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The Influence of Macroeconomic Factors on The Indonesia's Sovereign Credit Default Swap (SCDS) Spread

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Abstract:

SCDS spread is an indicator that can be used to determine investment risk in a country. This research aims to determine the influence of macroeconomic factors, namely the inflation rate, GDP, IDX Composite Index, exchange rate, and BI reference interest rate on the movement of Indonesia's SCDS spread with a five-year tenor. The data analysis method uses a multiple linear regression model. The sample period that will be used in this research uses monthly time series data, namely 168 months (January 2010 to December 2023). The research results show that the inflation rate and exchange rate have a significant and positive effect on Indonesia's SCDS spread. Meanwhile, GDP and IDX Composite Index have a significant and negative effect on Indonesia's SCDS spread. The GDP variable is the macroeconomic factor that has the most influence on the movement of Indonesia's SCDS spread with a regression coefficient of -1.73. The independent variable used in this research is able to explain its influence on the dependent variable (Indonesia's SCDS spread) by 66.65% and the remaining 33.35% is explained by other variables that were not included in the research.

Keywords: *Indonesia's SCDS Spread, Macroeconomic, Sovereign risk*

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1. Introduction

The increasing investment risk resulting from recent global uncertainty requires investors to be more careful and vigilant in making every investment decision. Global uncertainty is the impact of international financial markets which have shown significant developments in recent years. With this development, the inflow and outflow of capital to various countries is accelerating. Investors must protect their assets from possible losses, so they use credit derivatives to minimize the credit risk they will face. Among them, the most commonly used in financial markets is the Credit Default Swap (CDS) contract. CDS is a contract between two parties in which one transfers its risk to another by paying a risk premium was first introduced by JP Morgan in 1994 (Rashid et al., 2017). The premium that CDS buyers must pay is known as the CDS spread. A high CDS spread can indicate high risk and is an

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indication that more and more parties think an investment has a greater potential for default (Hastuti et al., 2019).

CDS contracts originating from underlying assets in the form of bonds issued by a country are known as Sovereign CDS (SCDS) (Liu & Morley, 2012). SCDS spread is one of the most significant indicators for a country, economy and economic actors (Kartal, 2022). SCDS spread is considered the most important country risk indicator in recent years (AVŞARLIGİL & Turğut, 2021). A country's SCDS spread is a faster and more flexible indicator in responding to risk when compared to just looking at the country's credit ratings. Credit ratings are only issued every six months, meaning that the credit rating does not reflect the current situation but reflects the situation six months ago. Research into SCDS spread movements is very important because if investors do not take advantage of these movements and only look at credit ratings, they will most likely miss out on accurate information regarding the current state of investment risks in that country.

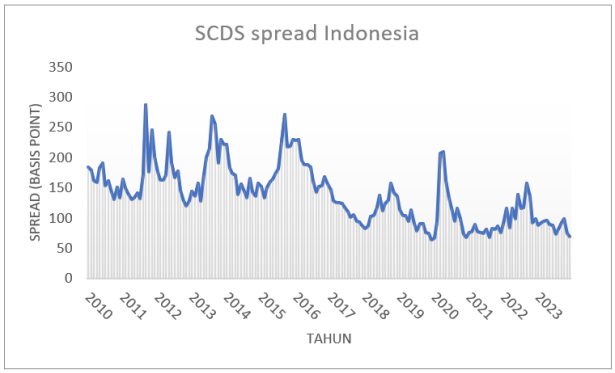

Figure 1. Indonesia's SCDS Spread

When compared with SCDS spreads in developed countries such as the United States and Japan, Indonesia's SCDS spread is still higher with a range of 63-287 bps in the last 14 years. Meanwhile, the United States is in the range of 5-63 bps and Japan is in the range of 15-142 bps. Apart from that, it is necessary to carry out further analysis regarding the movement of the Indonesia's SCDS spread considering that Indonesia is also included in the list of Fragile Five countries along with Brazil, India, South Africa and Turkey, namely five developing countries that have great economic potential but are vulnerable to economic turmoil. The benefits of sovereign SCDS to investors and speculators were verified when the restructuring of the Greek sovereign debt in March 2012 triggered a payment of approximately US$2.5 billion to holders of Greek sovereign SCDS contracts (Kim et al., 2015).

The negative impact of high SCDS spreads means that countries generally experience difficulty in attracting foreign investment. A high SCDS spread reduces the contribution of foreign portfolio investment to a country's economic growth and development (Kartal, 2022). Therefore, having and maintaining SCDS spreads at a

low level is important. However, this is not easy because there are many factors that must be considered that influence the SCDS spread. Having a low SCDS spread requires considering several factors at the same time. One of them is macroeconomic factors. The macroeconomic health of the indebted country determines a country's default risk, changes in macroeconomic news can impact aggregate views of the country's credit risk, which in turn can impact changes in the SCDS spread (Kim et al., 2015). Any changes in factors that can influence the level of perceived risk will be reflected in the CDS spread (Fu et al., 2021).

Given that international factors are often outside a country's control, a focus on macroeconomic factors can be beneficial in achieving low SCDS spreads. Understanding the macroeconomic impact of a country is very important. Scholars, researchers, and policymakers have been examining the relationship between SCDS spreads and macroeconomic indices, particularly after the 2007–2008 financial crisis. There are various indicators that may influence the SCDS spread. Numerous research papers concentrate on the connection between macroeconomic indicators and country risk. In Indonesia, research on macroeconomic factors that influence SCDS spreads has been carried out by Sumantyo & Sutanto (2019). That research uses Indonesia's SCDS spread data with a tenor of 10 years. The long and short-term correlations between macroeconomic variables are investigated in this study. However, this research still has several weaknesses because it only analyzes the reference year and the limited independent variables used.

Therefore, from the explanation above, researchers are interested in analyzing what factors influence the high and low Indonesia's SCDS spreads with a 5 year tenor. Although there have been several studies related to the factors that influence Indonesia's SCDS spread, it is necessary to carry out further analysis regarding the factors that have a significant influence. The aim is to see the influence of macroeconomic factors on the Indonesia's SCDS spread with a shorter tenor and using the latest data period to see the development of the relationship between macroeconomic factors and the Indonesia's SCDS spread. This study uses a combination of macroeconomic variables from previous research to prove their influence on Indonesia's SCDS spread movements and retest variables that are not significant. Macroeconomic factors used in this research include the inflation rate, Gross Domestic Product (GDP), the rupiah exchange rate against the United States dollar, the IDX Composite Index, and the BI reference interest rate.

Variables are relevant to use because a high inflation rate indicates an unstable economy so that investors are increasingly wary of the risk of default which will affect the high SCDS in a country. High GDP indicates the large investment value in a country which will reduce demand for SCDS. Then there is the IDX Composite Index variable which shows that the Indonesian capital market is in good condition so that the risk of Indonesian default is smaller, which will cause a decrease in the SCDS spread. Then, if CDS is linked to the rupiah exchange rate, the weakening of the exchange rate causes the SCDS spread to move up, indicating a higher risk of default.

The higher risk of default makes investors' interest in buying SCDS increase. Furthermore, if the BI reference interest rate rises it will result in sluggish investment in Indonesia so that the level of risk of default based on the SCDS spread will be lower.

Based on the background description stated above, we can see that by analyzing the movement of the Indonesia's SCDS spread, investors will be more aware of the risk of Indonesian default. Apart from that, by knowing what factors can influence Indonesia's SCDS spread, investors will also be able to make more informed investment decisions. Then policy makers can anticipate movements in Indonesia's SCDS spread to monitor economic conditions in Indonesia. The need to have and maintain Indonesia's SCDS spread at a low level is important and requires consideration of several factors at the same time. One of them is macroeconomic factors, where macroeconomic news can influence changes in aggregate perceptions of a country's credit risk. Macroeconomic variables such as the inflation rate, Gross Domestic Product (GDP), the rupiah exchange rate, the IDX Composite Index, and the BI reference interest rate are relevant factors in analyzing the movement of Indonesia's SCDS spread.

2. Theoritical Background

Credit Default Swap (CDS)

Credit Default Swap (CDS) is an investment derivative product in the form of a contract between the CDS seller and buyer by paying a premium for a certain period and providing certain compensation in the event of a default or credit event (Sumantyo & Sutanto, 2019). CDS are designed to transfer the risk of default on managed assets to a third party. CDS can be used as a speculation or hedging instrument to generate profits. Financial institutions, such as investment banks, trade CDS through the Over The Counter (OTC) mechanism, like other derivative products, investors can hedge or speculate on credit risk in a relatively cheap way because CDS are traded freely (OTC) (Baum & Wan, 2010). In the OTC market, trading practice is that sellers will look for counterparties. After the two parties meet, the next process is to create a bilateral contract with an agreed premium based on a mutual bargaining process between the two parties. CDS contracts are usually divided into two groups based on their reference entity. The first is Corporate CDS and the second is Sovereign CDS (Liu & Morley, 2012). CDS spread is the amount of premium that will be paid by the CDS buyer to the CDS seller during the CDS contract period and is calculated in basis points (bps) from the notional value in the contract (Badan Kebijakan Fiskal Kementerian Keuangan, 2013).

A high CDS spread indicates that the risk of default is higher, while a lower CDS spread indicates that the risk of default is lower. For example, as the owner of the reference asset issued by Y, X enters into a contract with Z as the CDS seller. According to this contract, X must pay Z periodically until maturity if no credit event occurs. However, if a credit event occurs on Y, X will stop paying Z periodically and will get paid the par value of the reference asset. SCDS contracts are effectively

insurance products against payment failure on debt instruments issued by state obligors. The confidence of domestic and external economic actors in a country's capabilities is very important to avoid sovereign risk. Sovereign risk is the risk of a country failing to pay interest and principal on its debt (Tampubolon & Hidayat, 2013).

Inflation Rate

Inflation is a macroeconomic indicator that can show a country's economy. Where several macroeconomic policy objectives are strongly influenced by inflation (Martanto et al., 2021). In Indonesia, inflation calculations are carried out by Badan Pusat Statistik (BPS). By comparing current prices with those from the prior period, BPS determines the inflation rate (Bank Indonesia, 2023). A general, ongoing rise in the cost of goods and services is referred to as inflation. A decline in the value of a nation's currency in relation to the total cost of goods and services is another way to describe inflation. The percentage increase in the cost of goods and services that is typically constant is another definition of the inflation rate (Badan Pusat Statistik, 2014). When the price of a good or service rises, it is called inflation. In the midst of ongoing global uncertainty, the government must monitor inflation. People face difficulties in meeting their daily needs due to high inflation. To find out the level of inflation in Indonesia, use the Consumer Price Index (CPI). The CPI calculation is carried out by comparing current prices with base year prices.

A high inflation rate indicates an unstable economy in a country. The relevant inflation rate is used as a factor that influences the movement of the Indonesia's SCDS spread because increasing inflation will result in investors becoming increasingly wary of the risk of default in Indonesia. This awareness will increase investors interest in buying Indonesia's SCDS. Therefore, a high inflation rate has an influence on the high demand for SCDS in a country. Research on the relationship between inflation and SCDS spread was also conducted in Pakistan. Rashid et al. (2017) conducted research to analyze the effect of the inflation rate on the SCDS spread in Pakistan. This research shows that the movement of the SCDS spread and inflation has a positive relationship. This situation means that when inflation increases, the SCDS spread will also increase. Meanwhile, Chernov et al. (2020) examined the United States CDS spread from a macroeconomic perspective. This research also shows that the inflation rate has a positive influence on the CDS spread.

Gross Domestic Product (GDP)

The amount of production value can be measured in a concept of added value formed by many economic sectors in the region which is collectively known as Gross Domestic Product (GDP). Gross Domestic Product (GDP) is the total value of goods and services produced within a country involving all factors of production from all economic units owned by residents or companies from other countries (Sukirno, 2006). The market value of all finished goods and services generated in the economy over a specific time period is also known as GDP (Hamzah, 2021). From the

aforementioned remark, it may be inferred that output in the form of products and services created by production factors held by the country's people or by foreign nationals who physically reside in that country will be measured as GDP (Azhari, 2021).

Relevant GDP is used as a factor that influences Indonesia's SCDS spread because an increasing GDP value reflects economic growth in a country. Economic growth generally describes the condition of a country. This is a measure of sovereign risk, because when a country experiences a recession it will create risks for countries that have invested in CDS. Therefore, the decreasing GDP value will also influence the high demand for CDS. Research on the relationship between GDP and CDS spread has been carried out by Fu et al. (2021) who analyze how company performance and macroeconomic conditions, one of which is GDP, play an important role in explaining CDS spread movements. The research shows that CDS spreads are significantly influenced by market conditions, company performance, and financial crises. This research shows that there is a negative influence of GDP growth on CDS spreads in the United States, England and Japan. Where the increase and good growth in the value of GDP has significantly contributed to the reduction in the CDS spread.

IDX Composite Index

The stock exchange is becoming increasingly attractive to investors due to changes in share prices in the capital market. Kewal (2012) states that the Composite Stock Price Index is a measure of price fluctuations for every share listed on the Indonesia Stock Exchange (BEI). The IDX Composite Index was initially released on April 1, 1983, with August 10, 1982, serving as its base day. All common and preference shares that are listed on the IDX are included in this index. IDX Composite Index rises when the market is active, but movements tend to remain stable when the market is stable (Nuraeni & Panjawa, 2021). In the event that the IDX Composite Index rises, it suggests a good trend in the capital market; on the other hand, a decline in the index denotes a negative trend. The Indonesian capital market can be described well by the IDX Composite Index (Pradhypta et al., 2018). Changes in the IDX Composite Index not only show the progress of industry or companies in a country, but can even be considered a fundamental change for a country.

IDX Composite Index is relevant to be used as a factor influencing Indonesia's SCDS spread because rising share prices indicate that the capital market in Indonesia is in a stable condition. This situation has resulted in various forms of investor concern regarding the risk of default in Indonesia being lower. If concerns about the risk of default are low, this will cause a decrease in interest in CDS. In Indonesia, research by Sumantyo & Sutanto (2019) shows that movements in the CDS spread and IDX Composite Index also show a negative relationship in monthly movements. This situation means that when the IDX Composite Index value increases, Indonesia's SCDS spread will decrease or vice versa. This is in line with research by Aini et al. (2012). Then in research by Badan Kebijakan Fiskal Kementerian Keuangan (2013) it was stated that the main domestic factors that determine the CDS spread are the IDX

Composite Index and the exchange rate. IDX Composite Index influences the CDS spread with a weight of 15.1%. IDX Composite Index is important in CDS spread movements due to its role as an illustration of investor sentiment regarding economic conditions in a country. Research by Hastuti et al. (2019) was conducted to analyze the influence of variables in the real and banking sectors on the Indonesia's CDS shock. This research shows the estimation results that the influence of IDX Composite Index on CDS has a negative shock, meaning that when there is an increase in IDX Composite Index it will respond to a decrease in CDS spread. Then research by AVŞARLIGİL & Turğut (2021) shows that in Brazil, Indonesia, South Africa and India that there is an inverse and strong relationship between the CDS spread of these countries and the stock index value. Kim et al. (2015) conducted in 19 countries also shows a negative relationship between stock index and CDS spread.

Exchange Rates

The comparison of the value of one country's currency to that of another is known as an exchange rate (Bodie & Kane, 2020). The rupiah exchange rate refers to the quantity of local currency required, or the number of rupiah required to purchase one unit of foreign currency. Basically, how much demand and supply there is for a given currency in a nation dictates how the exchange rate moves. Appreciation or depreciation can cause changes in exchange rates. Depreciation of the rupiah against the US dollar is the term used to describe the decrease in the value of the rupiah relative to the US dollar. Depreciation of the rupiah causes the price of domestic goods to become cheaper in foreign markets due to the appreciation of the country's currency. Salvatore (2020) explains that controlled and stable exchange rate movements will occur in countries that have good economic conditions. On the other hand, if the rupiah depreciates sharply, debt denominated in foreign currency will become larger. This could worsen the country's balance of payments, which would then worsen overall macroeconomic conditions. Stable exchange rate movements are a sign of a country with relatively good economic conditions. On the other hand, exchange rate depreciation will cause foreign currency denominated debt to double in a short time, which will worsen the domestic balance of payments and ultimately worsen overall macroeconomic conditions. According to research conducted by Badan Kebijakan Fiskal Kementerian Keuangan (2013), this research tries to look at the volatility of Indonesia's CDS by considering the weight of global factors and domestic factors. The research results show that the main domestic factors that determine CDS are IDX Composite Index and the exchange rate. The exchange rate is able to influence the CDS spread with a weight of 10.9%.

Research by Hastuti et al. (2019) was conducted to analyze the influence of variables in the real and banking sectors on the Indonesia's CDS shock. This research shows the estimation results that CDS spread movements are more rapidly influenced by the IDX Composite Index, BI reference interest rate, exchange rate and yield first and then the real sector (foreign exchange reserves and GDP growth). The variables that made the biggest contribution to the decline in CDS were the banking sector such as IDX

Composite Index, exchange rates and bond yields. Meanwhile, Rashid et al. (2017) conducted research to analyze the influence of exchange rates on Sovereign CDS. This research shows that movements in SCDS spreads and exchange rates have a positive relationship in short-term movements. This situation interprets that when the exchange rate depreciates, the SCDS spread will increase.

BI Reference Interest Rate

The BI reference interest rate is an interest rate with a period of one month which is announced periodically by Bank Indonesia which functions as a signal or monetary policy position (Dwijayanthy & Naomi, 2009). In simple terms, the short-term interest rate desired by Bank Indonesia to achieve the inflation target is indicated by the benchmark interest rate. The Board of Governors meeting usually determines the reference interest rate to apply during the current quarter. This is made based on the reference interest rate recommendations made by the policy reaction function in the economic model to achieve the inflation target. Changes in the BI reference interest rate are made in multiples of 25 basis points (changes can reach 25.50 or 75 basis points depending on monetary conditions). By considering other factors in the economy, Bank Indonesia will increase or decrease the BI reference interest rate according to estimates below the predetermined target.

The country's reference interest rate variable is important because the interest rate on loans and deposits at banks and other financial institutions will rise along with the reference interest rate. The increase in interest on bank deposits will attract investors from all over the world to save their funds. This situation has resulted in weakening investment growth in a country, including Indonesia, thereby weakening awareness of the risk of default in Indonesia. As a result, demand for CDS will decrease. Rashid et al. (2017) conducted research to analyze the influence of reference interest rates on Sovereign CDS. This research shows that movements in the SCDS spread and interest rates have a negative relationship in both long-term and short-term movements. This situation interprets that when interest rates increase, the SCDS spread will decrease. This is in line with research by Kim et al. (2015) which shows a negative relationship between interest rate and CDS spread.

3. Methodology

This research uses a quantitative approach accompanied by a series of statistical procedures in its analysis. This research is classified as causal research, one type of which is associative research. Associative research aims to find out how the independent variable and dependent variable interact with each other. This research uses numerical scale data, namely the ratio scale. The data collection method used in this research is literature study and documentation study. The literature study in this research was carried out by studying literature related to research variables, obtained from literary sources in the form of textbooks, scientific journal articles, publications

and internet media. Data collection is carried out through documentation studies by studying and browsing various documents related to research. The population used in this research is the entire time series data from the Indonesia's SCDS spread with a 5 year tenor, inflation rate data, GDP data, IDX Composite Index data, rupiah exchange rate data, and BI reference interest rate data. Meanwhile, the sampling technique used in this research is using a non-probability sampling technique in the form of convenience sampling where in this method, the sample is selected based on the availability and ease of access to data and the sample period has been determined at the beginning of the research (Firmansyah, 2022). The sample period that will be used in this research uses monthly time series data, namely 168 samples (January 2010 to December 2023). The data used in this research is secondary data. Secondary data in this research is Indonesia's SCDS spread data with a tenor of 5 years, data on Indonesia's inflation rate from 2010 to 2023, quarterly data on Indonesia's real GDP from Q1 2010 to Q4 2023, the IDX Composite Index data, the rupiah exchange rate against the United States dollar, and the BI reference interest rate for the period 2010 to 2023. Data processing using Eviews 10 and the analytical method used in this research is multiple linear regression.

According to Pratomo & Hidayat (2007), multiple linear regression is a regression between variables that makes use of multiple independent variables. The first step in the analysis is to create descriptive statistics. Descriptive statistics are used to describe and summarize data sets in a systematic and easy to understand manner. By using descriptive statistics can find out the minimum, maximum and average values for each variable. After that, a multiple linear regression model was formed and then the F test was carried out on the model. The F test (simultaneous test) is one of the various steps in this research that is used to statistically demonstrate that all independent variables have a combined effect on the dependent variable (Setyowati & Soepatini, 2017). If the computed F value is higher than the F table, the independent variable as a whole is considered to have a considerable impact on the dependent variable. Next, do a partial test (t test) to determine the extent to which each independent variable contributes to the explanation of fluctuations in the dependent variable. If the computed t value is higher than the t table, the variables are considered to have a significant influence. Next, find the coefficient of determination (R^2) to determine the extent to which changes in the independent variables employed in the study can adequately account for variations in the dependent variable. The R^2 value ranges between 0 and 1. If R^2=0 it means that the independent variable cannot explain variations in the dependent variable. Meanwhile, if R^2=1 then the independent variable can fully explain the variation in the dependent variable. This means that the regression model can predict the value of the dependent variable perfectly.

This study employs multiple linear regression analysis with the equation:

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

Description:

Y : Indonesia's SCDS Spread

$\beta_1 X_1$: Inflation Rate

$\beta_2 X_2$: GDP

$\beta_3 X_3$: IDX Composite Index

$\beta_4 X_4$: Exchange Rate

$\beta_5 X_5$: BI Reference Interest Rate

α : Equation Constant

ε : Error

4. Empirical Findings/Results and Discussion

Indonesia's SCDS spread moved quite volatile in the range of 63-287 bps. In September 2011 Indonesia's SCDS spread reached its highest value in the last 14 years. In 2023, SCDS is likely to move stably with a relatively controllable spread in line with the increasing rate of Indonesia's GDP growth. Even though it tends to be stable, analysis needs to be carried out considering that Indonesia is categorized as The fragile five according to Morgan Stanley. This term refers to five developing countries (emerging markets), namely Indonesia, India, Brazil, Turkey and South Africa which are considered to have great economic potential but are also vulnerable to global economic turmoil.

Tabel 1. Descriptive Statistics

Variable	N	Mean	Minimum	Maximum
SCDS Spread	168	138.3214	63.00000	287.0000
Inflation Rate	168	4.2575	1.3200	8.7900
GDP	168	2395716.	1642356.	3139085.
IDX Composite Index	168	5307.091	2549.030	7272.800
Exchange Rate	168	12671.88	8507.000	16367.00
BI Reference Interest Rate	168	5.6235	3.5000	7.7500

Source: Processed data (Eviews 10)

In the last 14 years, Indonesia's inflation rate reached its highest value in August 2013. This spike in inflation rates was also accompanied by an increase in Indonesia's SCDS spread from 215 bps in July 2023 to 268 bps in August 2013. From data released by BPS, the inflation rate is high. This was due to an increase in prices in all expenditure groups. Indonesia's GDP always experiences a positive trend from year to year. This is a positive signal that production figures in Indonesia also continue to increase. Similar to GDP, IDX Composite Index also shows a positive trend every year even though there was a significant decline in 2020 due to the COVID 19 pandemic and restrictions on economic activities. The rupiah exchange rate was also affected, reaching its highest value in the last 14 years, namely Rp16,367 in March 2020. This situation also triggered a significant increase in Indonesia's SCDS spread, where in February 2020 it was at 93 bps, jumping to 206 bps in March and 209 bps in April 2020. The BI reference interest rate reached its highest value of 7.75% from November 2014 to January 2015. This increase was to maintain the current account deficit and increase credit growth as Bank Indonesia's response to the announcement of an increase in fuel prices in November 2014. After that, a model was formed using a multiple linear regression equation. The model was then tested to see whether there was an influence of the independent variables on the Indonesian SCDS spread using the F test.

Tabel 2. Simultaneous Test Result

F Statistic	Probability
67.3125	0.00

Source: Processed data (Eviews 10)

The F test results show that the probability value (0.00) is less than 0.05. Apart from using probability values, it can also be seen from the F statistic value compared to the F table. The F table for a significance level of 5%, 6 variables and 168 sample periods is 2.27. The F statistic value, namely 67.31, is greater than 2.27. This means that statistically all independent variables have a joint influence on the movement of the Indonesia's SCDS spread. After seeing the influence of the independent variables simultaneously, we continued by testing the influence of each independent variable partially using the t test.

Tabel 3. Hypothesis Test Result

X	Variable	Parameter	Parameter Estimate	t statistic	Probability
C	Constant	α	20.7486	6.6090	0.0000

X_1	Inflation Rate	β_1	0.2946	5.3545	0.0000
X_2	GDP	β_2	-1.7379	-4.4157	0.0000
X_3	IDX Composite Index	β_3	-0.6867	-3.6194	0.0004
X_4	Exchange Rate	β_4	1.6110	6.6046	0.0000
X_5	BI reference interest rate	β_5	-0.0557	-0.5119	0.6094

Source: Processed data (Eviews 10)

From the estimation results obtained, it can be seen that the probability value of the inflation rate, GDP, IDX Composite Index and exchange rate variables is less than 0.05 and the absolute value of the t statistic is more than the t table of 1.97. This means that these variables have a significant influence on the movement of the Indonesia's SCDS spread. Meanwhile, the variable that does not have a significant effect is the BI reference interest rate. The coefficient value of the inflation rate variable is 0.29 and has a positive influence on the SCDS spread at the 95% confidence level. The GDP variable is the variable that has the most influence on the SCDS spread, namely 1.73%. The GDP variable has a negative influence, meaning that every 1% increase in GDP will reduce Indonesia's SCDS spread by 1.73%. The second most influential variable is the rupiah exchange rate. The rupiah exchange rate has a positive effect on the Indonesia's SCDS spread. Where every time the rupiah exchange rate depreciates by 1%, the Indonesia's SCDS spread will increase by 1.61%. Then finally there is IDX Composite Index variable which has a significant and negative influence on Indonesia's SCDS spread. Every 1% increase in the IDX Composite Index will reduce Indonesia's SCDS spread by 0.68%. Next, a coefficient of determination test (R^2) was carried out to determine how far the variations in the independent variables used in the research could explain the movement of the Indonesia's SCDS spread.

Tabel 4. Coefficient of Determination

R-squared	Adjusted R-squared
0.674540	0.666554

Source: Processed data (Eviews 10)

The coefficient of determination (R^2) for this model is 0.6665, meaning that the independent variables in the inflation rate, GDP, IDX Composite Index, exchange rate, and BI reference interest rate can explain 66.65% of the variation in the dependent

variable, which is Indonesia's SCDS spread, and the remaining 33.35% can be explained by variables not included in the equation model.

5. Discussion

The Effect of Inflation Rate on Indonesia's SCDS Spread

Based on the results of data analysis, inflation rate have significant effect on Indonesia's SCDS spread with p-value 0,00 < 0,05. The parameter estimate of 0.29 indicates that if the inflation rate increases by 1%, it will increase the SCDS spread by 0.29%. The results of this study are supported by research from Tampubolon & Hidayat (2013) which showed that at the 95% confidence level used, the inflation rate coefficient value of 13.00 had a positive influence on the CDS spread. This illustrates that if the inflation rate in ASEAN countries increases by 1%, it will encourage an increase in the CDS spread in some ASEAN countries by a percentage of 13%. A high inflation rate indicates an unstable economy in a country.

The existence of this positive relationship is also shown by the movement of Indonesia's SCDS spread where in the last 14 years, Indonesia's inflation rate reached its highest value in August 2013. This surge in inflation rates was also accompanied by an increase in Indonesia's SCDS spread from 215 bps in July 2013 to 268 bps in August 2013. From data released by BPS, this high level of inflation was caused by an increase in prices in all expenditure groups. The high inflation rate reflects the unstable economic situation in Indonesia. Increasing inflation will result in investors preferring debt securities from other countries to get greater returns and investors will become increasingly wary of the risk of default in Indonesia. This awareness will increase investors' interest in buying Indonesia's SCDS. Therefore, a high and continuous inflation rate will have a long-term effect on the high demand for Indonesia's SCDS.

The Effect of GDP on Indonesia's SCDS Spread

Based on the results of data analysis, GDP have significant effect on Indonesia's SCDS spread with p-value 0,00 < 0,05. The parameter estimate of -1.73 indicates that if GDP increases by 1%, it will decrease the Indonesia's SCDS spread by 1.73%. The results of this study are supported by research from Fu et al. (2021) who analyze how company performance and macroeconomic conditions, one of which is GDP, play an important role in explaining CDS spread movements. The research shows that CDS spreads are significantly influenced by market conditions, company performance, and financial crises. This research shows that there is a negative influence of GDP growth on CDS spreads in the United States, England and Japan. Where the increase and good growth in the value of GDP has significantly contributed to the reduction in the CDS spread. Relevant GDP is used as a factor that influences Indonesia's SCDS spread because an increasing GDP value reflects economic growth in Indonesia.

This negative relationship is also shown by Indonesia's GDP, which always experiences a positive trend from year to year. This positive GDP trend influenced the decline in Indonesia's SCDS spread which was seen in January 2010 at 184 bps and decreased to 69 bps at the end of 2023. Meanwhile, GDP experienced an increase where in the Q1 2010 period it amounted to IDR 1,642,356.30 billion and increased to IDR 3,139,084.50 billion in the Q4 2023 period. This is a positive signal that production figures in Indonesia also continue to increase. Shows that increasing GDP reflects economic growth in a country. Economic growth generally describes the condition of a country. Therefore, high GDP will have an influence on decreasing demand for Indonesia's SCDS.

The Effect of IDX Composite Index on Indonesia's SCDS Spread

Based on the results of data analysis, IDX Composite Index have significant effect on Indonesia's SCDS spread with p-value 0,00 < 0,05. The parameter estimate of -0.68 indicates that if IDX Composite Index increases by 1%, it will decrease the SCDS spread by 0.68%. The results of this study are supported by research from Sumantyo & Sutanto (2019) shows that movements in the CDS spread and IDX Composite Index also show a negative relationship in monthly movements. This situation means that when the IDX Composite Index value increases, Indonesia's CDS spread will decrease. IDX Composite Index is important in determining CDS possibly due to its role as an illustration of investor sentiment regarding economic conditions. IDX Composite Index is relevant to be used as a factor influencing Indonesia's SCDS spread because rising share prices indicate that the capital market in Indonesia is in a stable condition. This situation has resulted in various forms of investor concern regarding the risk of default in Indonesia being lower. If concerns about the risk of default are low, this will cause a decrease in interest in CDS.

The existence of this negative relationship is also shown by the IDX Composite Index showing a positive trend every year even though there was a significant decline in 2020 due to the COVID 19 pandemic and restrictions on economic activities. In January 2010 the IDX Composite Index was at IDR 2,549 and increased significantly in December 2023, namely IDR 7,207. This increase had the impact of reducing the SCDS spread, which in January 2010 was 184 bps and decreased to 69 bps at the end of 2023. The high IDX Composite Index interprets rising stock prices as indicating that the capital market in Indonesia is in a stable condition. This situation has resulted in various forms of investor concern regarding the risk of default in Indonesia being lower. If concerns about the risk of default are low, this will cause a decrease in interest in SCDS Indonesia.

The Effect of Exchange Rate on Indonesia's SCDS Spread

Based on the results of data analysis, exchange rate have significant effect on Indonesia's SCDS spread with p-value 0,00 < 0,05. The parameter estimate of 1.61 indicates that every time the rupiah exchange rate depreciates by 1%, the Indonesia's SCDS spread will increase by 1.61%. The results of this study are supported by

research from Hastuti et al. (2019) was conducted to analyze the influence of variables in the real and banking sectors on the Indonesia's CDS shock. This research shows the estimation results that faster CDS spread movements are influenced by the IDX Composite Index, BI reference interest rates, exchange rates and yields.

This positive relationship is also shown by the rupiah exchange rate reaching its highest value, namely IDR 16,367 in March 2020. This situation also triggered a significant increase in Indonesia's SCDS spread, where in February 2020 it was at 93 bps, jumping to 206 bps in March 2020. Therefore, stable exchange rate movements will lead a country to relatively better economic conditions. On the other hand, exchange rate depreciation will cause foreign currency denominated debt to double in a short time, which will worsen the domestic balance of payments and ultimately worsen overall macroeconomic conditions. If the exchange rate depreciates, it will result in various forms of investor concern regarding the risk of default in Indonesia becoming higher, which will cause an increase in interest in CDS.

The Effect of BI Reference Interest Rate on Indonesia's SCDS Spread

The results of testing the influence of the BI reference interest rate on Indonesia's SCDS spread with a probability value of 0.60 more than 0.05. So it can be concluded that the BI reference interest rate has no significant effect on Indonesia's SCDS spread. Although there is no significant effect, the relationship is in accordance with research by Kim et al. (2015) and research by Rashid et al. (2017) which shows a negative relationship between the reference interest rate and CDS spread. Even though the BI reference interest rate variable does not have a significant effect, it must still be paid attention to because interest rates on loans and deposits at banks and other financial institutions will increase along with the reference interest rate. The increase in interest on bank deposits will attract investors from all over the world to save their funds. This situation has resulted in weakening investment growth in a country, including Indonesia, thereby weakening awareness of the risk of default in Indonesia. As a result, demand for CDS will decrease, although not significantly. High interest rates can be a reference in looking at economic health conditions in Indonesia so that investors can make requests for lower SCDS spreads. This is indicated by the coefficient value of the BI reference interest rate of -0.05.

Based on the results of this research, this research still has research limitations. The limitation is the use of macroeconomic variables which only use five independent variables. Research that uses a variety of other variables will provide a broader perspective regarding the influence of macroeconomics on Indonesia's SCDS spread and will be better able to interpret the overall state of the Indonesian economy. Another limitation is the use of a time period of only 10 years. A time period that is too short is not very capable of describing the overall condition of the Indonesian economy from previous periods. Using a longer time period will better represent the economic situation in Indonesia by covering various economic conditions such as during the financial crisis and the COVID-19 pandemic.

6. Conclusion

On the basis of the investigation's findings, the following conclusions were drawn are inflation rate have a significant influence on Indonesia's SCD spread. The parameter estimates of 0.29 indicates that if the inflation rate increases by 1%, it will increase the SCDS spread by 0.29%. GDP have a significant influence on Indonesia's SCD spread. The parameter estimates of -1.73 indicates that if GDP increases by 1%, it will decrease the SCDS spread by 1.73%. IDX Composite Index have significant effect on Indonesia's SCDS spread. The parameter estimates of -0.68 indicates that if IDX Composite Index increases by 1%, it will decrease the SCDS spread by 0.68%. Exchange rate have significant effect on Indonesia's SCDS spread. The parameter estimate of 1.61 indicates that every time the rupiah exchange rate depreciates by 1%, the Indonesia's SCDS spread will increase by 1.61%. And the BI reference interest rate variable has no significant effect on Indonesia's SCDS spread.

Taking into account the conclusions mentioned above, the author has some recommendations that for other researchers should be to carry out further analysis with the latest data and variations in other macroeconomic variables outside this research over a longer time period. Researchers can divide time periods into several subgroups based on economic conditions, such as during the monetary crisis, the COVID-19 pandemic period, and the post-COVID-19 pandemic period. Recommendations for the Indonesian government should continue to strive to increase National GDP, maintain the stability of the IDX Composite Index, reduce the inflation rate, and prevent the depreciation of the rupiah so that the macroeconomic situation is maintained and investor confidence in investing in Indonesia is higher, which will reduce Indonesia's SCDS spread.

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