AN EMPIRICAL STUDY OF BONDS AS A SAFE HAVEN IN INDONESIA DURING COVID-19 AND RUSSIA-UKRAINE WAR

Fahmi Ihwanul Arifin
Faculty of Economics and Business, Satya Wacana Christian University, Indonesia
Email: 212020265@student.uksw.edu

Robiyanto
Faculty of Economics and Business, Satya Wacana Christian University, Indonesia
Email: robiyanto.robiyanto@uksw.edu (corresponding author)

Yefta Andi Kus Noegroho
Faculty of Economics and Business, Satya Wacana Christian University, Indonesia
Email: yefta.kusnugroho@uksw.edu

Harijono
Faculty of Economics and Business, Satya Wacana Christian University, Indonesia
Email: harijono.harijono@uksw.edu

Abstract

This study examines whether government and corporate bonds in Indonesia act as hedging or safe haven assets during the COVID-19 pandemic and the Russia–Ukraine war. This study using data started from March 3, 2020 which is the date of the first Covid-19 case emerged in Indonesia to March 29, 2024 even though the war is not over yet on the time this study being conducted. The cut-off date for the Russia-Ukraine war is February 24, 2022. Generalized Autoregressive Conditional Heteroskedasticity (GARCH) is used in order to test the potential of bonds as hedges, while QREG used in order to test the potential of bond as safe haven. The findings show that during the period of financial and geopolitical crisis, Indonesian government and corporate bonds cannot be an effective safe haven or hedge against the stock market. While they can serve as diversification assets due to their stable volatility, these bonds lack the consistent negative correlation with the Composite Stock Price Index (CSPI) required for safe haven assets. Investors and portfolio managers should be cautious in relying on government bonds and corporate bonds as hedge against stock market declines. The results suggest that bonds may not provide the expected protection against stock market declines, so investors need to consider alternative diversification strategies or other hedging instruments when making investment decisions.

Keywords: Safe haven; corporate bond; sovereign/government bond; Indonesia Stock Exchange (IDX); Russia-Ukraine war

JEL codes: G10, G11, G15

Article History: Submitted: 2025-06-24; Revision: 2025-11-03; Accepted: 2025-11-25; Published: 2026-01-15

How to Cite: Arifin, F. I., Robiyanto, R., Noegroho, Y. A. K. & Harijono, H. (2026). An Empirical Study of Bonds as a Safe Haven in Indonesia During COVID-19 and Russia-Ukraine War. *Media Ekonomi dan Manajemen, 41*(1), 24-41.

INTRODUCTION

Covid-19 is one of the largest pandemics in human history. Nearly 200 million confirmed cases and four million deaths have occurred worldwide in less than 18 months since the epidemic began (Ndwandwe & Wiysonge, 2021). This extremely dangerous virus is rapidly affecting every aspect of life in all countries. Almost every sphere of life, economic, political, social and cultural has been affected by the Covid-19 pandemic (Arianto, 2021). Financial markets around the world reacted negatively and behaved in a way that has not been seen since the 2008 credit crisis as a result of the global spread of Covid-19 (Ullah, 2023).

While the economy was still recovering from the effects of the pandemic, the war between Russia and Ukraine shook world politics and international markets (Greenwood & Hanson, 2013). This will certainly have a long-term impact on the global economy. The Russian invasion of Ukraine has become a global event of great importance to all countries. Russia's invasion of Ukraine on February 24, 2022 marked the return of war between countries. As such, a war between Russia and Ukraine would have a very serious impact on global markets, and potentially a mass impact on surrounding economies (Bakrie *et al*., 2022). The majority of stocks on the Indonesia Stock Exchange experienced a decline in share price and the CSPI experienced a decline in value (Agustina & Barus, 2023).

On the other hand, bond can be a safe haven asset for the stock market when the crisis escalates. The stock market is quite sensitive in reacting to any market changes, while bonds are more stable or indirectly affected because they have the advantage of profitability and liquidity guarantee. In addition, if there is a shock in the financial market, the value of bond yields may increase, making it a safe asset (Siahaan & Robiyanto, 2021). Bonds are divided into two types: government bonds and corporate bonds. Compared to stocks, bonds are considered safer because they promise returns in the form of coupons with clear maturity dates. When the company's financial situation is not good, bonds are still owed to bondholders (Isabella & Hapsari, 2022).

Previous researches have conducted various studies related to safe haven assets. Safe haven investments are interesting to look for, especially to evaluate investor behaviour that arises in interacting with these investment instruments. Previous studies have stated that overall gold has an irreplaceable role in maintaining the value of investments (Ji *et al*., 2020). Other research states that in a safe haven perspective, highlighting the findings that palladium, copper and gold have a role as safe haven assets against the S&P 500 in the short term (Lahiani *et al*., 2021). Another study that tested instruments such as Bitcoin under different conditions showed that only Bitcoin can be a safe haven asset. Meanwhile, the results of other studies also show that ethereum, bitcoin and gold cannot be a safe haven in the war between Russia and Ukraine. Finally, research on the capacity of bonds as a safe haven during Covid-19 and the Ukraine-Russia war is still very rare, and may not even have been done (especially for Indonesia). This study aims to examine the role of government and corporate bonds in the stock market (Indonesia Stock Exchange) during the Covid-19 and the Ukraine-Russia war. In terms of theoretical contributions, this research seeks to expand our understanding of the role of bonds as safe haven assets in the context of crisis-affected economies and the relationship between bonds and stock markets in situations of global uncertainty. The focus of this research examines Indonesian government bonds and corporate bonds which can be represented as a whole by the S&P Indonesia Government Bond Index (SPIGBI) and the S&P Indonesia Corporate Bond Index (SPICBI). So, the research question in this study is “Do Indonesian bonds act as safe haven during

the Covid-19 and the Russia-Ukraine war period?"

LITERATURE REVIEW

Asset Classes

Greer (1997) defines three classes of super assets: capital assets, assets that can be consumed or transformed, and assets that store value. Greer (1997) goes on to state that "the lines between asset classes can still be blurred", as is the case with bonds that fulfil the profile of capital assets. Greer derived the three asset classes from a study of "fundamental economic features" and yield correlations. Classify assets into four categories. First, the asset class should be sufficiently investable by providing liquidity and opportunities to invest. Second, the asset class should have a distinct political-economic profile derived from its value base, governance, and use cases. Third, the market value of an asset should fluctuate independently of other assets in the market, thus having a low correlation with returns. Finally, the combination of the previous three features should result in different return risk profiles and can be divided into absolute return and volatility. The four features describe which assets belong to each class when combined. For example, bonds and stocks are considered to be different asset classes because they fulfil investment eligibility requirements compared to other assets. Compared to stocks, bonds tend to have lower volatility and lower return risk. From a political economy perspective, bonds provide stable periodic payments over a period of time secured by the underlying assets of the company. Both behave differently in the market, as evidenced in a "risk-off" environment where stocks depreciate and bonds appreciate.

Safe Haven and Hedge

During times of prolonged financial uncertainty, many people seek safe haven assets to invest in Kopyl & Lee (2016). A safe haven is defined as an asset that is negatively correlated, or uncorrelated, with other assets or portfolios in times of market stress (Baur & Lucey, 2010). A key characteristic of safe haven assets is their negative correlation with the portfolio during difficult market conditions. On average, an asset is not necessarily negative or positive. Its value will only be zero or negative for a certain period of time. So, under normal market conditions, the correlation can be positive or negative. Under adverse market conditions, if a safe haven asset is negatively correlated with other assets or portfolios, investors will most likely be compensated for their losses. The reason for this compensation is that the price of the safe haven asset increases when the price of other assets or portfolios falls (Baur & Lucey, 2010). In times of market turmoil, safe haven assets are expected to maintain or even increase their value or limit investors' exposure to losses and investors offload investments they consider risky and buy safer investments (Liu, 2020). The definition of a hedge is an asset class that is negatively correlated with other assets or portfolios on average (Baur & Lucey, 2010). Academics and policymakers have used the term hedging to describe the strategic behavior of countries under various (Lim & Cooper, 2015). Research by Ciner *et al*. (2013) to determine whether bonds and other assets (gold, oil, stock market) can be used to diversify risk on average "hedge".

Bonds as Safe Haven

Bonds as risk-free assets, can be considered a safe investment. Therefore, bonds can be a safe haven in the event of a significant capital market decline (Robiyanto, 2018). According to Shahzad *et al*. (2019) the relationship between bonds and stocks in portfolio asset allocation in calm periods, investors tend to invest more in stocks for high returns, but switch to bonds when market conditions are unstable to reduce risk. Understanding the theoretical arguments and using accurate modelling approaches

 p-ISSN: 0854-1442 (Print) e-ISSN: 2503-4464 (Online)

in stock-bond interactions is important for investors in designing safe haven asset strategies. Bianconi *et al*. (2013) examined how the bond and stock markets of Brazil, Russia, India and China (BRIC) and the United States moved together during the global financial crisis. Stock returns in India were significantly negatively correlated with Russian bond yields, while the worst negative correlation was between Brazil and Russia.

Government Bonds as a Safe Haven

It is crucial for investors to seek safe havens and reduce their portfolio risk by using correlations between asset classes. Over the years, stock markets in the United States and developing countries have used government bonds as a refuge during crises (Triki & Maatoug, 2021). Some studies that examine government bonds, Baele *et al*. (2010) and Dicle *et al*. (2011) found a consistent negative relationship between bonds and equities during business cycle contractions, so they concluded that bonds are considered safe assets or "safe haven". The results of Liu (2020), show that bonds are able to maintain their value, during critical market times. Based on the explanation above, the following hypothesis can be formulated:

H1a: Government Bonds can be a safe haven for the Indonesian Capital Market during the Covid-19 pandemic.

H1b: Government Bonds can be a safe haven for the Indonesian Capital Market during the Russia-Ukraine war,

H1c: Government Bonds can be a safe haven for the Indonesian Capital Market during Covid-19 and the Russia-Ukraine war.

Corporate Bonds as a Safe Asset

A study conducted by Greenwood & Hanson (2013) concluded that corporate bonds perform worse than treasuries when the quality of the issuer is low, there is a striking level of predictability and often predicts negative excess returns. In addition, research conducted by Gebhardt *et al*. (2005) shows that bond prices are not very sensitive to information about the company, but are sensitive to past stock returns as explained winners or losers in the equity market are winners or losers in the corporate bond market in the future. Investors are advised to invest in corporate bonds as a means of hedging and safe investment (Robiyanto, 2018). Based on the explanation above, the following hypothesis can be formulated:

H2a: Corporate Bonds can be a safe haven for the Indonesian Capital Market during the Covid-19 pandemic.

H2b: Corporate Bonds can be a safe haven for the Indonesian Capital Market during the Russia-Ukraine war.

H2c: Corporate Bonds can be a safe haven for the Indonesian Capital Market during Covid-19 and the Russia-Ukraine war.

Corporate Bonds as a Hedge

Studies conducted by Liu (2016) analysed newly compiled bond-level data sets from 2000-2010, diversification with corporate bonds can reduce volatility and increase risk-adjusted returns for US investors. Unlike diversification with equities, corporate bonds offer lower risk outside of large samples, especially during crises. Other research conducted by Kolokolova *et al*. (2020) conducted using a sample of 9,725 hedge funds from 1994 to 2012, found that fund flows are negatively correlated with changes in yields on 10-year treasury bonds and Moody's Baa bonds one month ahead, the effect of fund flows on corporate bonds is stronger during periods of decreased market liquidity. Basically, corporate hedging implemented by non-financial companies has the potential to increase shareholder value as a result of capital market imperfections (Bartram, 2019). Based on the explanation above, the following hypothesis can be formulated:

H3a: Corporate Bonds can be a hedge for the Indonesian Capital Market during the Covid-19 pandemic.
H3b: Corporate Bonds can be a hedge for the Indonesian Capital Market during the Russia-Ukraine war.
H3c: Corporate Bonds can be a hedge for the Indonesian Capital Market during Covid-19 and the Russia-Ukraine war.

RESEARCH METHODS

Data

The data used in this study comes from the CSPI, SPICBI, and SPIGBI. Stock prices are taken from https://finance.yahoo.com/ while corporate bond and government bond data are taken from https://www.bloomberg.com in daily observations during the Covid-19 period and the Ukraine-Russia war. Covid-19 period. In this study, the Covid-19 period started from March 3, 2020 which is the date of the first Covid-19 case emerged in Indonesia to February 24, 2022 which is the Russia's first strike on Ukraine. From this date to March 29, 2024 considered as the Russia-Ukraine war period even though the war is not over yet on the time this study being conducted.

Variables

Data using closing stock prices, corporate bonds, and government bonds every day during the uncertainty period.

Indonesian stock market returns can be calculated by taking the CSPI returns using the following formula:

$$R_{CSPI,t} = \frac{CSPI_t - CSPI_{t-1}}{CSPI_{t-1}} \quad \text{.....(1)}$$

Where:
$CSPI_t$ = the closing price of the CSPI on the Indonesia Stock Exchange on day t
$CSPI_{t-1}$ = the closing price of the CSPI on the Indonesia Stock Exchange on day t-1.

Yields in the Indonesian government bond market is calculated from the S&P Indonesian Government Bond Index (SPIGBI) using the following formula:

$$R_{SPIGBI,t} = \frac{SPIGBI_t - SPIGBI_{t-1}}{SPIGBI_{t-1}}$$

Where:
SPIGBIt = closing price of S&P Indonesian Government Bond Index on day t
SPIGBIt-1 = closing price of S&P Indonesian Government Bond Index on day t-1.

Yields in the Indonesian corporate bond market is calculated from the S&P Indonesian Corporate Bond Index (SPICBI) using the following formula:

$$R_{SPICBI,t} = \frac{SPICBI_t - SPICBI_{t-1}}{SPICBI_{t-1}} \text{ .....(3)}$$

Where:
$SPICBI_t$ = closing price of S&P Indonesian Corporate Bond Index on day t
$SPIGBI_{t-1}$= closing price of S&P Indonesian Corporate Bond Index on day t-1.

Analysis Technique

The GARCH model captures volatility clustering in financial time series, while the Quantile Regression (QREG) approach identifies tail-dependence behaviour relevant for safe haven analysis. In this study, to test the potential of bonds as hedges using Generalized Autoregressive Conditional Heteroskedasticity (GARCH), the GARCH formula used is as follows:

$$R_{instrument} = \alpha + \beta_1 R_{index} + \varepsilon t \text{ ....(4)}$$

Where:
$R_{instrument}$ = return on government bonds or corporate bonds
εt = residual
R_{Index} = return on the closing price of the stock index.

The QREG (Quantile Regression) equation is used to determine sensitivity and resilience when financial market conditions are volatile whether bonds can be used as a strong safe haven:

$$R_{instrument} = \alpha + \beta_1 R_{\text{SPI}(50\%,40\%,30\%,20\%,10\%)} + \varepsilon t \text{ .....(5)}$$

p-ISSN: 0854-1442 (Print) e-ISSN: 2503-4464 (Online)

Where:
α = Coefficient
$R_{instrument}$ = Government and corporate bond yields
R_{index} = Closing stock price index returns for quantiles of (Q50%,40%,30%,20%,10%)
εt = Residual interest rate

The quantile regression method is used to explain the dependency between variables. This method tends to be more accurate in showing the distribution of returns and the relationship between variables in accordance with market conditions (Miyazaki, 2019).

RESULT AND DISCUSSION

Result

The normality test was conducted using the Jarque-Bera model. The results show that all data are not normally distributed, as shown in Table 1. Therefore, to overcome the non-normality of the data, the Generalized Error Distribution (GED) assumption is used. Generalized Error Distribution (GED) assumption can produce a more effective model and has the ability to accept heteroscedasticity in the data.

Instability (both parameters and variance) in the model is not found in both tests, both the CUSUM test (as shown in Figure 1) and the Augmented Dickey-Fuller test results (as shown in Table 2). This means that the data passed the stability and stationarity tests.

Table 3 shows the results of the empirical investigation starting with the heteroscedasticity test. The results of Glejser Test (OLS) indicate the presence of heteroscedasticity. Therefore, to overcome the heteroscedasticity problem, a GARCH estimation model is required which is used by applying the Gaussian and GED models. The best model has the lowest Akaike Information Criterion (AIC) value. Finally, since this model takes into account fat tails, the model that best fits the research sample is GED-GARCH.

Table 1. Normality Test

Period	Variable	Probability	Conclusion
During Covid-19	SPICBI	0.000	Not normally distributed
	SPIGBI	0.000	Not normally distributed
	CSPI	0.000	Not normally distributed
During Russia-Ukraine War	SPICBI	0.000	Not normally distributed
	SPIGBI	0.000	Not normally distributed
	CSPI	0.000	Not normally distributed
All Period	SPICBI	0.000	Not normally distributed
	SPIGBI	0.000	Not normally distributed
	CSPI	0.000	Not normally distributed

Source: Bloomberg, processed.

Table 2. Augmented Dickey-Fuller (ADF) Test Results

Period	Variable	ADF Statistics	Prob.*	Result
During Covid-19	SPICBI	-1.736.945	0.0000	Stationary
	SPIGBI	-7.964.002	0.0000	Stationary
	CSPI	-1.676.944	0.0000	Stationary
During Russia-Ukraine War	SPICBI	-1.353.614	0.0000	Stationary
	SPIGBI	-1.355.886	0.0000	Stationary
	CSPI	-2.475.409	0.0000	Stationary
All Period	SPICBI	-2.268.555	0.0000	Stationary
	SPIGBI	-2.092.998	0.0000	Stationary
	CSPI	-1.601.590	0.0000	Stationary

Source: Bloomberg, processed.
Notes: ADF test results are significant at 1% level. Prob.* represents probability.

Table 3. Glejser Test Results for OLS and GARCH

Period	Variable	OLS	GARCH (1,1)	
			Gaussian	GED
During Covid-19	SPIGBI			
	C	0.0015***	-0.0004***	-0.0004***
		(18.7757)	(-6.4826)	(-6.7658)
		[0.0000]	[0.0000]	[0.0000]
	CSPI	0.0150**	0.0175***	0.0179***
		(2.4571)	(3.4647)	(3.4944)
		[0.0144]	[0.0005]	[0.0005]
	SPICBI			
	C	-0.0008***	-0.0005***	-0.0005***
		(18.2121)	(-13.270)	(-13.396)
		[0.0000]	[0.0000]	[0.0000]
	CSPI	0.0111***	-0.0018	-0.0009
		(3.2395)	(-0.6547)	(-0.2925)
		[0.0013]	[0.5126]	[0.7699]
During Russia-Ukraine War	SPIGBI			
	C	0.0012**	-0.0003***	-0.0002***
		22.8421	(-7.9544)	(-4.1704)
		[0.0000]	[0.0000]	[0.0000]
	CSPI	-0.0075***	0.0149***	0.0247***
		(-0.1734)	(3.9676)	(3.8416)
		[0.8623]	[0.0001]	[0.0001]
	SPICBI			
	C	0.0006***	-0.0002***	-0.0002***
		20.5537	(-5.0357)	(-8.1271)
		[0.0000]	[0.0000]	[0.0000]
	CSPI	-0.0024***	0.0332***	0.0133***
		(-0.5438)	(6.9579)	(3.3378)
		[0.5868]	[0.0000]	[0.0008]
All Period	SPIGBI			
	C	0.0013***	-0.0004***	-0.0003***
		(28.3084)	(-8.7010)	(-8.2708)
		[0.0000]	[0.0000]	[0.0000]
	CSPI	0.0013***	0.0239***	0.0205***
		(2.5426)	(6.5844)	(4.9207)
		[0.0112]	[0.0000]	[0.0000]
	SPICBI			
	C	0.0007***	-0.0004***	-0.0003***
		(26.9205)	(-15.4660)	(-14.6740)
		[0.0000]	[0.0000]	[0.0000]
	CSPI	0.0083***	0.0055**	0.0068***
		(3.1558)	(2.1251)	(2.6393)
		[0.0016]	[0.0336]	[0.0083]

Source: Source: Bloomberg, processed.

Notes: * significant at 10% significance level; ** significant at 5% significance level; *** significant at 1% significance level which is the coefficient. The value in parentheses () is the t-statistic, while the value in square brackets [] is the probability value.

Table 4 presents the performance of bonds as a safe haven and hedge. The results of the analysis conducted using Quantile Regression (QREG) indicate that Indonesian government bonds cannot be a safe haven for the Indonesian capital market. In the 50 percent to 10 percent quantile, the regression results show that the coefficient for the SPIGBI variable has a positive sign and is significant in all quantiles with a significance level of 1 percent. Government bonds should have a negative relationship with the stock market during the COVID-19 period. However, this result shows a positive relationship between CSPI and government bonds,

 p-ISSN: 0854-1442 (Print) e-ISSN: 2503-4464 (Online)

meaning that when the stock market rises, government bonds tend to rise. Therefore, government bonds do not provide the expected protection when there is turmoil in the stock market. Based on these results, H1a is rejected. Similar to government bonds, in the 50 percent to 10 percent quantile, only the 50 percent quantile is significant at the 5% significance level of 0.0136. This shows that corporate bonds also cannot act as a safe haven during periods of uncertainty or crisis because they do not show a consistent or significant negative relationship. Based on these results, H2a is rejected.

The result of GARCH-GED also shows that SPIGBI cannot be a hedging instrument for CSPI because the regression coefficient of CSPI is positive. Based on these results, H3a is rejected. The result of GARCH-GED of Indonesian corporate bonds shows an insignificant relationship in most quantiles that corporate bonds do not have a consistent relationship pattern with CSPI. This inconsistency suggests that corporate bonds also cannot be considered as a hedging instrument during the Covid-19 pandemic. Based on this, H3a is rejected. This suggests that both government bonds and corporate bonds can serve as diversification but not as hedging instruments during Covid-19.

Results were found for Indonesian government bonds during the Russia-Ukraine war. In the 50 percent to 10 percent quantile, the coefficient of CSPI on SPIGBI shows a positive sign, and is only significant in the 20 percent quantile and 10 percent quantile. In the 20 percent quantile, CSPI has a significant positive effect on SPIGBI with a significance level of 10 percent, while in the 10 percent quantile CSPI has a significant positive effect on SPIGBI with a significance level of 1 percent. This positive relationship indicates that when the stock market goes down, government bonds do not provide the expected protection of a safe haven instrument. This suggests that government bonds did not serve as a safe haven during the Russia-Ukraine war. Based on this, H1b is rejected. For corporate bond yields, the CSPI coefficients vary and are partially significant, especially at the 50, 40 and 10 percent quantiles. All CSPI coefficients are positive, which means that corporate bonds tend to move in the same direction as the CSPI rather than in the opposite direction. Since there is no negative relationship with CSPI, corporate bonds also cannot be considered as a safe haven. Based on this, H2b is rejected.

The positive relationship is significant in the GARCH-GED model and low quantile, indicating that government bonds do not have a negative relationship with CSPI. The significant negative constant value in all quantiles indicates the volatility of bonds during the Russia-Ukraine war. Although volatility is stable (based on the constant value), the positive relationship with CSPI suggests that government bonds are less effective as hedging instruments. Based on this, H3b is rejected. Similar to government bonds, although the volatility is stable (significant negative constant value), it reflects more stability than the ability to hedge stock market risk. Hence, H3b is rejected. In the period of Russia-Ukraine war, government bonds and corporate bonds cannot be considered as hedges, but can play a diversification role.

The yield of government bonds during the whole period cannot serve as a safe haven. All quantiles (50 percent to 10 percent quantiles) show significant positive coefficients at the 1 percent level. In a safe haven context, we expect a negative relationship between CSPI and government bonds, which means when the stock market goes down, bond prices go up. However, the relationship found is positive and significant in almost all quantiles. This means that when market conditions are extreme, government bonds actually move in the same direction as the stock market. Thus, government bonds cannot provide protection for investors when there is a downturn against market turmoil. Based on

this, H1c is rejected. In corporate bonds, most of the quantiles show significant positive coefficients. The significant positive coefficient of CSPI in some quantiles indicates that corporate bonds also cannot act as a safe haven during the whole period. Based on this, H2c is rejected. Although there are some quantiles with lower significance, the positive relationship between corporate bonds and CSPI still shows that corporate bonds do not provide protection against market turmoil.

In the context of a hedge, a good instrument will have a stable relationship with other assets such as stocks. Based on the analysis results for government and corporate bonds over the whole period. In the GARCH-GED model, the CSPI coefficient for government bonds is 0.0205, indicating a significant positive relationship. The significant positive relationship indicates that government bond prices move in the same direction as the CSPI. When the stock market goes down, government bond prices tend to go down or do not provide protection. Therefore, government bonds are less effective as a hedge instrument. Based on this, H3c is rejected. The significant positive relationship in most models indicates that corporate bonds do not have a consistent negative relationship with CSPI. The significant negative constant value in all quantiles indicates the volatility of bonds over the whole period. Similar to government bonds, although volatility is stable (based on the constant value), the positive relationship with CSPI indicates that corporate bonds are less effective as hedging instruments. Based on this, H3c is rejected. The stable volatility (significant negative constant value) reflects more stability than the ability to protect against stock market risk and thus may serve as a diversification rather than a hedging instrument.

Figure 1 to Figure 6 show the overall CUSUM graph that the CUSUM value does not leave the significance limit (5%), either in individual periods or overall. Although there are minor fluctuations towards the end of 2023. But still within the significance limit, there is a slight increase before stabilizing again. This suggests that the Ordinary Least Squares (OLS) model is stable, with no indication of significant structural changes or process shifts in the relationships between variables over the analysis period.

Table 5 shown no significant auto-correlation at the 1 percent significance level or heteroscedasticity in the model was found when performing auto-correlation diagnosis using the Q statistic on the correlogram of residuals.

Table 6 shows that the Generalized Error Distribution (GED) model of (SPICBI) shows the lowest Theil coefficient in the Indonesian capital market during the Covid-19 period. The Theil coefficient is a measure of inequality used to assess the distribution of income and other factors. In this context, a low Theil coefficient indicates a more equal or homogenous distribution of risk among the assets in the index. Nonetheless, this finding does not support the hypothesis that bonds in Indonesia serve as a strong refuge, as the CSPI regression remains positive overall. The Russia-Ukraine period shows a slightly higher level of inequality compared to the Covid-19 period and the entire period. This indicates that geopolitical events may have contributed to the increase in inequality. Furthermore, SPIGBI for government bonds recorded the same lowest Theil coefficient both during the Covid-19 period and the whole testing period. The downward trend of this coefficient indicates that the model performs better under stressed financial market conditions.

 p-ISSN: 0854-1442 (Print) e-ISSN: 2503-4464 (Online)

Table 4. Quantile Regression Test Results

During Covid-19						
Variable	GARCH-GED	Quantile				
		0.5	0.4	0.3	0.2	0.1
SPIGBI						
C	-0.0004***	-0.0004***	-0.0007***	-0.0010***	-0.0016***	-0.0024***
	(-6.7658)	(-5.5693)	(-9.2553)	(-12.316)	(-15.1382)	(-15.6108)
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
CSPI	0.0179***	0.0323***	0.0339***	0.0381***	0.0533***	0.0536***
	(3.4944)	(3.3637)	(3.5642)	(3.7484)	(8.8625)	(4.9559)
	[0.0005]	[0.0008]	[0.0004]	[0.0002]	[0.0000]	[0.0000]
SPICBI						
C	-0.0005***	-0.0004***	-0.0006***	-0.0008***	-0.0011***	-0.0015***
	(-13.396)	(-8.6501)	(-12.519)	(-16.6902)	(-20.859)	(-18.9080)
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
CSPI	-0.0009	0.0136**	0.0113	0.0058	0.0049	0.0110
	(-0.2925)	(2.3176)	(1.6035)	(1.2978)	(0.9622)	(1.6246)
	[0.7699]	[0.0209]	[0.1095]	[0.1950]	[0.3364]	[0.1049]
During Russia-Ukraine War						
Variable	GARCH-GED	Quantile				
		0.5	0.4	0.3	0.2	0.1
SPIGBI						
C	-0.0002***	-0.0003***	-0.0006***	-0.0009***	-0.0013***	-0.0023***
	(-4.1704)	(-3.5120)	(-7.4895)	(-11.2498)	(-13.1796)	(-12.0231)
	[0.0000]	[0.0005]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
CSPI	0.0247***	0.0234	0.0159	0.0234	0.0356*	0.0710***
	(3.8416)	(1.5958)	(0.9981)	(1.3041)	(1.7063)	(3.9444)
	[0.0001]	[0.1111]	[0.3187]	[0.1928]	[0.0886]	[0.0001]
SPICBI						
C	-0.0002***	-0.0002***	-0.0004***	-0.0006***	-0.0009***	-0.0013***
	(-8.1271)	(-6.3142)	(-9.5325)	(-12.2557)	(-13.4323)	(-15.9196)
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
CSPI	0.0133***	0.0177**	0.0143*	0.0135	0.0199	0.0233*
	(3.3378)	(2.1766)	(1.7154)	(1.4865)	(1.4294)	(1.7614)
	[0.0008]	[0.0300]	[0.0869]	[0.1378]	[0.1535]	[0.0788]
All Period						
Variable	GARCH-GED	Quantile				
		0.5	0.4	0.3	0.2	0.1
SPIGBI						
C	-0.0003***	-0.0003***	-0.0006***	-0.0010***	-0.0015***	-0.0023***
	(-8.2708)	(-6.3094)	(-12.1998)	(-16.9261)	(-18.9192)	(-21.223)
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
CSPI	0.0205***	0.0305***	0.0296***	0.0362***	0.0465***	0.0541***
	(4.9207)	(3.8323)	(3.7744)	(4.0730)	(5.2419)	(5.3843)
	[0.0000]	[0.0001]	[0.0002]	[0.0001]	[0.0000]	[0.0000]
SPICBI						
C	-0.0003***	-0.0003***	-0.0005***	-0.0007***	-0.0010***	-0.0015***
	(-14.6740)	(-9.4573)	(-15.1403)	(-19.4125)	(-24.7266)	(-22.8109)
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]
CSPI	0.0068***	0.0131***	0.0159***	0.0107*	0.0088*	0.0139**
	(2.6393)	(3.1592)	(3.5959)	(1.8958)	(1.6608)	(2.2975)
	[0.0083]	[0.0016]	[0.0003]	[0.0583]	[0.0971]	[0.0218]

Source: Bloomberg, processed.

Notes: * significant at 10% significance level; ** significant at 5% significance level; *** significant at 1% significance level which is the coefficient. The value in parentheses () is the t-statistic, while the value in square brackets [] is the probability value.

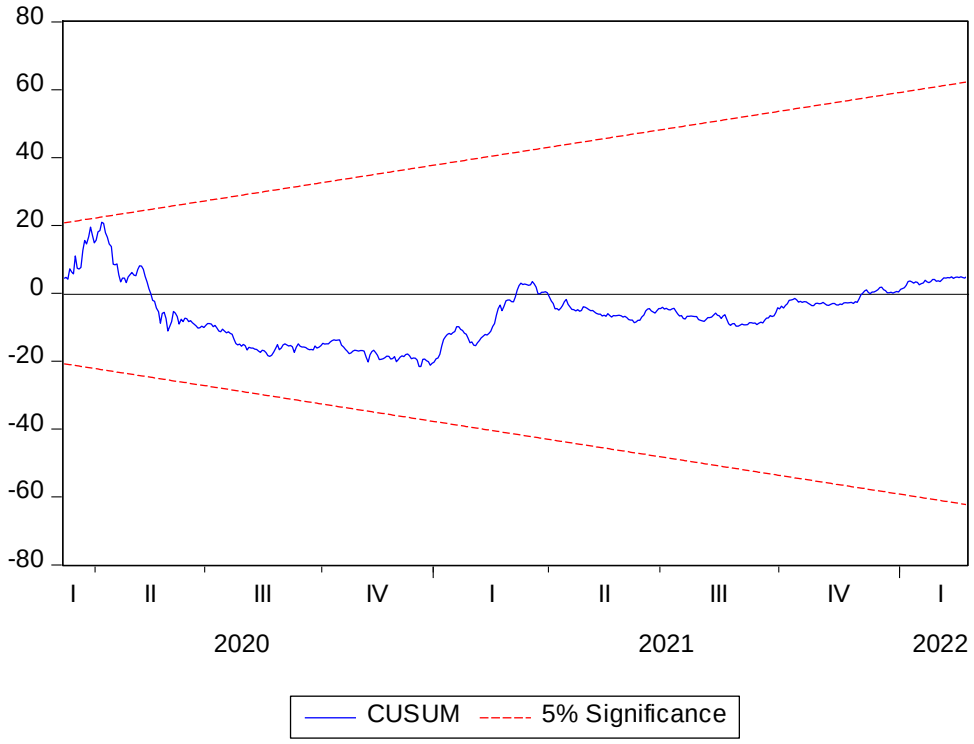

Figure 1. SPIGBI During Covid-19

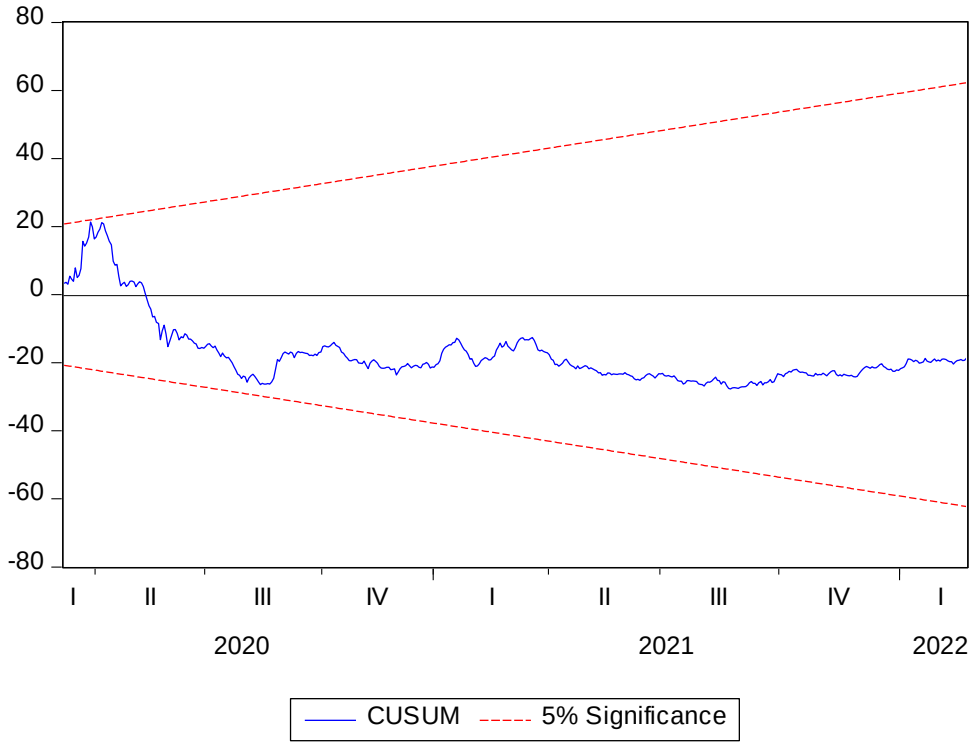

Figure 2. SPICBI During Covid-19

p-ISSN: 0854-1442 (Print) e-ISSN: 2503-4464 (Online)

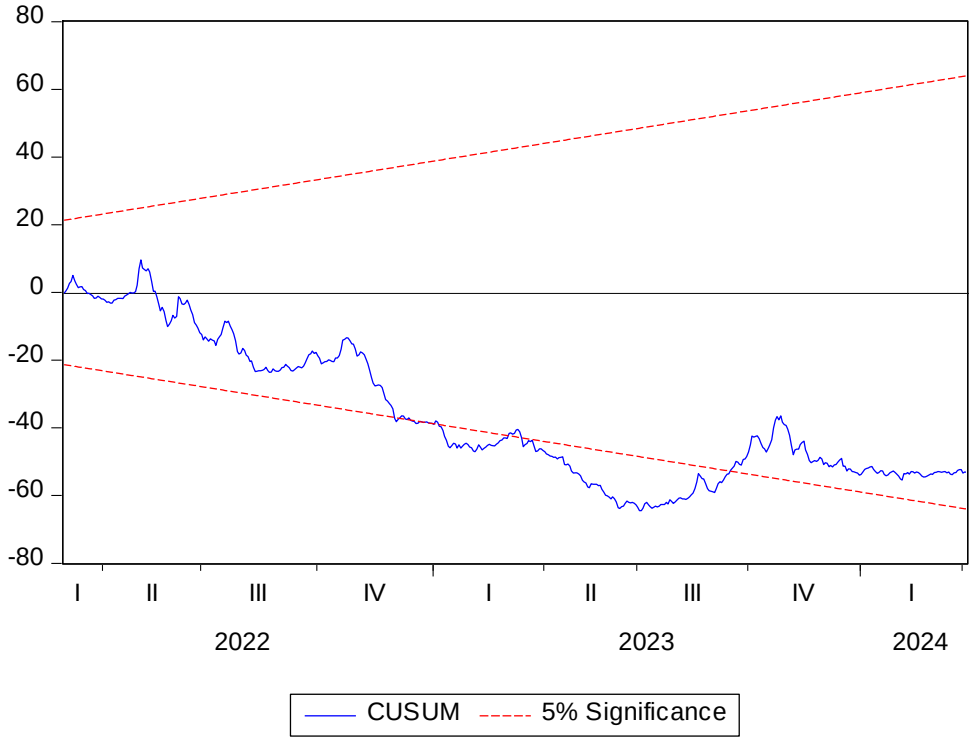

Figure 3. SPIGBI During Rusia-Ukraine War

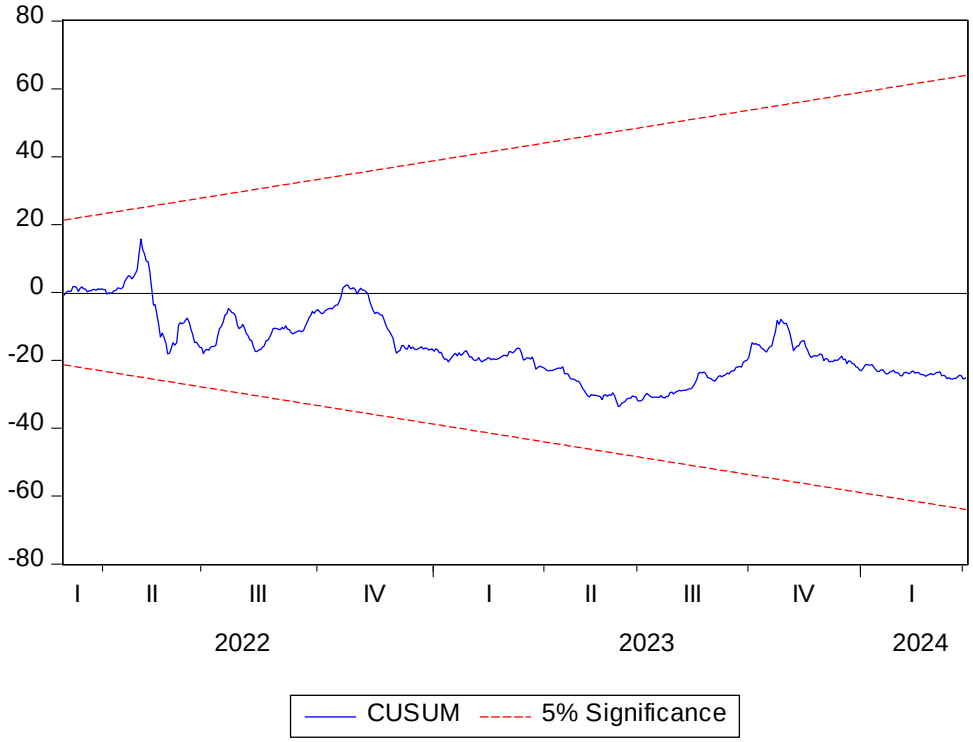

Figure 4. SPICBI During Russia-Ukraine War

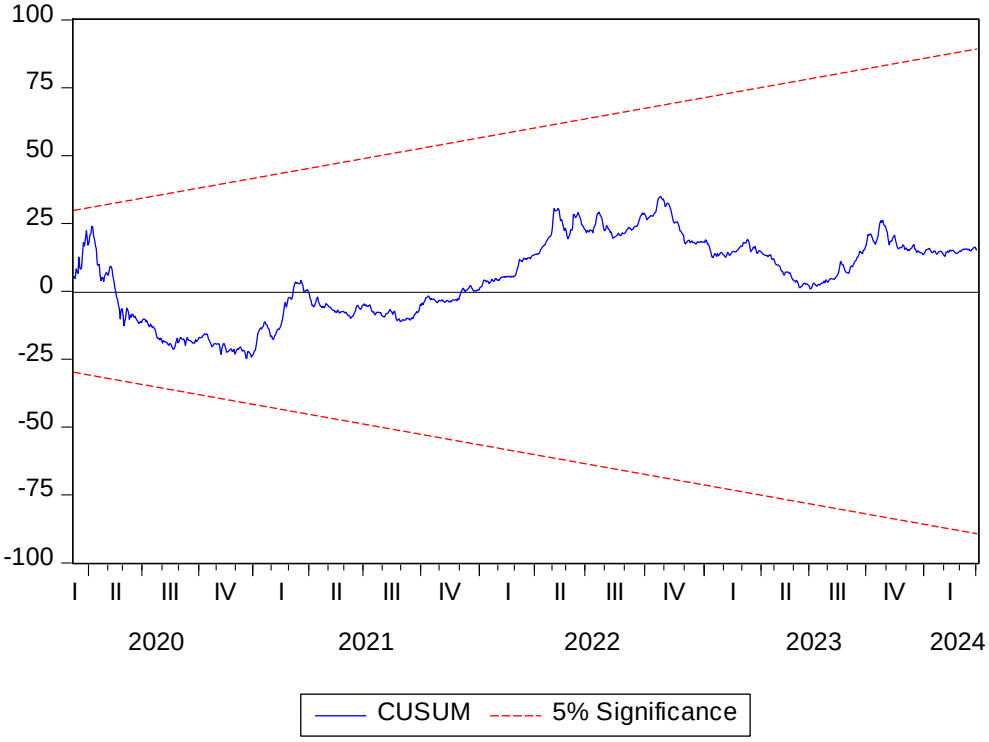

Figure 5. SPIGBI During All Period

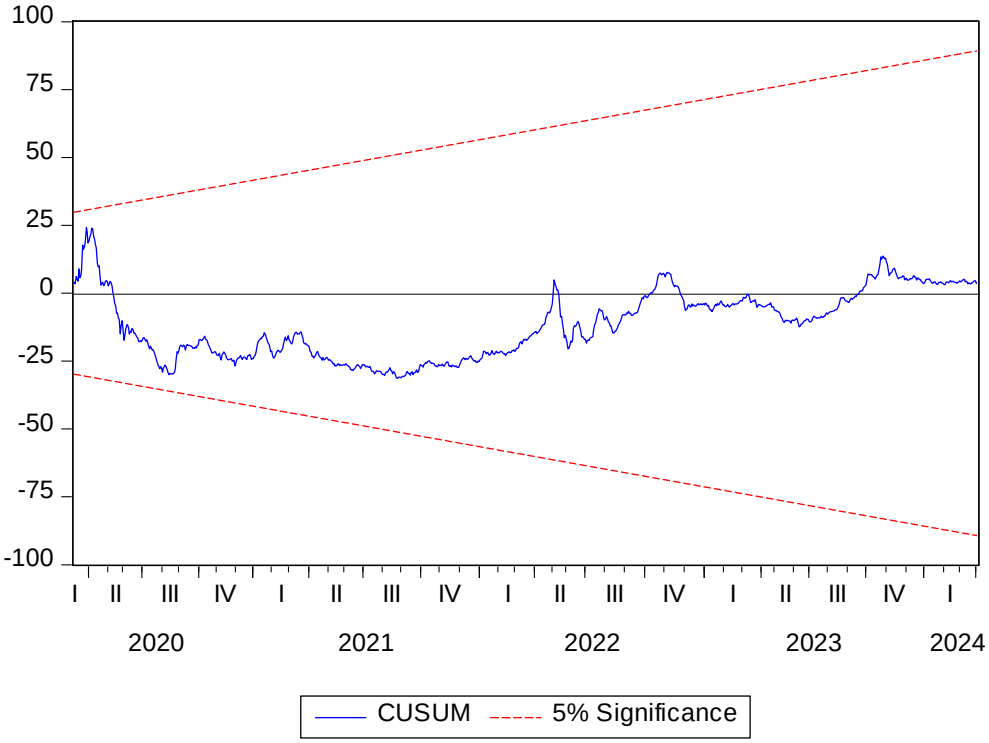

Figure 6. SPICBI During All Period

p-ISSN: 0854-1442 (Print) e-ISSN: 2503-4464 (Online)

Table 5. Autocorrelation Test Results (Correlogram)

	OLS	GED	Quantile				
			0.5	0.4	0.3	0.2	0.1
During Covid-19							
SPICBI	36	36	36	36	36	36	36
SPIGBI	36	36	36	36	36	36	36
During Russia-Ukraine War							
SPICBI	36	36	36	36	36	36	36
SPIGBI	36	36	36	36	36	36	36
All Period							
SPICBI	36	36	36	36	36	36	36
SPIGBI	36	36	36	36	36	36	36

Source: Bloomberg, processed.

Table 6. Theil coefficient

	GED	Quantile				
		0.5	0.4	0.3	0.2	0.1
During Covid-19						
SPIGBI	0.81	0.76	0.71	0.66	0.62	0.61
SPICBI	0.73	0.70	0.65	0.63	0.60	0.59
During Russia-Ukraine War						
SPIGBI	0.83	0.83	0.75	0.69	0.65	0.65
SPICBI	0.76	0.76	0.61	0.63	0.59	0.60
All Period						
SPIGBI	0.81	0.78	0.73	0.67	0.63	0.63
SPICBI	0.74	0.75	0.66	0.62	0.60	0.60

Source: Bloomberg, processed.

Discussion

The result of the study shows that Indonesian government bonds cannot serve as a safe haven for CSPI. The positive relationship between CSPI and SPIGBI shows that when the stock market rises, government bonds also tend to rise, which is contrary to the expectation that bonds should provide protection when the stock market is volatile, therefore government bonds cannot be a safe haven for the Indonesian capital market during the Covid-19 pandemic, the Russia-Ukraine war, or throughout the period. Political conditions and government policies affect the ability of government bonds to provide protection against stock market volatility. Therefore, government bonds do not always function as a safe haven in the Indonesian capital market.

The same is found for Indonesian corporate bonds (SPICBI) which also cannot potentially serve as a safe haven, especially in extreme market conditions. In the low quantile, the positive relationship between CSPI and SPICBI indicates that when the stock market goes down, government bonds tend to go down with it or do not provide protection. Therefore, Indonesian corporate bonds cannot be considered as a safe haven for the Indonesian capital market during the Covid-19 pandemic, the Russia-Ukraine war, or throughout the crisis period. The results of the GARCH-GED analysis show that SPIGBI cannot function as a hedging instrument because the regression coefficient of CSPI is positive. This indicates that government bonds cannot act as a hedging instrument for the Indonesian capital market during the Covid-19 pandemic, the Russia-Ukraine war, or throughout the crisis period. In line with research conducted by Hartono & Robiyanto (2021) that the Indonesian Government Bond Index (IGBI) cannot function as a safe haven or hedging instrument, with the analysis results showing a significant positive regression coefficient.

The results for corporate bonds show a significant positive relationship. The

positive relationship with CSPI indicates that corporate bonds are less effective as hedging instruments. This indicates that corporate bonds can act as a hedging instrument for the Indonesian capital market during the Covid-19 pandemic, the Russia-Ukraine war, and throughout the crisis period. This is in line with Siahaan & Robiyanto (2021) research that government bonds and corporate bonds in Indonesia tend to move in the same direction as stocks.

During the Covid-19 period, all financial markets including fixed income (bond) market were plummeted caused by panic selling, this also happened in Indonesia. While during the Russia-Ukraine war, commodities' prices soared, lead to higher inflation, this condition makes bond less attractive than gold. That's why both corporate bond and government bond cannot act as safe haven during these periods in Indonesia.

CONCLUSION

This study examines whether Indonesian government and corporate bonds act as hedge or safe haven assets during the Covid-19 pandemic and the Russia–Ukraine war. Using the GARCH model to analyse hedging potential and Quantile Regression (QREG) to assess safe haven behaviour, the results reveal that neither government nor corporate bonds provide effective protection against stock market downturns. Although their stable volatility suggests a diversifying role, these bonds lack the consistent negative correlation with the Composite Stock Price Index (CSPI) required for safe haven assets. Therefore, investors and portfolio managers should exercise caution and consider alternative hedging instruments.

In particular, government bonds often show a positive correlation with the CSPI, which means they do not provide protection against stock market declines. Meanwhile, corporate bonds also fail to show a consistent negative relationship, making them ineffective as hedge. This finding is consistent across various crisis periods, including the Covid-19 pandemic and the Russia-Ukraine war, as well as in the overall period analysis. The results of this study are also in line with previous studies that show that political conditions and domestic government policies can affect the effectiveness of bonds as a safe haven. In addition, the results of this study are also in line with other studies that found that Indonesian government bonds do not function as a safe haven nor hedge, with a significant positive regression coefficient.

This study contributes to the financial literature regarding bonds as a safe haven and hedge in emerging markets, particularly Indonesia. The finding that government bonds and corporate bonds do not show a consistent negative relationship with the stock market challenges the traditional view that bonds always serve as safe haven assets. This research provides empirical evidence supporting the idea that the effectiveness of bonds as a safe haven can be context-dependent and that factors such as political conditions and government policies can influence the role of bonds as a safe haven. The study corroborates the findings of Robiyanto (2018) that Indonesian government bonds cannot act as a safe haven. The results of this study also corroborate the statement Siahaan & Robiyanto (2021) that neither government bonds nor corporate bonds can be a safe haven, bonds only act as diversification in the Indonesian capital market. These findings contribute to the literature by highlighting that in emerging markets like Indonesia, traditional flight-to-quality dynamics may not hold during periods of global distress.

The results of this study provide insight into the behaviour of Indonesian government bonds and corporate bonds amid market turmoil. The finding that these bonds do not serve as an effective safe haven or hedge, has practical implications for investors, portfolio managers, and policy makers. Investors

 p-ISSN: 0854-1442 (Print) e-ISSN: 2503-4464 (Online)

and portfolio managers should be cautious in relying on government bonds and corporate bonds as a hedge against stock market declines. The results suggest that bonds may not provide the expected protection against stock market declines, so investors need to consider alternative diversification strategies or other hedging instruments when making investment decisions. Some cross-asset portfolio strategies can be formulated by fund manager. Policy makers can use these findings to evaluate the effectiveness of existing policies aimed at improving bond market stability and attractiveness as a safe haven. This study highlights the need for further exploration of the factors that influence the role of bonds as a safe haven in Indonesia. Therefore, policymakers need to consider factors such as political conditions and government policies when formulating policies related to the bond market.

This study only analysed a certain period, namely during the Covid-19 pandemic and the Russia-Ukraine conflict. Further research needs to be done with a longer period to get better results. This study also has not considered in depth the influence of other factors that can affect the performance of bonds as safe havens and hedging instruments such as global monetary policy, exchange rate fluctuations, and other geopolitical events on the performance of bonds as safe havens.

Suggestions that can be taken for further research are to compare the performance of bonds with other assets such as gold, property or other assets, to see which assets are more effective as safe haven assets and hedges in various market conditions. This study only analys the period during the Covid-19 pandemic and the Russia-Ukraine conflict, so the resulting findings may not be generalizable to other periods or economic crises. Therefore, future research is expected to cover a longer period so that the results are more comprehensive. In addition, this study has not considered in depth the influence of macroeconomic and global factors that could potentially affect the performance of bonds as a safe haven and hedging instrument, such as global monetary policy, exchange rate fluctuations, interest rates, and other geopolitical events. By expanding the scope of the study and considering additional factors, it is expected that future research results can provide a better understanding of the role of bonds in dealing with market uncertainty.

REFERENCES

Agustina, A., & Barus, A. C. (2023). Investasi safe haven: Dampak perang Rusia - Ukraina. *Owner*, *7*(3), 2330–2339. https://doi.org/10.33395/owner.v7i3.1523

Arianto, B. (2021). Dampak pandemi Covid-19 terhadap perekonomian dunia. *Jurnal Ekonomi Perjuangan*, *2*(2), 1–15. https://doi.org/10.36423/jumper.v2i2.665

Baele, L., Bekaert, G., & Inghelbrecht, K. (2010). The determinants of stock and bond return comovements. *Review of Financial Studies*, *23*(6), 2374–2428. https://doi.org/10.1093/rfs/hhq014

Bakrie, C. R., Delanova, M. O., & Mochamad Yani, Y. (2022). Pengaruh perang Rusia dan Ukraina terhadap perekonomian negara kawasan Asia Tenggara. *Jurnal Caraka Prabu*, *6*(1), 65–86. https://doi.org/10.36859/jcp.v6i1.1019

Bartram, S. M. (2019). Corporate hedging and speculation with derivatives. *Journal of Corporate Finance*, *57*(8), 9–34. https://doi.org/10.1016/j.jcorpfin.2017.09.023

Baur, D. G., & Lucey, B. M. (2010). Is gold a hedge or a safe haven? An analysis of stocks, bonds and gold. *Financial Review*, *45*(2), 217–229.

https://doi.org/10.1111/j.1540-6288.2010.00244.x

Bianconi, M., Yoshino, J. A., & Machado de Sousa, M. O. (2013). BRIC and the U.S. financial crisis: an empirical investigation of stock and bond markets. *Emerging Markets Review*, *14*(3), 76–109. https://doi.org/10.1016/j.ememar.2012.11.002

Ciner, C., Gurdgiev, C., & Lucey, B. M. (2013). Hedges and safe havens: An examination of stocks, bonds, gold, oil and exchange rates. *International Review of Financial Analysis*, *29*(9), 202–211. https://doi.org/10.1016/j.irfa.2012.12.001

Dicle, M. F., Levendis, J., & Alqotob, J. M. (2011). Is gold a safety asset? *SSRN Electronic Journal*, *1*(1), 1–16. https://doi.org/10.2139/ssrn.1953425

Gebhardt, W. R., Hvidkjaer, S., & Swaminathan, B. (2005). Stock and bond market interaction: Does momentum spill over? *Journal of Financial Economics*, *75*(3), 651–690. https://doi.org/10.1016/j.jfineco.2004.03.005

Greenwood, R., & Hanson, S. G. (2013). Issuer quality and corporate bond returns. *Review of Financial Studies*, *26*(6), 1483–1525. https://doi.org/10.1093/rfs/hht016

Greer, R. J. (1997). What is an asset class, anyway? *The Journal of Portfolio Management*, *23*(2), 86–91. https://doi.org/10.3905/jpm.23.2.86

Hartono, P., & Robiyanto, R. (2021). Can cryptocurrency, gold and bonds serve as safe haven for the Indonesian capital market? *Jurnal Ekonomi Kuantitatif Terapan*, *14*(1), 1–10. https://doi.org/10.24843/JEKT.2021.v14.i01.p01

Isabella, M., & Hapsari, Y. D. (2022). Analisis peranan emas dan obligasi pemerintah Indonesia sebagai safe haven pada periode 2018-2020. *Prosiding Working Papers Series in Management*, *14*(2), 544–556. https://doi.org/10.25170/wpm.v14i2.4214

Ji, Q., Zhang, D., & Zhao, Y. (2020). Searching for safe-haven assets during the Covid-19 pandemic. *International Review of Financial Analysis*, *71*(10), 101526. https://doi.org/10.1016/j.irfa.2020.101526

Kolokolova, O., Lin, M.-T., & Poon, S.-H. (2020). Too big to ignore? Hedge fund flows and bond yields. *Journal of Banking & Finance*, *112*(3), 105271. https://doi.org/10.1016/j.jbankfin.2017.12.009

Kopyl, K. A., & Lee, J. B.-T. (2016). How safe are the safe haven assets? *Financial Markets and Portfolio Management*, *30*(4), 453–482. https://doi.org/10.1007/s11408-016-0277-5

Lahiani, A., Mefteh-Wali, S., & Vasbieva, D. G. (2021). The safe-haven property of precious metal commodities in the Covid-19 era. *Resources Policy*, *74*(12), 102340. https://doi.org/10.1016/j.resourpol.2021.102340

Lim, D. J., & Cooper, Z. (2015). Reassessing hedging: the logic of alignment in East Asia. *Security Studies*, *24*(4), 696–727. https://doi.org/10.1080/09636412.2015.1103130

Liu, E. X. (2016). Portfolio diversification and international corporate bonds. *Journal of Financial and Quantitative Analysis*, *51*(3), 959–983. https://doi.org/10.1017/S0022109016000034X

Liu, W. (2020). Are gold and government bond safe-haven assets? An extremal quantile regression analysis. *International Review of Finance*, *20*(2), 451–483. https://doi.org/10.1111/irfi.12232

Miyazaki, T. (2019). Clarifying the response of gold return to financial indicators: An empirical comparative analysis using ordinary least squares, robust and quantile regressions. *Journal of Risk and Financial Management*, *12*(1), 33–41. https://doi.org/10.3390/jrfm12010033

Ndwandwe, D., & Wiysonge, C. S. (2021). Covid-19 vaccines. *Current Opinion in Immunology*, *71*(8), 111–116. https://doi.org/10.1016/j.coi.2021.07.003

Robiyanto, R. (2018). Indonesian stock market's dynamic integration with Asian stock markets and world stock markets. *Jurnal Pengurusan*, *52*(1), 181–192. https://doi.org/10.17576/pengurusan-2018-52-15

Shahzad, S. J. H., Aloui, C., Jammazi, R., & Shahbaz, M. (2019). Are Islamic bonds a good safe haven for stocks? Implications for portfolio management in a time-varying regime-switching copula framework. *Applied Economics*, *51*(3), 219–238. https://doi.org/10.1080/00036846.2018.1494376

Siahaan, G. E. D., & Robiyanto, R. (2021). Bond as a safe haven during market crash: Examination of Covid-19 pandemic in Asean-5. *Jurnal Manajemen dan Kewirausahaan*, *23*(1), 1–9. https://doi.org/10.9744/jmk.23.1.1-9

Triki, M. B., & Ben Maatoug, A. (2021). The gold market as a safe haven against the stock market uncertainty: Evidence from geopolitical risk. *Resources Policy*, *70*(9), 101872. https://doi.org/10.1016/j.resourpol.2020.101872

Ullah, S. (2023). Impact of Covid-19 pandemic on financial markets: A global perspective. *Journal of the Knowledge Economy*, *14*(2), 982–1003. https://doi.org/10.1007/s13132-022-00970-7