.

High-interest rates can influence public interest in saving because it provides income in the form of high interest and lower risks. However, when interest rates decline, people will tend to choose to invest in financial securities, one of which is bonds. This is also supported by the theory which states that if the interest rate is lower than the bond coupon rate, investors will tend to choose to buy bonds, and this will directly impact the market price of these bonds. (Sumarna & Badjra, 2016) the relationship between interest rates and changes in bond prices is negative. The research conducted took samples of corporate bonds listed on the Indonesia Stock Exchange for the period of Q1 2014 - Q2 2015. This shows that the lower the rate Interest rates can affect the increase in changes in bond prices. The results of this study are also in line with previous research conducted by Yudiastra and Wijaya (2018) in their research which states that the relationship between market interest rates and changes in bond prices is negative. Other empirical evidence finds things that are different from research conducted by Siahaan (2007) and Kadir (2017) which found that interest rates have a positive effect on the price of corporate bonds on the Indonesia Stock Exchange.

The next factor that is not affected by resignation. The interest rate income coupon allowed by the inviter agrees with the postponement. Siahaan (2007), in his research, stated that coupons have a positive and significant effect on changes in postponement prices. A high-value coupon will attract investors because it will provide

higher yields as well. If there is no response high enough, then the withdrawal will also tend to increase. If the rate of withdrawals given is low, then the withdrawals will tend to fall this way, if there are no resigns for the investor, or there are very few potential visitors. This is in line with research conducted by Yudiastra and Wijaya (2018), Badjra and Sumarna (2016) which concluded that coupons have a positive effect on postponement prices.

The condition of bond coupons from 2016 to 2018 has decreased each year, from 10.4% to 8.1%. Coupons in 2016 were relatively high at 10.4%, which attracted investors to buy bonds because the yields obtained by bondholders were relatively high. However, in 2017 it decreased to 8.9%. Even though the decline was only 1.5%, this is

enough to make investors think about whether they want to invest in bonds or not. Furthermore, it decreased again by 0.8% in 2018 to 8.1%. In contrast to research conducted by Sedana and Subagja (2015), Indriyanti (2018), which states that coupons do not affect changes in bond prices.

The next factor studied is the age of the bonds, the age of the bonds is the time determined by the issuing company as the issuer of the bonds for the bonds it issues or the time it takes for the bond company to fulfill its obligations. The age of bonds in general has a direct relationship with the risk of a bond. The longer the maturity date set for a bond, the higher the risk faced by investors due to the time value of money and developments in macro conditions that can change at any time.

In this study, the rating is the last variable that can effect changes in the price of a bond. Bond ratings provide information on the probability of a company's debt default. Besides, bond ratings provide information to investors in determining the quality and risk of a bond. The higher the bond rating, the bond has a lower risk. Conversely, the lower the bond rating, the bond has a high risk.

Bonds that are included in the investment-grade category must have a minimum rating of A. Moreover, if a bond is rated below A, then the bond is classified as non- investment grade, commonly called Junk Bond or a high-risk bond. Many factors are taken into account in compiling the bond rating or bond rating itself, including historical factors and the performance of the company that issued the bond. Based on this explanation, the authors tested the variable interest rates, bond coupons, bond age, bond ratings and corporate bond prices in this study.

LITERATURE REVIEW

The bond price is a nominal that must be paid or received when making transactions for sellers or buyers of bonds. Bond prices can also provide information about the level of income to be received on invested funds and can also determine which bonds have optimal returns. Several explanatory variables affect bond prices. Some of the explanatory variables identified in this study include interest rates, bond coupons, bond age and bond rating. This variable is a consideration of bond risk because basically investor behaviour is risk-averse. According to Bodie, Kane, and Marcus, risk-averse, namely an investor will realize a risky portfolio, but that risk is market risk (Bodie et al., 2014).

According to Brigham and Houston (2013), if there is a decrease in the interest rate circulating in the market, the bond price will increase, based on empirical evidence, the relationship between the interest rate and the bond price is negative. Public interest in saving is influenced by high interest rates, because it provides income in the form of high interest and lower risks. However, when interest rates decline, people will tend to choose to invest in financial securities, one

of which is bonds. This is also supported by the theory which states that if the interest rate is lower than the bond coupon rate, investors will tend to choose to buy bonds, and this will directly impact the market price of these bonds.

The next factor that affects bond prices is bond coupons. Coupons represent interest income received by bondholders in accordance with the agreement with the bond issuer. Siahaan (2007) in his research stated that coupons have a positive and significant effect on changes in bond prices. A high coupon value will attract investors because it will provide higher yields. This is in line with research conducted by

Yudiastra and Wijaya (2018), Badjra and Sumarna (2016) which concluded that bond coupons have a positive effect on bond prices.

The next factor studied is the age of the bonds, the age of the bonds is the time determined by the issuing company as the issuer of the bonds for the bonds it issues or the time it takes for the bond company to fulfill its obligations. Sedana and Subagja (2015) state that maturity time has a positive and significant effect on changes in the price of corporate bonds for the first quarter of 2013 to the second quarter of 2014. This is because every investor has different preferences, so it is not certain that bonds have maturity. the longer one will neglect the effect of the high risk it has. Several things are taken into consideration because investors already have confidence in the issuing company so that no matter how long the maturity period of a corporate bond is not a problem for investors.Different results obtained by Indriyanti (2018), Sari and Sundjarni(2016), Purnomo and Puspita (2017) in their research, found that the maturity time of bonds harms changes in bond prices.

In this study, the rating is the last variable that can effect changes in the price ofa bond. Bond ratings provide information on the probability of a company's debt default. Achmad and Setiawan (2007), in their research, stated that bond ratings have a positive effect on bond prices. This shows that if the rating increases, the bond price will also increase. Meanwhile, Wahyuningsih (2013) found that there was no significant influence between Islamic bond ratings on Islamic bond prices. This is because investors think that the rate changes by the rating agency will not affect the existing market..

RESEARCH METHOD

The research design used is a quantitative research using secondary data. The research object took samples of bonds issued by corporations and listed on the Indonesian Bond Pricing Agency (IBPA), Indonesian Stock Exchange (IDX), and the website of the Central Bank of the Republic of Indonesia. Data collection was carried out from May to June 2018. The population contained in this study were companies thattraded bonds on the Indonesia Stock Exchange as many as 324 bonds. The number of samples used in this study was 64 bonds using a purposive sampling method. This study uses multiple linear regression statistical tests that have passed the classical assumption test, with the regression equation:

$$Y = \alpha + \beta_1\ SKB + \beta_2\ KPN + \beta_3\ UMR + \beta_4\ RTG + e$$

There are variable bond price (Y), interest rates (SKB), bond coupons (KPN), age of bonds (UMR) and bond rating (RTG).

RESULT AND DISCUSSION (Times New Roman 12, space 1, Bold)Description of the research variables.

Table 1. Descriptive Statistics
of data

	N	Minimum	Maximum	Mean	Std. Deviation
Interest Rate	64	5,31	6,85	5,9905	,61717
Coupon	64	6,00	11,00	8,7903	,93593
Age	64	3	10	4,06	1,283
Rating	64	6	8	7,30	,790
Bond Price	64	95,00	105,86	100,3234	1,96164
Valid (listwise)	N 64				

The interest rate variable has a drinking value of 5.31% and a maximum value of 6.85%. The average count (mean) is 5.9905%, which means that the average interest rate in the 2016 to 2018 period is 5.9905%. The standard deviation (standard deviation) of the interest rate is 0.61717%, which means that during the observation period, the variation in interest rates during that period deviated from the average of 0.61717%.

The coupon variable during the observation period has a minimum value of 6.00%, which is a coupon for the Sustainable Bond IV Sarana Multigriya Financial Phase II of 2018 with a Series B Fixed Interest Rate, while the maximum value is 11.00%, that is a coupon for the Mandiri Tunas Finance Sustainable Bond Phase I Year 2016 Series B and Sustainable Bonds I WOM Finance Phase IV Year 2016 Series B. The average coupon count (mean) during the observation period is 8.7903%, which means the average coupon interest rate per corporate bond listed on the IDX 2016-2018 is 8.7903% of the total corporate bonds. The standard deviation (standard deviation) of the coupon variable is 0.61442%, which means that during the observation period, the variation in the coupon interest rate on bonds listed on the IDX during that period deviated from the average of 0.93593%.

The variable of minimum bond age during the observation period is a bond with a maturity of 3 years. The highest maturity (maximum) during the observation period is 10-year bonds. The average count (mean) is 4.06 years, which means that the average maturity of corporate bonds listed on the IDX from 2016 to 2018 is 4.06 years of the total corporate bonds. The standard deviation (standard deviation) of the variable age of the bonds is 1.283, which means that during the observation period, the variation in age on bonds listed on the IDX

during that period deviated from an average of 1.283 years.

The minimum rating value is six consisting of 13 bonds. The maximum rating value is eight consisting of 32 bonds. The mean value of the rating variable is 7.30. Furthermore, the standard deviation value is 0.790. The lowest change in bond prices during the observation period was - 95.00%. The highest (maximum) bond price change during the observation period was 105.86%. This shows that the amount of Bond Prices in this study sample ranges from 95.00% to 105.86%, with an average (mean) of

100.3234. The standard deviation value shows several 1.96164. The highest Bond Price was achieved by the Astra Sedaya Finance Sustainable Bond III with a Fixed Interest Rate Phase II in 2017 Series, while the lowest Bond Price was experienced by the Mandiri Tunas Finance Phase I Sustainable Bond II in 2016 Series B.

1. Test Results Classical Assumption Test

1.1 Normality Test

The normality test is carried out in order to test whether the data in this study are normally distributed or not.

Table 2. Normality Test

Kolmogorov-Smirnov **test results**

One-Sample Kolmogorov-Smirnov Test		Unstandardized Residual
N		64
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	1,71349207
Most Extreme Differences	Absolute	,047
	Positive	,047
	Negative	-,047
Test Statistic		,047
Asymp. Sig. (2-tailed)		,200[c,d]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Based on the results of the normality test using the Kolmogorov Smirnov test, in Table 2, it can be seen that the Asymp.Sig. (2-tailed) of 0.200, which means greater than 0.05. This shows that the data is normally distributed and can be continued in multiple regression tests.

1.2 Multicollinearity Assumption Test

To detect whether there is multicollinearity, it can be seen from the tolerance and VIF values for each variable which must not exceed | 0.9 | If it

exceeds this value, it can be concluded that there is multicollinearity in the regression model of this study, here are the test results as follows:

Table 3.
Multicollinearity Test Results

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	96,113	3,537		27,175	,000		
Interest rate							
coupon	1,925	,455	,606	4,230	,000	,631	1,585
age							
rating	-,673	,321	-,321	-2,098	,040	,553	1,809
	,051	,180	,034	,284	,777	,929	1,077
	-,221	,304	-,089	-,728	,470	,862	1,161

a. Dependent Variable: bond price

Based on the results of the multicollinearity test in Table 3, it can be seen that the tolerance value of each independent variable is more than 0.10 or the VIF value of each independent variable is less than 10. It can be concluded that the regression model in this study does not occur multicollinearity, and the regression model is feasible to use.

Heteroscedasticity Test

In the tests carried out in this study, the Glejser Test can be used. here are the test results as follows:

Table 4
Glejser Test Results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	,189	2,047		,092	,927
	Interest rate	-,273	,263	-,162	-1,035	,305
	Coupon	,083	,186	,075	,450	,655
	Age	-,104	,104	-,129	-,999	,322
	rating	,341	,176	,259	1,936	,058

a. Dependent Variable: abs_res

Based on table 4 above, it can be seen that the sig value. Interest rate, coupon, age, and rating variables are more significant than 0.05. This shows that the data used in these variables do not experience heteroscedasticity problems.

1.3 Autocorrelation Assumption Test

Autocorrelation test to see whether the linear regression model in the study has a correlation with confounding errors in the study year period with the previous research year period, if there is a correlation, it is said that there is an autocorrelation problem. The way to test for autocorrelation is with the Durbin-Watson test (DW-Test). Here are the test results as follows:

Table 5

Durbin-Watson Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,487ᵃ	,237	,185	1,77062	1,915

a. Predictors: (Constant), rating, interest rate, age, coupon

b. Dependent Variable: bond price,l

Based on table 5 above, it can be seen that the autocorrelation

test on the Durbin-Watson value is 1.915. Durbin-Watson values in the Durbin-Watson table (k, n), k is the number of independent variables (k = 4), and n is the number of samples (n = 64). The value of du is 1.730 so that the value of 4-du is 2.27. Then the autocorrelation value is between 1.730 <1.915 <2.27 this value is between the du <DW <4-du area. It can be concluded that the data does not have autocorrelation problems.

2. **Multiple Linear Regression**

2.1 Test f

Table 6

F Test Result

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	57,454	4	14,363	4,581	,003[b]
	Residual	184,971	59	3,135		
	Total	242,425	63			

a. Dependent Variable: bond price

b. Predictors: (Constant), rating, interest rate, age, coupon

Based on table 6, it can be seen that the simultaneous effect of the independent ranking variable, interest rate, age, coupon. From the simultaneous test results, the calculated F value is 4.581, with a significance level of 0.003. Based on the significant value which is less than 0.05, it can be said that the independent variables (rating, interest rate, age, and postponement coupon) together have an effect on the company's dependent variable (resignation price) for the 2016-2018 period.

2.2 T Test

Table 7

T Test Result

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	96,113	3,537		27,175	,000
Interest rate	1,925	,455	,606	4,230	,000
Coupon	-,673	,321	-,321	-2,098	,040
Age	,051	,180	,034	,284	,777

| rating | -,221 | ,304 | -,089 | | -,728 | ,470 |

a. Dependent Variable: bond price

From the table above, a regression equation can be formed, which is as follows:

Y = 96,113 + 1,925 Interest rate – 0,673 Coupon + 0,51 Age **–** 0,221 Rating **+** e

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Discussion

The Effect of Interest Rates on Bond Prices (Hypothesis 1)

Hypothesis 1 states that the t-test results, the t value for interest rates is 4.230 and the significance level is smaller than 0.05, which means that interest rates have a significant effect on changes in bond prices. The correlation is positive, which means that the prices of the bonds which are the object of research tend to be stable (increase) even though there is an increase (decrease) in the market interest rate / SBI rate. This is understandable because the issuers that issue the bonds provide a coupon rate that is relatively large compared to the market interest rate prevailing at the time of issuance. Furthermore, this is in line with research conducted by Siahaan (2008), which found that interest rates have a positive effect on bond prices.

The existence of a significant positive effect of interest rates on changes in bond prices contradicts the theory, which states that interest rates have a significant adverse effect on changes in bond prices. The results of this study also contradict the results of research by Yudiastra and Wijaya (2018), which state that market interest rates harm changes in bond prices.

The Effect of Coupons on Bond Prices (Hypothesis 2)

The second hypothesis states that bond coupons have a positive effect on bond prices, so the hypothesis is accepted. Based on the calculation data that has been processed at SPSS, it is found that the significance value is 0.04 and the smaller than alpha 0.05 and the regression coefficient is positive, namely 0.673, which means that each coupon increase of one unit will increase the bond price by 0.673. Vice versa, each decrease in the coupon by one unit, will increase the bond price by 0.673. Coupons have a positive effect on the price of corporate bonds listed on the Indonesia Stock Exchange; this shows that the higher the coupon value offered by a bond, the greater the demand for these bonds, causing the bond market price to continue to increase. The results of this study support the theory, Tandelilin (2010) states that coupons have a positive effect on changes in bond prices so that the high (low) coupon value of a bond will be the higher (lower) the rate of change in the bond price. Moreover, in line with research conducted by Badjra and Sumarna (2016) which concluded that bond coupons have a positive effect on bond prices. From the research results, the implication for the company is to provide high coupons so that investors are interested in holding these bonds.

The Effect of Bond Age on Bond Prices (Hypothesis 3)

The results of this study indicate that the age of the bonds has no significant effect on changes in bond prices. They were shown by a significance value of 0.777, which is greater than 0.05. This study

supports the theory of Tandelilin (2010: 289) which states that the longer the term of the bond, the higher the risk of uncertainty, so that the level of return expected by investors will be higher as well. This research is also in line with Purnomo and Puspitasari (2014), which show there is no significant influence between the age of the bonds and the price of the bonds.

The Effect of Bond Rating on Bond Prices (Hypothesis 4)

The fourth hypothesis states that bond ratings do not affect bond prices. Based on the calculation data that has been processed in SPSS, it is found that the significance value is 0.47 and is more significant than alpha 0.05. The results of this study are not following the proposed hypothesis. However, they are under research conducted by Wahyuningsih (2013) which found that there was no significant effect between Islamic bond ratings on Islamic bond prices. This is appropriate because investors think that a rating change by a rating agent will not affect the current market price.

CONCLUSION (Times New Roman 12, 1 space, Bold)

Based on the explanation in the previous chapter, the purpose of this study is to determine the results of testing regarding the effect of interest rates, bond coupons, bond age, and bond rating on changes in bond prices listed on the IDX for the 2016-2018 period. From the results of this test, the following conclusions can be drawn:

1. Interest rate variable has a significant positive effect on changes in bond prices.
2. Bond coupon variable has a significant positive effect on bond prices.
3. The bond age variable does not have a significant effect on changes in bond prices.
4. The bond rating variable does not have a significant effect on changes in bond prices.

Of the four independent variables contained in this study, the yield of bond coupons is following the proposed hypothesis. In contrast, the results of interest rates , age of bonds, and bond rating are not under the proposed hypothesis.

5. The variables of interest rates, bond coupons, bond age, and bond rating simultaneously have a positive effect on the price of corporate bonds listed on the IDX for the 2016-2018 period. The independent variable affects the bond price by 18.5%, and other variables outside of this study influence the rest.

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