Response Of Indonesian Government Bond Yield To The Volatility Of United States Government Bond Yield

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ABSTRACT

This study was conducted to investigate the extent to which the Indonesian exchange rate, inflation, and government bond yields affect the volatility of US government bond yields. Using quantitative inferential methods, this study attempts to analyze the causal relationship between the independent and dependent variables. The data used are derived from secondary sources, namely data on the Rupiah exchange rate, Indonesian inflation, historical data on Indonesian Government Securities (SUN), and US *Treasury Notes,* covering the period from 2015 to 2024. The data collection process was carried out through documentation techniques, ensuring the validity and reliability of the information obtained. In the analysis stage, the data were processed using E-Views statistical analysis, which involved a series of tests. These included descriptive statistical tests to provide an overview of the data, classical assumption tests to ensure the statistical model met the requirements, and hypothesis tests to verify initial assumptions. Based on the comprehensive analysis, the findings of this study consistently indicate that inflation has a positive and significant effect on the volatility of US bond yields. However, the Rupiah exchange rate and Indonesian bond yields did not have a significant effect on the volatility of US bond yields.

Keywords: Bond Yields; Volatility; Indonesia Government Bond; United States Government Bond.

INTRODUCTION

Volatility is a measure used to determine fluctuating price movements over a specific period. Volatility measurements can support short-term price fluctuations. Its value does not indicate the price level, but rather the degree of variability over time (Ramadhon et al., 2022) . High volatility indicates unstable supply and demand. In the context of bond yields, high volatility indicates unstable bond yields. This is due to high demand and low supply.

Bond yield volatility can occur due to several factors. First, according to research by Paramita et al. (2016) , bond yield volatility is caused by changes in exchange rates. If the Rupiah exchange rate against the Dollar is high enough, it will affect interest rates, which can hamper a country's economic growth. According to Baihaqqy et al. (2023) , the increase in interest rates determined by the Central Bank causes many investors to shift

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to savings because they are considered to offer higher returns than bonds. As a result, bond supply increases, but bond prices decline due to a decrease in bond demand.

Paramita et al. (2016) explain that a country's exchange rate depreciating or weakening against the dollar will cause many investors to withdraw their investments from that country. Investors will shift to countries perceived as offering safer investment assets from the risk of loss. A weakening exchange rate hinders a country's economic growth. These obstacles include rising raw material prices and production costs, which impact declining economic welfare (Sandi, 2020) . This, in turn, influences global investors' interest in shifting to bonds from other countries that are not experiencing an economic crisis.

The second factor, according to research by Astari & Badjra (2018), is that inflation is the determining factor in bond yields. They argue that when inflation rates rise, product prices increase. This indicates a country is experiencing economic uncertainty. An uncertain economy causes many investors to refrain from investing, including in bonds. This leads to a decrease in bond demand and increased yield volatility.

The final factor concerns the global financial market context. The movement or volatility of yields between countries is not solely influenced by individual domestic circumstances. This volatility can also be driven by global risk perceptions. In this study, an interesting topic to examine is the relationship between Indonesian bond yields and the volatility of US Treasury bond *yields*.

Indonesia, as a developing country, offers higher bond yields than developed countries like the United States (Aulia & Miyasto, 2019) . The following are the yields on 10-year bonds in ASEAN countries.

Table 1. ASEAN Government Bond Yields

Country	*Yield* (2024)
Indonesia	7.02%
Philippines	6.22%
Malaysia	3.82%
Singapore	2.86%
Thailand	2.27%

Source: MacroMicro (2025)

Table 1. shows that Indonesia's bond yields are the highest compared to other ASEAN countries. These higher yields generally occur in countries at risk of economic or political crises. A survey conducted by Rahmawati & Makaliwe (2021) found that when Argentina faced a debt and economic crisis in 2017, yields increased significantly by 28.75%. Yields reflect a country's risk; when risk increases, bond prices decline, resulting in higher yields.

Although Indonesian bond yields are said to be quite high, if economic uncertainty arises due to inflation and policy uncertainty, this will cause many investors to abandon their plans to invest in Indonesia and decide to sell their bonds. Investors will then turn to financial instruments considered safer, such as US *Treasuries*.

The relationship between Indonesian bond yields and US bond yield volatility occurs when funds are simultaneously transferred from developing countries like Indonesia to the US. This results in an increase in online demand for US bonds and fluctuations in US bond prices over a short period, which in turn impacts their volatility (Bloomberg, 2023) . Conversely, if Indonesian bond yields increase due to positive economic growth, many investors will invest in Indonesian bonds, leading to a decrease in demand for US bonds. This occurs because investors adjust for cross-border risks (International Monetary Fund, 2021) . Furthermore, Indonesia's economic condition as a developing country is often used as an indicator to assess the overall level of risk, which will increase market reaction to investments in assets considered safer and more stable (Tambunan et al., 2023) .

This study aims to examine the effect of Indonesian bond yields on US bond yield volatility during 2015-2024. This research contributes to the literature, as research related to the impact of Indonesian bond yields on US bond yield volatility has not been explicitly examined. In contrast, research on the opposite, namely the impact of US bond yields on Indonesian bond yield volatility, has been widely conducted due to the perception of

experts that the US is more dominant and its economic conditions influence the global economy. Therefore, it is hoped that this study will provide truly novel research results and can be used as a reference for future research.

LITERATURE REVIEW

Exchange rate. Paat et al., (2024) define the exchange rate as the price of a foreign currency measured in domestic currency. In other words, it indicates how much domestic currency is needed to buy one unit of foreign currency, or vice versa. Pamungkas (2018) then defined the exchange rate as the price comparison between one country's currency and another. This means the exchange rate measures how much of one country's currency can be purchased with one unit of another country's currency.

Inflation. Paat et al., (2024) explain that inflation is a condition in which the overall prices of goods and services continue to rise. This is not simply a price increase for one or two products, but rather a widespread increase across many goods. Inflation can also occur due to a mismatch between the quantity of goods available (production) and the money in circulation. According to Salim et al., (2020) , inflation can be explained through three main groups of theories that identify its causes. (1) The first is the theory that inflation occurs based on the quantity of money. This oldest theory, developed by monetarists, states that inflation is caused by an increase in the amount of money in circulation. More money in the hands of the public means greater purchasing power, driving up prices in general. (2) Second, inflation occurs due to cost pressures and the struggle for resources, this is based on Keynesian theory and the *Cost-Push Theory* explains inflation as a result of groups of people trying to consume beyond their economic capacity. This creates a "tug-of-war" dynamic where production costs become higher. (3) And third, inflation occurs due to long-term structural problems. This theory emphasizes that inflation is rooted in fundamental problems in the economic structure, especially in the food and export sectors. When the supply of food and export goods is unable to keep up with the growth in demand, prices will rise, causing foreign exchange shortages, and leading to long-term inflation if these structural problems are not addressed.

Bond. Purwaningsih (2018) defines bonds as long-term financial commitments. They serve as evidence that an organization has borrowed money and promised to repay it in the future. This repayment is subject to certain conditions, including a maturity date, an agreed-upon coupon rate, and the total interest to be paid. Meanwhile, according to Purwani et al. (2022) , bonds are also known as *fixed-income securities.* This name stems from the fact that bonds offer a predetermined, constant income. This financial instrument is easier to understand because the payment amount is predetermined, and the investment risk tends to be lower as long as the bond issuer is responsible for its obligations.

Bond Yield. Listiawati & Paramita (2018) define bond yields, also known as *yields,* as the income earned by investors who purchase bonds. Before investing in bonds, it's important to understand the expected *yield*, so investors can determine the level of return they will receive each year. There are two types of bond yields: *yield to maturity* (YTM) and *yield to call* (YTC). According to Ernawati (2022) , YTM is the rate of return an investor will receive if they hold their bond until maturity. YTM is more commonly used for investment decision-making because it reflects the potential profit for the investor. Meanwhile, YTC is the return an investor will receive if the organization is able to repurchase or redeem the bond before the specified maturity date.

Volatility. Volatility is a measure used to determine fluctuating price movements over a specific period. Volatility measurements can support short-term price fluctuations. Its value does not indicate the price level, but rather the degree of variability over time (Ramadhon et al., 2022) . According to Wati & Puspitaningtyas (2023) , volatility occurs due to new information that impacts financial markets. This information causes investors to reconsider their investments. In an efficient market, prices will be adjusted quickly in response to this new information. Tarlan (2016) explains that volatility is the fluctuating price movements of a financial instrument. High volatility indicates a low certainty of

investment returns. This means that volatility can provide investors with an idea of the certainty of returns and the level of risk associated with the investment.

Research Model

This study aims to determine the effect of the Rupiah exchange rate, inflation, and Indonesian bond yields on US bond yields during 2015 to 2024. Based on the research objectives, the research model formulated in this study is as follows.

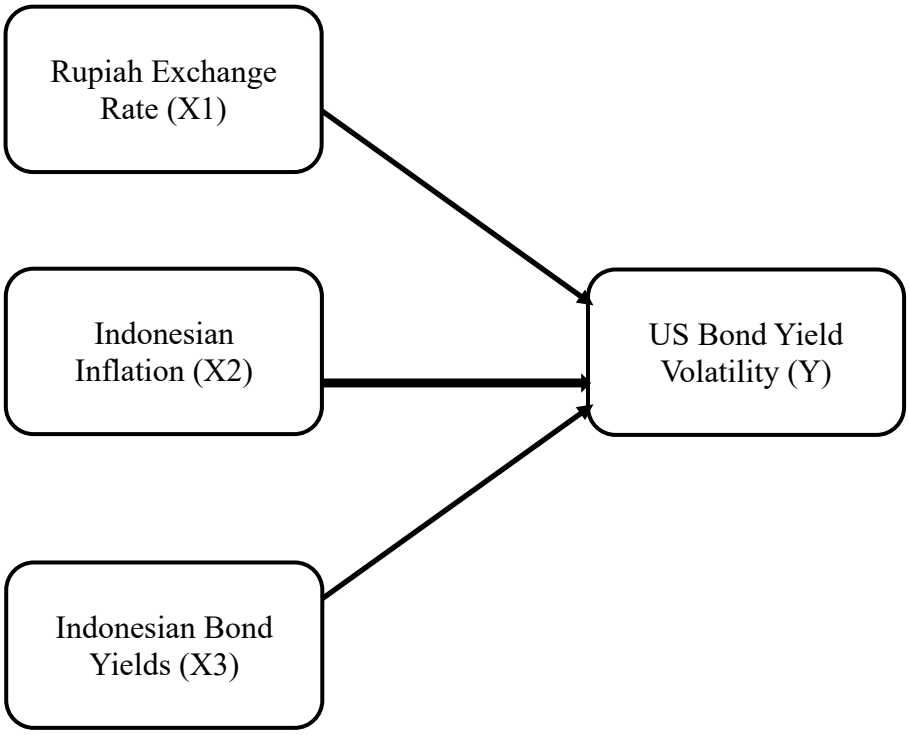


Figure 1. Research Model

The Relationship Between the Rupiah Exchange Rate and US Bond Yield Volatility

A significant weakening of the Rupiah against the US Dollar is often an early sign of increased economic risk, not only in Indonesia but also in other emerging markets. This condition generally triggers what is known as a flight to quality, a tendency for investors to shift their funds from assets perceived as high-risk in emerging markets to safer assets, such as US Treasury bonds. This increased demand for US Treasuries, a market reaction to heightened uncertainty, can drive volatility in US bond yields. This view is supported by various studies. Darsono et al., (2024) noted that currency exchange rate movements encourage investors to demand higher risk premiums on foreign currency-denominated bonds, which in turn increases bond yields and volatility in the global bond market. Similarly, Fatmawatie et al., (2024) also found that pressure on the Rupiah can drive capital outflows to the US, which directly increases the volatility of US bond yields through *a flight to quality mechanism* .

Further research by Harikrishnan et al. (2023) aligns with these findings, showing that when US *Treasury* yields rise, emerging market currencies (including the Rupiah) tend to weaken. This depreciation then triggers volatility in US yields, as global markets react to the perceived increase in risk. Based on these arguments, the hypothesis formulated in this study is as follows: *H1: It is suspected that the Rupiah Exchange Rate has an impact on the volatility of US bond yields.*

The Relationship Between Indonesian Inflation and US Bond Yield Volatility

Inflation in Indonesia, as an *emerging market country*, has significant potential to influence global investor sentiment and foreign capital flows. When inflation in Indonesia

spikes, investors tend to move their funds out of the domestic market, seeking refuge in assets perceived as safer, such as US Treasury bonds. *This* inflow or outflow of funds from US *Treasuries* can then trigger fluctuations or volatility in US bond yields. Rising inflation in Indonesia is often accompanied by a depreciation of the Rupiah, which encourages investors to spread their portfolio risk across international financial instruments. Over a shorter time horizon, changes in inflation expectations in developing economies like Indonesia can amplify fluctuations in US bond *yields*, particularly due to rising global risk perceptions, especially if accompanied by monetary policy tightening.

A study by Ariff & Zarei (2022) supports this view, noting that inflation in developing countries plays a role in causing bond volatility in developed countries, including the US, through capital flows and investors' risk aversion. Similarly, Pratama & Kurniawan (2023) found that inflation volatility in Indonesia is positively correlated with US bond volatility, particularly during periods of external pressure or global crises. Based on these arguments, the hypothesis formulated in this study is as follows: *H2: Indonesian inflation is suspected to have an impact on the volatility of US bond yields.*

The Relationship Between Indonesian Bond Yields and US Bond Yield Volatility

A country's bond yields can fluctuate if the country experiences economic uncertainty, such as rising inflation or interest rates. As a result, many investors are concerned about the increased risk of bond investments and are turning to safer assets like US bonds. The simultaneous high demand for US bonds has caused sharp yield movements and impacted their volatility. According to the Federal Reserve Bank of San Francisco (2021), global investors are more sensitive to the differences in yields offered by developing and developed countries. For example, rising bond yields in Indonesia can increase the volatility of US bond yields. This suggests that this influence is positive or in line with the trend.

This is supported by research by Avdjiev et al. (2022) that shocks to bond markets in developing countries, particularly those that lead to increased yields, can influence bond volatility in developed countries. Furthermore, research by Tiwari et al. (2021) revealed that pressures in financial markets in developing countries will affect bond yields and volatility in developed countries. These pressures include rising inflation, bank interest rates, or political crises. Based on these arguments, the hypothesis formulated in this study is as follows: *H3: It is suspected that Indonesian bond yields have an impact on the volatility of US bond yields.*

METHODS

This study used a quantitative approach with an inferential approach. Quantitative research emphasizes analysis on numbers and statistical processing. The inferential approach is used for research aimed at analyzing relationships between variables and proving hypotheses (Sampurna & Nindhia, 2019) .The data used in this study is secondary data. According to Sugiyono (2020) , secondary data is data obtained from data providers, and researchers do not need to collect it directly at the research location. Secondary data is considered secondary because the data in this study was collected from official websites that provide data related to Indonesian and United States government bond yields.

This study focuses on data on the Rupiah exchange rate, Indonesian inflation, and bond yields from 2015 to 2024. Data on the Rupiah Exchange Rate (X1) against the US Dollar was obtained from the official website of the Ministry of Trade's One Data (2025) , without the researcher performing any additional calculations. Data on Indonesian Inflation (X2) was obtained from the official website of Bank Indonesia (2025b) without the researcher performing any additional calculations. The Indonesian Bond Yield (X3) variable data focuses on fixed-rate Government Securities (SUN). The data was obtained from the official Investing.Com website (2025b) , without the researcher performing any additional calculations. The US Bond Yield (Y) data focuses on *the US* Treasury *Note*, a medium-term bond with a tenor of 2 to 10 years. The data was obtained from the official Investing.Com website (2025a) . However, the researcher still performed volatility

calculations for this variable data. The bond volatility calculation cites Fabozzi (2016) as follows:

$$\sigma = \sqrt{\frac{1}{n-1}\sum_{t=1}^{n}\left(\ln\left(\frac{Y_t}{Y_{t-1}}\right) - \bar{r}\right)^2}$$

Information:
σ : Historical volatility (standard deviation of *the log return* of the yield) bond)
n : Number of data periods (e.g. number of days or months). In This study uses monthly bond yields to obtain annual volatility. Therefore, the period used is 12.
Yt : *Bond* yield in period t
Yt-1 : Bond yield in the previous period
ln : Natural logarithm (base e ≈ 2.718)
rt : Log return, namely:rt = ln $(\frac{Yt}{Yt-1})$
r̄ : Average log return over period n.

To make it easier to calculate the formula, the steps in the calculation are as follows:

1. Calculate the log return for each period

$$r_t = \ln\left(\frac{Y_t}{Y_{t-1}}\right)$$

2. Calculate the average log return

$$\bar{r} = \frac{1}{n}\sum_{t=1}^{n} r_t$$

3. Count log return variance

$$\text{Variansi} = \frac{1}{n-1}\sum_{t=1}^{n}(r_t - \bar{r})^2$$

4. Calculate the square root of the variance to obtain the volatility.

$$\sigma = \sqrt{\text{Variansi}}$$

The determination of the data collection method is based on the characteristics of the data sources, which indicates the adoption of documentation techniques in this study. Conceptually, documentation techniques involve data acquisition through the exploitation of readily available documented materials. In its practical implementation in this study, the data utilized specifically are the Rupiah exchange rate, Indonesian inflation, and government bond yields of the Republic of Indonesia and the United States, which serve as an empirical basis for further analysis.

After the data is collected, it will be analyzed using panel data regression techniques with the help of Eviews software. Sugiyono (2020) explains that data analysis is a stage used to group data so that the desired research results can be obtained. The tests used include: (1) Descriptive statistical tests of variables; (2) Classical assumption tests consisting of normality tests, multicollinearity tests and heteroscedasticity tests; and (3) Hypothesis tests consisting of coefficient of determination tests, partial influence tests or T tests, and simultaneous influence tests or F tests.

RESULT

Descriptive statistics were conducted to test the data and find out the description of the research variables studied.

Table 2. Descriptive Statistics of Variables

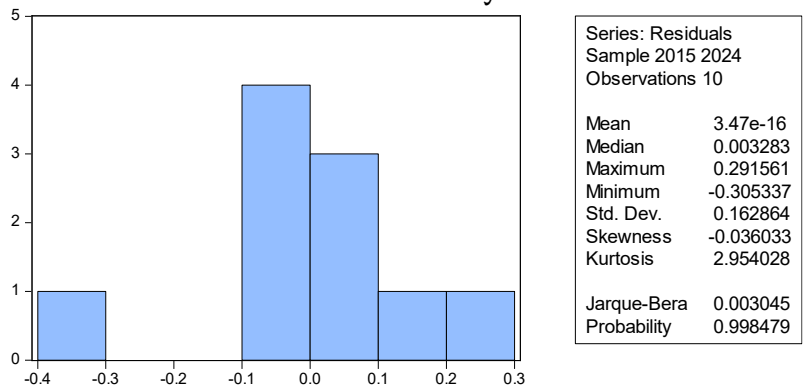
	X1	X2	X3	Y
Mean	14484.40	2.907000	7.086900	0.377700
Median	14187.00	2.870000	6.961000	0.364000
Maximum	16162.00	5.510000	8.872000	0.808000
Minimum	13436.00	1,570,000	5.942000	0.163000
Std. Dev.	955.5801	1.155672	0.918702	0.186056

Source: Researcher Processing (2025)

Based on table 2, it shows that the Rupiah Exchange Rate variable (X1) shows an average value of 14,484 or Rp14,484, this value shows that during the 2015-2024 period the average Rupiah exchange rate against the Dollar was Rp14,484. Then, the Indonesian Inflation variable (X2) shows an average of 2.907 or 2.907%. This figure shows that inflation conditions in Indonesia are in the normal or moderate category. The Indonesian Bond Yield (X3) variable shows an average value of 7.08690 or 7.08690%. This value indicates that the bond yield offered by Indonesia is quite high. Furthermore, the US Bond Yield Volatility (Y) variable shows an average value of 0.37770 or 0.37770%. This value indicates that the volatility or movement of US bond yields is said to be very low, meaning their movement is very stable.

A normality test is performed to verify that the data distribution follows a normal pattern. Data is considered normally distributed if the probability value is greater than 0.05.

Table 3. Normality Test



Source: Researcher Processing (2025)

Based on Table 3, the probability value obtained is 0.998479, exceeding the threshold of 0.05. This indicates that the data in this study are normally distributed.

In regression analysis, the multicollinearity test is a crucial step aimed at identifying the presence of linear correlation between independent variables. If this correlation is too high, it may indicate multicollinearity, which can potentially compromise the precision of parameter estimates and the validity of statistical inferences. A good and reliable regression model is characterized by the absence of multicollinearity, as this allows researchers to clearly measure the independent contribution of each predictor to the dependent variable without distortion caused by interdependence between the predictors themselves.

Table 4. Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
X1	5.14E-09	271,8316	1.060664
X2	0.003611	8.760556	1.090928
X3	0.005978	76.59904	1.141256

Source: Researcher Processing (2025)

The multicollinearity-free assumption in the regression model is met if the VIF value does not exceed 10. The analysis contained in Table 4 shows that the VIF value is 1, which is below the maximum limit set. Because this criterion is met, it can be firmly concluded that this research data model does not experience multicollinearity problems, indicating that the independent variables are not excessively correlated with each other and allows for valid interpretation of the analysis results.

The heteroscedasticity test is a crucial diagnostic test that aims to evaluate the consistency of residual variance across the range of predictor variable values in a regression model. Violation of the homoscedasticity assumption (constant residual variance) can imply biased standard error estimates, potentially leading to erroneous statistical inferences. To detect this condition, the Glejser test was chosen as the testing method. Model validity criteria require that the significance value of the Glejser test must exceed 0.05, indicating that there is no significant evidence of heteroscedasticity, and that the assumption of uniform residual variance has been met.

Table 5. Heteroscedasticity Test

F-statistic	1.211418	Prob. F(3,6)	0.3834
Obs*R-squared	3.772222	Chi-Square Prob.(3)	0.2871

Source: Researcher Processing (2025)

Table 5 shows the results of the heteroscedasticity test, with a Chi-Square Prob. value of 0.2871. Since this value exceeds 0.05, which is the critical limit, it can be concluded that the data model used in this study is free from heteroscedasticity problems. This confirms that the assumption of homoscedasticity, namely constant error variance, has been met. Compliance with this assumption is crucial to ensure that the regression coefficient estimates are efficient and the resulting standard errors are valid.

Coefficient of Determination Test

The primary function of the coefficient of determination (R-squared) test is to measure the proportion of variability in the dependent variable that can be explained by the independent variables included in the regression model. This test provides a strong indication of the explanatory power of a model. The higher the R^2 value, the better the independent variables represent or predict fluctuations in the dependent variable. This is essential for assessing how well the regression model can explain the relationship between the variables under study.

Table 6. Coefficient of Determination Test

R-squared	0.154020
Adjusted R-squared	-0.268970
SE of regression	0.529838
Sum squared residual	1.684369
Log likelihood	-5.283415
F-statistic	0.364122
Prob(F-statistic)	0.781738

Source: Researcher Processing (2025)

In Table 6, the coefficient of determination (R-squared) is recorded at 0.154, or 15.4%. This value is interpreted as indicating that only 15.4% of the variability in US bond yield volatility can be explained by the Rupiah exchange rate, Indonesian inflation, and Indonesian bond yields. Consequently, the model developed in this study has limited explanatory power. The remaining 84.6% of the variation in US bond yield volatility is likely distributed among other variables not included in the model specification, suggesting the need to explore additional predictive factors in future studies.

F test

The F-test compares the variances of two or more data sets. It helps determine whether differences are statistically significant and not due to chance. It is often used in ANOVA to compare means, or in regression to assess the overall significance of the model.

Table 7. F Test

R-squared	0.154020
Adjusted R-squared	-0.268970
SE of regression	0.529838
Sum squared residual	1.684369
Log likelihood	-5.283415
F-statistic	0.364122
Prob(F-statistic)	0.781738

Source: Researcher Processing (2025)

The results in Table 7 with a probability value of 0.781738 (greater than 0.05) indicate that statistically, there is no significant relationship between the movement of the Rupiah exchange rate, inflation, and Indonesian bond yields with the volatility of US bond yields.

T-test

To identify the specific impact of the independent variable on the dependent variable, this study used the T-test. This test is based on 10 data points, assuming a 95% confidence level reflected by a significance level of 0.05. Given the nature of the hypothesis, a two-tailed testing approach was applied, allowing for the detection of both positive and negative influences. From the statistical analysis, the calculated t-value was 2.306, which will serve as the basis for drawing conclusions regarding the existence of an influence.

Table 8. T-test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.075922	3.335733	0.322544	0.7580
X1	-6.110005	0.000189	-0.322959	0.7577
X2	0.241446	0.493037	2.489712	0.0417
X3	-0.144378	0.210030	-0.687415	0.5175

Source: Researcher Processing (2025)

The acceptance criteria for the T-test are that the calculated t-value must be greater than the table t-value, and the prob. value must be less than 0.05. Based on table 7, it shows:

1. The Rupiah Exchange Rate variable (X1) has a negative regression coefficient value of -6.110005, indicating a negative or inverse relationship between the Rupiah exchange rate and the volatility of US bond yields. The calculated t-value of -0.322959 < 2.306 and the probability value of 0.7577 > 0.05 indicate that the Rupiah exchange rate has no effect on the volatility of US bond yields.
2. The Indonesian inflation variable (X2) has a positive regression coefficient of 0.241446, indicating a positive or unidirectional relationship between Indonesian inflation and US bond yield volatility. Furthermore, the calculated t-value of 2.489712 > 2.306 and the probability value of 0.0417 < 0.05 indicate that Indonesian inflation has a positive and significant effect on US bond yield volatility.
3. The Indonesian Bond Yield variable (X3) has a negative regression coefficient value of -0.144378, indicating a negative or inverse relationship between Indonesian bond yields and US bond yield volatility. Furthermore, the calculated t-value of -0.687415 < 2.306 and the probability value of 0.5175 > 0.05 indicate that Indonesian bond yields have no effect on US bond yield volatility.

DISCUSSION

The Impact of the Rupiah Exchange Rate on US Bond Yield Volatility

Paat et al. (2024) defines the exchange rate as the price of a foreign currency measured in terms of the domestic currency. In other words, it indicates how much domestic currency is needed to buy one unit of foreign currency, or vice versa. A depreciating currency exchange rate can increase the volatility of bond yields in developed countries in the context of the global economy, including the United States. However, testing in

this study shows that the Rupiah exchange rate has no effect on the volatility of US bond yields. This means that fluctuations in the Rupiah exchange rate against the US dollar have no impact on the volatility or movement of US bonds. Based on this result, hypothesis H1 is rejected.

The results of this study align with descriptive statistical tests, which show that the average rupiah exchange rate against the dollar was Rp14,484 during the 2015-2024 period. This value can be considered quite high. However, despite the relatively high rupiah exchange rate against the dollar, indicating a weak rupiah, it does not affect the volatility of US bond yields. This is because the exchange rate primarily affects Indonesian bonds, not US bonds. Investors will pay more attention to the stability of the rupiah when purchasing Indonesian bonds, rather than US *Treasuries*.

This research finding is supported by Ariff & Zarei (2022) who stated that the Rupiah exchange rate against the US dollar does not significantly affect the volatility of US government bond yields because the Indonesian economy is smaller than that of the United States. Changes in the Rupiah exchange rate tend to have a greater impact on the Indonesian domestic market, while US bond yield volatility is more influenced by internal US factors such as inflation, the Fed's benchmark interest rate, and fiscal policy. Furthermore, global investors typically pay attention to aggregate exchange rate movements in developing countries, not specifically to the Rupiah. Therefore, Rupiah fluctuations are not strong enough to create significant volatility in US bond yields.

The results of this study align with those of Chen et al. (2021), who stated that Indonesia is the only developing country that does not significantly influence US bond yields. The exchange rate is a domestic factor that only affects domestic bonds. The volatility of US bond yields is largely determined by US inflation, the Fed's interest rate, and market expectations. The exchange rate of developing countries, such as the rupiah, does not significantly influence US *Treasury yields*.

The Impact of Indonesian Inflation on US Bond Yield Volatility

Paat et al., (2024) explain that inflation is a condition in which the overall prices of goods and services continue to rise. This is not simply a price increase for one or two products, but rather a widespread increase across many goods. Inflation can also occur due to a mismatch between the quantity of goods available (production) and the money circulating in the community. High inflation indicates that a country's economy is in crisis. This economic crisis causes many investors to shift funds to assets that are less susceptible to potential losses. This is in line with the test results, which show that inflation in Indonesia has a positive and significant effect on US bond yield volatility. This means that higher inflation rates will increase US bond yield volatility due to the simultaneously high demand for US bonds. Based on this result, hypothesis H2 is accepted.

The results of this study align with descriptive statistical tests, which show that Indonesia's inflation rate is 2.907%. This figure indicates that inflation in Indonesia is within the normal or moderate range. Although inflation remains moderate, investors may shift to other assets, but generally speaking, 3% inflation is not yet a cause for panic.

Significantly rising inflation in Indonesia could increase global market uncertainty, particularly for international investors holding portfolios in developing countries. When domestic inflation in Indonesia rises, currency risk *increases* due to the potential depreciation of the rupiah, which could prompt global investors to shift their funds to safer assets such as US bonds. However, this outflow of funds from developing countries could put downward pressure on US bond yields, as increased demand for these bonds lowers yields, but *yield volatility* could increase due to sudden changes in global capital flows.

The results of this study align with Paat et al. (2024) who stated that Indonesian inflation influences foreign investor behavior toward global bond markets, particularly the US. This is because inflation in developing countries can impact global financial market volatility, including US Treasury bond *yields*, through the transmission of market risk and global monetary policy expectations. Indonesian inflation influences US bond yield volatility, as rising inflation creates uncertainty and encourages investors to change their

asset allocation. These changes in global fund flows trigger sharp fluctuations in US bond yields, reflecting international financial market volatility. This relationship demonstrates market integration and the importance of domestic macroeconomic stability in addressing global market dynamics.

The results of this study also align with Clarida (2021)'s study, which found that inflation in Indonesia influences the volatility of US bond yields. This is because high inflation in developing countries, including Indonesia, can strengthen expectations that the Federal Reserve (The Fed) will maintain high interest rates for an extended period to control the *spillover impact* of global inflation. This expectation can cause volatility in the US bond market as investors adjust their portfolios based on interest rate predictions.

The Impact of Indonesian Bond Yields on US Bond Yield Volatility

Bond yield movements can be influenced by domestic factors such as fluctuations in inflation and interest rate fluctuations. However, in the context of the global economy, bond yield movements can also be influenced by yields in other countries. For example, uncertain economic conditions that lead to an increase in bonds in developing countries will influence high demand for bonds in developed countries due to investor behavior seeking to invest in financial assets considered safer and more stable.

However, testing in this study shows that Indonesia's bond yields, as a developing country, have no effect on the volatility of US bond yields. This means that fluctuations in Indonesian bonds have no impact on the volatility or movement of US bonds. Based on this result, hypothesis H3 is rejected.

The results of this study are in line with the descriptive statistical test of the variables which show that the yield rate of Indonesian bonds can be said to be quite high, above 7%, which is even supported by MacroMicro data (2025) that the yield rate of Indonesian bonds is the highest compared to other ASEAN countries. However, despite the high Indonesian bonds, the volatility of US bond yields remains stable at only 0.37770%, which indicates that during 2014-2025 the volatility of US bonds averaged only 0.37% and this movement was very slow or stable and was not at all affected by Indonesian bonds.

The results of this study contradict the Federal Reserve Bank of San Francisco's (2021) opinion that global investors are more sensitive to the differences in returns offered by developing and developed countries. This research also contradicts Tiwari et al.'s (2021) opinion , which states that pressures in financial markets in developing countries will affect the yields and volatility of bonds in developed countries. These pressures include rising inflation, bank interest rates, or political crises.

These conflicting results could be due to interest rate bias. Data published by Bank Indonesia (BI) (2025a) indicates that in 2015-2024, the highest interest rate was 7.5% in 2015, with a 10-year average of 5.28%. According to Mishkin (2019) , an interest rate of 4-6% is still considered normal for developing countries. This is also supported by research by Dhal & Ansari (2021) that found an interest rate of 4-6% is considered stable. A stable interest rate refers to a condition where the benchmark interest rate set by Bank Indonesia (BI) does not experience significant changes over a certain period, either an increase or a decrease. Interest rate stability reflects a neutral monetary policy situation, where there is no economic pressure forcing the central bank to drastically change interest rates. This indicates that the high yields on Indonesian bonds are not due to the economic crisis, so investors remain highly interested in Indonesian bonds.

This study's findings support research by Yiu et al. (2021) , which found that volatility from the ASEAN-4 bond market (including Indonesia) to the US bond market was very small, while *spillover* from the US to the ASEAN-4 was significant and persistent. This means that Indonesian government bonds had no effect on US bond yield volatility.

CONCLUSION

Based on the research results and discussion, it can be concluded that the Rupiah exchange rate does not affect the volatility of US bond yields because Indonesia's small economic scale and is more influenced by domestic bonds, while US bond volatility is determined by inflation, the Fed's interest rate, and internal US factors. Furthermore,

Indonesian inflation has a positive and significant effect on the volatility of US bond yields because rising inflation increases exchange rate risk and global market uncertainty, prompting investors to shift to US bonds, which causes sudden demand, causing *yield* volatility. Furthermore, Indonesian bond yields do not affect the volatility of US bond yields. This is because, despite Indonesia's high yields, the Indonesian economy remains stable, making investors feel safe investing in Indonesian bonds, preventing a surge in demand for US *Treasuries* and affecting their volatility.

Recommendation

Based on the results of previous research, the recommendations for parties related to the research are: (1) For the Indonesian government, it is recommended to maintain inflation stability through fiscal and monetary policies, this is to avoid negative impacts on the global financial market, especially related to the perception of foreign investor risk so as not to trigger capital outflows that can affect global market stability; (2) For global investors, it is necessary to increase awareness of inflation in developing countries such as Indonesia as an indicator of global market uncertainty to anticipate spikes in US Treasury yield volatility due to changes in market sentiment; (3) For Central Banks such as BI and the Fed, it is necessary to synergize in reducing market uncertainty and maintaining capital flow stability; and (4) For further research, it is recommended to examine other factors such as global commodity prices, geopolitical risks, and fiscal policies in explaining US bond volatility.

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