DETERMINANT YIELD GOVERNMENT BOND TRADED FROM 2016 TO 2021

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Abstract: A Government Bond is a significant financial instrument for the state budget of Indonesia Government. It has become important and quite attractive among other financial instruments. Using BI 7-Day Repo Rate, Inflation, Money Supply, Indonesia Composite Index, and USD/IDR Exchange Rate as independent variables, this research has been done to determine Government Bond Yield. The research population is bond issued by Indonesia Government. The sampling is 10-years traded Government Bond fixed rate serries during 2016-2021 with 300 data collected which since 2020 Indonesia has been facing the Covid-19 pandemic that affected the global economy and financial markets. This research finds that Government Bond Yield positively affected by BI 7-Day Repo Rate, Inflation Rate, and USD/IDR Exchange Rate, while negatively affected by Money Supply, yet Indonesia Composite Index and Covid-19 pandemic has no effect on the Government Bond Yield.

Keywords: Yield, BI 7-Day Repo Rate, Inflation, Money Supply, Indonesia Composite Index, Kurs USD/IDR

INTRODUCTION

Indonesia State Budget showing a deficit that is increasing year by year, the government of Indonesia needs to decide the right monetary policy to face further deficit numbers. According to the data from The Directorate General of Budget Financing and Risk Management Ministry of Finance, the deficit of the government budget increased from Rp334.5 trillion to Rp1,006.4 trillion (outlook) in the year 2016 to 2021. This deficit is an unavoidable situation giving the Covid-19 pandemic situation in Indonesia that began in March 2020. This jumping up the deficit of state budget was one of the decisions that government has to take to control the pandemic and in terms of National Economic Recovery (PEN).

Indonesia Government is issuing government bonds as an essential source of financing the state budget deficit, managing the short-term state cash, and managing debt portfolio (Ministry of

Finance, 2010). According to 2021, State Budget Report shows government bond issuance, on average, was equal to 120% of the annual budget deficit (APBN Kita, 2021). Bond issuance becomes important financing and shows on the high percentage in the state budget. The amount of government bond issuance is more elevated higher than total budget financing to pay bond maturity from the last year.

December 31st, 2020 financial report shows that total outstanding of government bond is Rp5,234 trillion in the form of government debt securities as well as Islamic government securities with a tradable bond is the majority as much as 97.4% from total tradable bond including denomination in USD, Yen, and Euro. The bond is also in various coupon types, zero coupons, fixed coupons, and variable coupons. According to the data, fixed-rate government bond is the highest outstanding, which is Rp3,100 trillion or equals 68% of total government bond and 54% of total government debt. The term of maturity of each government bond varies between 1 to 20 years. Those facts are becoming the consideration why the author chooses the rupiah fixed-rate government bond to be the dependent variable in this research.


Picture 1. Outstanding Government Bond 2020 and 2021

A government bond is an investment tool that is considered as lowest risk upon other investment tools. This type of bond could also be called free of risk since the government guarantees the nominal and return in the state budget (Bareska, 2021). For investors' asset portfolios, government bonds become the most important assets. It is shown that from the year 2016 – 2021, the number of investments is increasing. Government bond ownerships are non-bank institutions such as mutual funds, insurance companies, corporates, as well as individual ownerships. The investment reached Rp2,212.69 trillion in the mid of year 2021. Banks ownership is as much as Rp1,391.98 trillion in the middle of 2021. Yet, Central Bank of Indonesia ownership is Rp677.95 trillion for its portfolio and carry out the monetary policy. The Central Bank of Indonesia as a backstop standby buyer plays a critical role in facing volatility of the financial sector, especially in the situation of Covid-19 pandemic that effecting the economic situation of Indonesia (Sri Mulyani, 2021). Non-bank ownership shows the highest percentage, which reached 51.67%. This shows that government bond is attractive investment portfolio for investors.

The 10-year fixed-rate government bond is used as one of the benchmarks to observe the volatility of bond market. Government bond has been volatile from 2016 to June 2021 as the response to Indonesia macroeconomic factors and global macroeconomics. In May 2016, the government bond yield level was 7.9% volatile to 6.3% in December 2017. In October 2018, government bond yield reached the highest point, 8.6% but decreased to level 6.09% in December 2020. In the year 2021 Indonesia, as well as other countries, are struggling from facing the pandemic. The situation affects the government to decide the level of bond yield in order to keep economic growth and stabilized of the state budget.

According to Fitch Ratings Agency, one of the big three credit rating agencies has affirmed that Indonesia's sovereign credit rating is BBB with a stable outlook. This result is the same as launched by S&P Ratings Agency. As a developed country, the Philippines has the same "low medium" credit rating as Indonesia. Indonesia's average government bond yield from July 2020 to June 2021 is 6.5%, yet at the same time duration, the Philippines government bond yield level is 3.36%. With the same rating, Indonesia government bond yield is attractive to the investors.
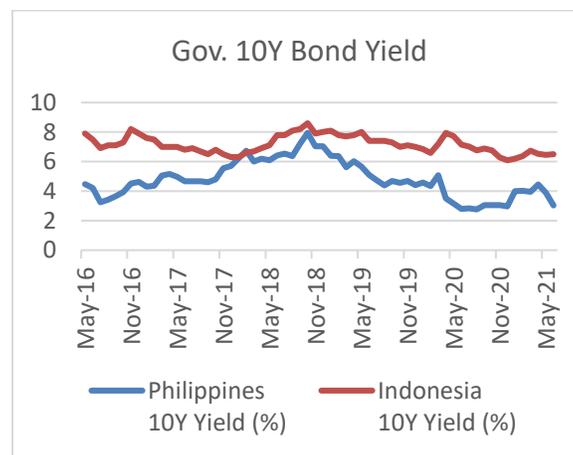
Source: Investing.com 2021
Picture *2*. Indonesia Government Bond Yield vs The Philippines 2016-2021

Some researchers did similar studies about the effect of macroeconomics on government bond yield. Yu Hsing (2015), Kurniasih & Restika (2015), Adiwibowo & Sihombing (2019) studied how inflation rate affects government bond yield so did Fatmawati (2020) and Sundoro (2018). The research showed different results, positive effects, insignificant, and negative effects. Some researches have been done to measure the impact of money supply on the government bond yield. Utama & Agesy (2016) and Sundoro (2018) found that there was a negative effect of the money supply on government bond yield, yet Akbari & Sentosa (2019) research result showed an insignificant effect. Jakarta composite index is one of the microeconomics that affects government bond yield also used by some researchers in their research. Sundoro (2018) found the negative effect, but Megasari et al. (2014) showed the opposite. The exchange rate as global

macroeconomics has become one determinant of government bond yield. The research conducted by Adiwibowo & Sihombing (2019) with result of positive effect, yet Ichsan (2018) showed the opposite.

Based on these differences, the author will be using inflation, money supply, composite index, exchange rate as independent variables. Also, the author includes the Central Bank interest rate that we call BI 7-Day Repo Rate to reconfirm its positive effect on government bond yield in this economic situation. The author also put Covid-19 pandemic as a dummy variable to define its impact on government bond yield that also allow us to figure financial condition in the country.

LITERATURE REVIEW

Bond

A bond is a fixed income instrument according to the period of payment defined in advance. (Tandelilin, 2010). Ehrhardt & Brigham (2011) mentioned that a bond is a long-term contract between the borrower and the bond certificate holder with a commitment that the borrower will pay interest and principal as agreement date. Indonesia government, through President Decree No. 775/KMK/001/1982 bond is a financial instrument formed in the debt recognition letter from a citizen of Indonesia for a minimum of 3 years term with a commitment to pay the interest which amount and payment period defined by the issuer. Bond coupons are usually higher than bank term deposit investments. Fixed and floating coupons traded in the secondary market by the Indonesia Stock Exchange market. Bond trading give capital gain to the investor, the difference between buying and selling activities.

Bond Yield

Bond yield is the return to an investment calculated from the coupon and bond's current market price. Bond yield depends on the bond price at the market influenced by interest rate, exchange rate, yield benchmark bond and other macroeconomics factors. Ehrhardt & Brigham (2011) wrote that yield to maturity is the return when a bond is sold at its maturity according to nominal price and interest. But if the investor holds the bond until its maturity, the investor will receive yield as written on the buying date. Below is Ehrhardt & Brigham YTM formula:

$$Bond\ Price = \sum_{t=1}^{N} \frac{INT}{(1+YTM)^t} + \frac{M}{(1+YTM)^N}$$

INT = Coupon
M = Par Value

Bond yield has negative correlation with bond price. When bond price increases, it will drag down the yield vice versa.

Term Structure of Interest Rate

According to Martelli, Priaulet, and Priaulet (2003), the term structure of interest rate (TSIR) is a series of interest rates based on maturity time. The value of the interest rate will determine the time structure and will indicate the yield curve. Or it can be called the relationship between investment returns and investment maturities.

Liquidity of Preference

Liquidity of preference, called the theory of money demand developed by Baumol and Tobin, explained that the demand for money for transactions is influenced by interest rate. When the interest rate is high, people will reduce cash and increase their investment portfolio, including bond, which can generate income from interest and bond price changes (Nopirin, 2013).

BI 7-Day Repo Rate

The Interest rate is one of the Central Bank of Indonesia monetary policies to recover economic situation in the country. BI7DRR, effective on August 19th, 2016, replacing BI Rate before the time. BI7DRR has stronger correlation with the market as the main reference. When the inflation rate is predicted higher than the target, Central Bank will decrease BI7DRR, in the way around, when the inflation rate is predicted to be lower than the target. It is also increasing the effectiveness of monetary policy transmission in the banking industry (Central Bank of Indonesia, 2021).

Inflation

Inflation is the economic situation where the price of goods and services tends to increase during specific periods continuously. The Central Bank of Indonesia's single objective is maintaining the stability of rupiah value. The value of rupiah will be decreasing when the price of goods and services are increasing. Mankiw (2009) mentioned that inflation influence by an unemployment rate. Low unemployment causes high demand and pushes up the inflation rate. The government and Central Bank set up inflation rate once in three years as a reference for businesses in doing their economic activities. Inflation at a low and stable level will support the achievement of people's welfare.

Table 1. Inflation Target

Year	Inflation Target	Actual Inflation (% yoy)
2016	4±1%	3,02
2017	4±1%	3,61
2018	3,5±1%	3,13
2019	3,5±1%	2,72
2020	3±1%	1,68
2021	3±1%	1,33

Money Supply

Central Bank of Indonesia defines that M1 money supply, the most narrowly meaning, is basic country's money for daily transactions in the hand of public. M2 is a wider measurement than M1. It is not only basic money for transactions, but it includes saving deposits, retail money market, mutual fund, and other important function of money. The money supply is all of the amount of money in the public's hands in the economic activities in a specific period of time (Kompas, 2016). Quantitative Easing (QE) is one of the Central Bank's policies to increase the money supply to keep the stability of Indonesia economic growth. Central Bank of Indonesia has the authority to increase or decrease money supply according to monetary targets that become the goal and to ensure the steady growth.

Jakarta Composite Index

Jakarta Composite Index is an index of all stocks of the companies traded on the Indonesia Stock Exchange (IDX) based on specific criteria and methodology and through evaluation periodically (IDX, 2020). The index shown in the IDX board indicated market sentiment or investor trust. The change of one index could be an indicator that reflects opinion from all of stock market participants

USD/IDR Exchange Rate

The exchange rate is the relative price of currencies between two countries or the nominal exchange rate (Mankiw (2009). To measure the real exchange rate is by multiplying the nominal exchange rate with the proportion between price level at one country and price level at the other country. When one country has a higher real exchange rate, the country's goods are more expensive than other countries' goods, which leads to low export activities and in the way around. The Central Bank of Indonesia single objective is maintaining the stability of rupiah value which has two implications, the price of goods and services and also the stability of the exchange rate between rupiah and US dollar (Central Bank of Indonesia, 1999). Further, Central Bank of Indonesia regulation number 12 stating that the determination of exchange rate is done by the government of Indonesia, in the President Decree based on Central Bank suggestion.

Pandemic Covid-19

Coronavirus disease was first reported in Wuhan, China, in December 2019, so it is called Covid-19. This pandemic has direct impact on global economic conditions, including Indonesia. To slow down the spreading of the virus, the government issued large-scale social restrictions in Jakarta and other cities considered the red zone of the pandemic. The economic growth in Indonesia during 2020 and 2021 is slowing down.

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│    BI 7-Day Repo Rate    │
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┌─────────────────────────┐
│        Inflation         │
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┌─────────────────────────┐                ┌──────────────────────────┐
│       Money Supply       │                │  Government Bond Yield   │
└─────────────────────────┘                └──────────────────────────┘
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│  Jakarta Composite Index │
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│   USD/IDR exchange rate  │
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│     Pandemic Covid-19    │
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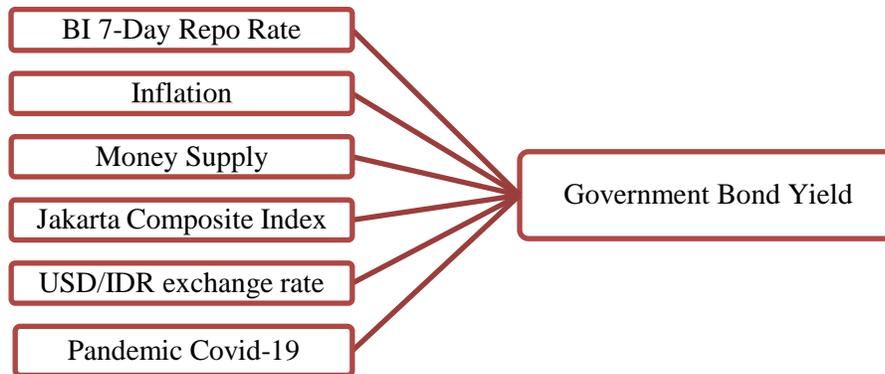
Picture 3. Research Framework

Hypothesis Development

One of the Central Bank of Indonesia monetary policies is to set up the BI 7-Day Repo Rate that gives practical impact to Indonesia's economic growth. By raising the level of BI7DRR, Central Bank predicts that government bond yield will also be increasing, vice versa. H_1: BI 7-Day Repo Rate has positive effect on government bond yield

The tendency of increasing the price of goods and services is causing the changed behavior of the people. They will switch their expenditure to increase their investment portfolio by putting their money in the capital market and expecting a higher investment return. The government will set up monetary policy by increasing interest rates to drag down the high level of inflation. This gives the impact of increasing the bond yield. H_1: Inflation has positive effect to government bond yield.

The increasing of money supply gives the effect of increasing the price of goods and services in general. This will affect inflation rising. The government will increase the interest rate to control inflation and money supply. H_1:Money supply has positive effect on government bond yield.

The bond price has a negative effect on bond yield. This effect is also applied to the stock price indicated on Jakarta Composite Index. The higher index, the lower bond yield would be. H_1: Jakarta Composite Index has negative effect of government bond yield.

Decreasing exchange rate rupiah to US dollar indicated that the economic situation in Indonesia is unstable. In this case, the demand for government bonds is decreasing, causing the government bond price to go down. The price of the bond has a negative correlation with bond yield, which means that the decreasing of rupiah will cause increasing of bond yield. H_1: USD/IDR exchange rate has negative effect to government bond yield

Increasing of pandemic Covid-19 causing Indonesia economic growth slows down. The inflation rate declines, so government pull down the interest rate in order to stimulus inflation. H_1: pandemic Covid-19 has negative effect to government bond yield

RESEARCH METHODS

The research method used in this research is multiplied linear regression panel data. Giving five independent variables and one dummy variable, the author combines cross-section and time series data. The dummy variable is the Covid-19 pandemic which now is still becoming a priority issue in Indonesia and all over the world. The model of multiplied linier regression is as follow:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e$$

Where:

Y : Indonesia government bond yield

α : intercept

β : regression coefficient

X_1 : BI 7-Day Repo Rate

X_2 : inflation

X_3 : money supply

X_4 : Jakarta Composite Index

X_5 : USD/IDR exhange rate

X_6 : dummy variable

D = 0 adalah sebelum *Covid-19 pandemic*

D = 1 adalah selama *Covid-19 pandemic*

e : error

Population and Sampling

The population of this sampling is government fixed rate rupiah denomination bond yield traded in May 2021. At the end of 2021, the total outstanding of government bond is Rp5,704 trillion including tradable government bond as much as 97,4%. Government bond consists of Zero Coupon 0,79%, Fixed Coupon 52,38%, Variable Coupon 7,66%, and Fixed Coupon in USD, Yen, and Euro currency as much as 3,32%.

Table 2. Research Population
Source: DJPPR Ministry of Finance

Benchmark	Traded May 2021	Maturity (y)
2011	FR0053	2021
2012	FR0061	2022
2013	FR0063	2023
2014	FR0070	2024
2016	FR0056	2026
2017	FR0059	2027
2018	FR0064	2028
2019	FR0078	2029
2020	FR0082	2030

The sampling is based on purposive sampling defining some certain variables (Cooper & Schindler, 2014). Government 10-year used as benchmark to define bond price and other financial assets and also to create expectation in the capital market (DJPPR Ministry of Finance). The sampling is 5 serries government fixed rate rupiah denomination bond yield traded on May 2016 to May 2021 (5 years). The number of data is 300.

Table 3. Research Sampling
Source: DJPPR Ministry of Finance

Benchmark	Traded 2016-2021 (5 years)	Maturity (y)
2011	FR0053	2021
2012	FR0061	2022
2013	FR0063	2023
2014	FR0070	2024
2016	FR0056	2026

FINDINGS AND DISCUSSION
Descriptive Analysis

This research is using 300 data from year 2016 to 2021. Below is the table of data description used in this research:

Table 4. Data Description

Variable	Count	Mean	Std Dev	Minimum	Maximum
Government bond yield (%)	300	6.51	1.09	2.85	8.25
BI7DRR (%)	300	4.83	0.80	3.50	6.50
Inflation (%)	300	2.91	0.81	1.32	4.37
Money supply (billion rupiah)	300	5,752.361	671.473	4,730.379	6,994.900
Composite	300	5,795	514	4,539	6,605
USD/IDR (Rp) last date	300	14,021	635	12,998	16,367

The average value of all variables are higher than each standard deviation. This means that all variables have good distribution. The lowest government bond yield is FR0053, 2.85% traded in November 2020. The highest government bond yield is FR 0056, 8.25% traded in September 2018. Average value of government bond yield is 6.51 with variation 1.09%. Lowest BI7DRR is 3.5% in February to March 2021, the highest is 6.5% in June and July 2016. The average is 4.83%. The lowest inflation rate is 1.32% in August 2020, the highest rate is 4.37 in June 2017 yet the average is 2.91%. Money supply reached the lowest s Rp4,730.379 (trillion) in July 2016, the highest is Rp 6,994.900 (trillion) in May 2021. The lowest Jakarta composite index is 4,539 in March 2020 yet the highest is 6,605 at the end of January 2018. The average index is 5,795. The lowest USD/IDR exchange rate is Rp16,367 for 1 US dollar, the highest is Rp12,998 in the end of September 2016.

Stationarity Test

Stationarity test is to see if the time serries data are stationer and stabile at the long term.

Table 5. Stationarity Test Result

Variable	Prob Level
Government Bond Yield	0.0000
BI7DRR	0.0000
Inflation	0.0000
Money supply	0.0000
Jakarta Composite Index	0.0000
USD/IDR exchange rate	0.0000
Covid-19 pandemic	0.0000

All of the probability values of variables show 0.0000 or less than 0.05. This number shows that all time serries data are stationer distributed.

Inferential Analysis

Inferential Statistics is a statistical technique used to analyze data sampling in which the result is used for population data (Sugiyono, 2017:148). Inferential analysis helps the author to define the answer to the research problem.

Model Selection Test

This research is using data panel regression and is done with Eviews 10 software. Model selection test is done to choose the most precise model to be used in this research; common effect model (CEM), fixed effect model (FEM), or random effect model (REM).

Chow Test

Chow test is used to choose between common effect model and fixed effect model.

Table 6. Chow Test Result

Effects Test	Statistic	d.f.	Prob.
Cross-section F	12.958273	(49.244)	0.0000
Cross-section Chi-square	384.469775	49	0.0000

H_0 = Prob result > 0.05 the best model is CEM
H_1 = Prob result < 0.05 the best model is FEM

The result shows that probability value is 0.000 (<0.05), means that FEM is the best model according to chow test. Further test is needed to define best model between FEM and REM. For this the author will use Hausman Test.

Hausman Test

Hausman test is used to choose the best model between FEM and REM

Table 7. Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.

Cross-section random	39.874382	6	0.0000

H_0 = Prob result > 0.05 the best model is REM

H_1 = Prob result < 0.05 the best model is FEM

The result shows that probability value is 0.0000 (<0.05), means the best model is FEM according to Hausman Test. From both test the result shows the same conclusion that FEM is the best model to do further research.

Table 8. Fixed Effect Model Result

Total panel (unbalanced) observations: 300				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
BI7DRR – X_1	0.471241	0.071127	6.625354	0.0000
Inflation – X_2	0.194332	0.096910	2.005281	0.0459
Money Supply – X_3	-5.417314	0.925478	-5.853529	0.0000
Jakarta Composite Index – X_4	-0.123149	0.664758	-0.185254	0.8532
USD/IDR exchange rate – X_5	8.482381	1.411567	6.009193	0.0000
Covid-19 pandemic – D	-0.183612	0.293406	-0.625796	0.5319
C (α)	8.079813	10.65287	0.758463	0.4488
R-squared	0.691506	Mean dependent var		6.506300
Adjusted R-squared	0.685189	S.D. dependent var		1.088292
F-statistic	109.4625	Durbin-Watson stat		0.515485
Prob(F-statistic)	0.000000			

Multiple linier regression model:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_5 D + e$

$Y = 8,079813 + 0,471241 X_1 + 0,194332 X_2 - 5,417314 X_3 - 0,123149 X_4 + 8,482381 X_5 - 0,183612 D$

The formula explains that when variables value is 0 (zero) or constant, dependent variable will be 8,079813.

Feasibility Test
F Test

With 300 sampling, 6 independent variables, F-table is 2.129. Shown in the FEM result, F-statistic is 109.46. When F-statistic > F-table, it shows that independent variables will be effecting the dependent variable. Probability value is 0.000000 or < 0.05. Those results show that all independent variables in simultaneous effect the dependent variable.

Adjusted R-Squared

From the FEM table, Adjusted R-Squared value is 0.685189 or 68,52%. That number shows how big the independent variables effecting the dependent variable. The rest 31.48%, dependent variable is effected by other variables that are excluded in this research.

Hypothesis (t test)

With 300 data, 6 independent variables, the T-table is 1,968.

Table 9. Hypothesis Test Result

Variable	t-Statistic	Prob.	T Test result	Correlation
BI7DRR	**6.625354**	0.0000	t-statistic > t table	Positive effect
Inflation	**2.005281**	0.0459	t- statistic > t table	Positive effect
Money supply	**-5.853529**	0.0000	t- statistic > t table	Negative effect
Jakarta composite index	-0.185254	0.8532	t- statistic < t table	No correlation
USD/IDR exchange rate	**6.009193**	0.0000	t- statistic > t table	Positive effect
Covid-19 pandemic	-0.625796	0.5319	t- statistic < t table	No correlation

T-statistic > t-table < 0.05 → X effecting Y

Discussion

The Effect of BI 7-Day Repo Rate on Government Bond Yield.

T-statistic of BI 7-Day Repo Rate is positive 6.625 or > t-table 1.968, with probability value is 0.0000 or < 0.05. BI 7-Day Repo Rate has a positive effect on government bond yield. Hypothesis 1 is accepted. This result is similar to previous studies by Kurniasih & Restika (2015), Sundoro (2018), Akbari & Sihombing (2019). Their research also stated that BI7DRR has a positive effect on government bond yield. In order to strengthen the monetary policy framework, the Central Bank of Indonesia set up the level of BI7DRR to control Indonesia Economic situation. BI7DRRR has been decreasing when the Covid-19 pandemic began to occur in China in 2019 and then started spreading in Indonesia in March 2020. The lowest BI7DRR level was at the beginning of the trimester year 2021 and reached 3.5%. This monetary policy is expected to push down the bond yield and to increase the bond price, and the investor gets capital gain from bond selling activities
.

The Effect of Inflation on Government Bond Yield

T-statistic of inflation is positive 2.005 or > t-table 1.968 with probability value 0.0459. This probability value is lower than 0.05. It means that inflation has a positive effect on government bond yield. Hypothesis 1 is accepted. This result is similar to previous research by Yu Hsing (2015), Kurniasih & Restika (2015), and Adiwibowo & Sihombing (2019). The result of their research also stated that inflation has a positive effect on government bond yield. The Covid-19 pandemic impact, which was entering Indonesia at the beginning of 2020, is causing volatility of the economic situation. The inflation rate has been decreasing and pushing the government to set up monetary policy by decreasing the BI7DRR to support Economic National Recovery (PEN). The government expects by decreasing BI7DRR, capital outflow from Banks to people increases and pulls up the purchasing power, and then the demand for goods and services will also rise up. This will increase the inflation rate, but people's spending behavior moves to a saver way by multiplying their investment portfolio in this pandemic situation. Government bond becomes an interesting investment instrument giving the fact that all return and principal are guaranteed by

the state budget. Data from the Indonesia Central Securities Depository (KSEI) shows a significant increase of investor numbers. At the end of 2019, the number of investors is 1,619.372, on May 2021, that number multiplied and reached 5.372.094. People preferences have been shifted from real business to capital market since Large-Scale Social Restriction applied (DJKN, Ministry of Finance 2021).

The Effect of Money Supply on Government Bond Yield

T-statistic of money supply is negative 5.854 or > t-table 1.968 with probability value 0.0000 or lower than 0.05. It means that money supply has negative effect on government bond yield. Hypothesis 1 is rejected. Money supply in Indonesia has tendency to increase from year to year. The increasement of money supply in Indonesia indicates that even though Indonesia is struggling from the impact of Covid-19 pandemic, the economic in Indonesia is still steadily in growth.

The Effect of Jakata Composite Index on Government Bond Yield

T-statistic of Jakarta Composite Index is negative 0.185 or < t-table 1.968 with probability value 0.8532 or higher than 0.05. It means that Jakarta Composite Index does not affect government bond yield. Hypothesis 1 is rejected. This result is not in line with the previous research by Sundoro (2018). Sundoro stated that Jakarta Composite Index has a negative effect on government bond yield. However, this research result is similar to Utama & Agesy (2016) research, which stated that Jakarta Composite Index has no effect on government bond yield.

The increase of Jakarta Composite Index is supported by blue chip stocks or LQ45 and IDX30 companies with strong capital. The volatility of Jakarta Composite Index is caused by the economic condition that affecting corporate financial stability.

The Effect of USD/IDR Exchange Rate on Government Bond Yield

T-statistic of USD/IDR exchange rate is positive 6.009 or < t-table 1.968 with probability value 0.0000 or lower than 0.05. It means that USD/IDR exchange rate has a positive effect on government bond yield. Hypothesis 1 is rejected. This research is not in line with the research conducted by Yu Hsing (2015), Kurniasih & Restika (2015), and Ichsan (2018), which stated that USD/IDR exchange rate has a negative effect on government bond yield. However, this research has a similar result with Utama & Agesy (2016) and Adiwibowo & Sihombing (2019). The decline in the value of rupiah toward US dollar gives the effect of decreasing government bond yield. For 1 US dollar people get more rupiah when rupiah is week. The Central Bank of Indonesia has three main purposes in order to keep the financial system stable; establishing and implementing monetary policies, regulating and maintaining the payment system, and supervising banks. The Central Bank of Indonesia has a single objective: to maintain the stability of rupiah (Bank Indonesia, 2021). The stability of rupiah contains two aspects; the stability of goods and services price and the other one is stability of rupiah against US dollar. On the other hand, Indonesia government bond supported by domestic investors.

The Effect of Covid-19 pandemic on Government Bond Yield

T-statistic of dummy variable, Covid-19 pandemic is negative 0.626 or < t-table 1.968 with probability value 0.5319 or higher than 0.05. It means that the Covid-19 pandemic has no effect on government bond yield traded 2016-2021. Hypothesis 1 is rejected. In March 2020, the Covid-19 pandemic started to grow in Indonesia and negatively impacted the economic situation due to Large-Scale Social Restrictions (PSBB). However, this research proves that the drastic economic decline is not affected by the Covid-19 pandemic. Government bond yield traded in 2020 to these days in 2021 has been decreasing, which means that the bond price is increasing. Government bond price indicates that Indonesia economy is still in a good situation. In 2019 Indonesia economy grew 2,3%. In 2020 Indonesia economic growth contracted and decreased to 2.07% (BPS Statistic Indonesia, 2021). In the year 2021 Indonesia economic growth is expected to increase to 3.9% as the government focusing on National Economic Recovery (PEN), speeding up vaccination to a minimum of 70% citizens of Indonesia, and monetary policies stimulus (Ministry of Finance, 2021).

CONCLUSION AND RECOMMENDATION

10-years government bond yield, fixed-rate rupiah denomination traded 2016 to 2021 affected by some macroeconomics as independent variables in this research. BI 7-Days Repo Rate, inflation rate, and USD/IDR exchange rate positively affect government bond yield. Yet, the money supply has a negative effect, Jakarta Composite Index and the Covid-19 pandemic have no effect on government bond yield. This research uses data panel regression that could provide a good explanation of all the variables used in the study. Two of the conclusions from each variable show different results from the hypothesis. The hypothesis predicted that Jakarta Composite Index has a negative effect on government bond yield, but the result of this research, Jakarta Composite Index, has no effect on government bond yield since blue-chip companies with strong capital support the stock index. The second difference is USD/IDR exchange rate toward government bond yield. The hypothesis predicted that USD/IDR exchange rate has a negative effect on government bond yield, but in this research, the result is in the way around, USD/IDR exchange rate has a positive effect on government bond yield. The role of The Central Bank of Indonesia as the regulator that has a single objective is very important to keep the economics of Indonesia grows steadily.

Recommendation

For the government of Indonesia, the high government bond yield level will put a burden on giving a high return to the investors. However, in this Covid-19 pandemic situation, even though government bond yield decreases due to the monetary policies taken by the Central Bank of Indonesia by pulling down BI 7-Day Repo Rate, investors are still choosing government bonds as their investment portfolio. The author hopes this research could be one of the considerations to establish the right policies when Indonesia faces a similar situation in the future.

For investors, the author hopes that this research will help them choose investment instruments in the capital market. The effect of the Covid-19 pandemic could be put into consideration in selecting the suitable investment. The author hopes this research could contribute as an additional study reference on the determinant of government bond yield for the academic community. The author also suggests to the next researcher that doing similar research to put other independent variables that excludes in this research such as US Treasury, Global Bond, and government bond yield in the countries that have the same rating as Indonesia.

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