SKIEJ (Sunan Kalijaga: Islamic Economics Journal)
Sharia Economics Study Program
Faculty of Islamic Economics and Business
Sunan Kalijaga State Islamic University
e-ISSN: xxxx-xxxx, p-ISSN: xxxx-xxxx

Islamic Certificate of Bank Indonesia (SBIS)'s Impact on Indonesian Economic Growth[1]

[2]Alisya Esa Safitri, [3]Riswanti Budi Sekaringsih
[2,3]UIN Sunan Kalijaga Yogyakarta, Department of Islamic Economics
[2]17108010036@student.uin-suka.ac.id, [3]riswanti.sekaringsih@uin-suka.ac.id

Abstract: *This study aims to determine the effect of monetary policy indicators, particularly Islamic Certificates of Bank Indonesia (SBIS), on economic growth in Indonesia. The dependent variable in this study is economic growth seen from the value of GDP. The independent variables used in this study are the money supply, BI rate, inflation, exchange rate (exchange rate), and Islamic Certificates of Bank Indonesia (SBIS). The type of data used in this study is secondary data in monthly time series (time series) from January 2010 to December 2019 sourced from the Central Statistics Agency (BPS) and Bank Indonesia (BI).*

This study uses the Vector Error Correction Model (VECM) analysis method. The VECM estimation results show that the effect of the money supply, BI rate, and Islamic Certificates of Bank Indonesia (SBIS) on economic growth in Indonesia in the short term is positive, but in the long term, it has a negative effect. Inflation in the short and long term does not affect economic growth in Indonesia. The exchange rate in the short term does not affect economic growth in Indonesia, while in the long term, it has a positive effect.

Keywords: *Economic Growth, Money Supply, BI Rate, SBIS, VECM.*

Introduction

Indonesia is one of the most populous countries in the world. According to BPS data, Indonesia currently occupies the 4th position with 268,074,600 people in 2019. With a large population, the potential for public consumption and labor production factors is a source of economic growth. Economic growth is the increase in the number of goods and services produced by the community due to the development of economic activity (Sukirno, 2010). One of the macro indicators that can determine the level of prosperity of the people in a country is Economic growth.

[1]Based on an undergraduate thesis entitled Analysis of the Effect of Monetary Policy Indicators on Economic Growth in Indonesia in 2010-2019.
[2]Student of Islamic Economics Department, UIN Sunan Kalijaga, Yogyakarta, Indonesia, 17108010036@student.uin-suka.ac.id
[3]Lecture of Islamic Economics Department, UIN Sunan Kalijaga, Yogyakarta, Indonesia, riswanti.sekaringsih@uin-suka.ac.id

Article History
Received: April, 2022
Accepted: April, 2022

Economic stability is a benchmark for the sustainable development of a country's economy.

In the economic activities of a country, monetary policy has an essential role in maintaining economic stability. Monetary policy is a government effort to regulate macroeconomic conditions in order to achieve the expected goals, namely internal balance in the form of increased economic growth, price balance, and equitable development, as well as external balance in the form of a balanced balance of payments and can achieve economic stability.

As the central bank, BI has several strategies with nominal indicator characteristics used as a basis for achieving monetary policy objectives. Some of the strategies for implementing monetary policy include: targeting exchange rates, targeting monetary amounts, and targeting inflation. Monetary policy can affect economic activity through the money supply, interest rates, exchange rates, credit, asset prices, and inflation. Therefore, monetary policy is crucial for BI as a policymaker in regulating the economy.

Economic growth shows the number of goods and services produced in a country's economy, so it can be one of the crucial indicators in analyzing economic development. To know the economic growth of a country can be seen from the current GDP. The high value of GDP in a country indicates that the country's economic condition is in good condition and vice versa.

Table 1 shows economic growth and monetary policy indicators, namely the money supply, BI *rate*, inflation, and the rupiah exchange rate (exchange rate) in 2005-2019. It is known that Indonesia's GDP has an increasing *trend* every year. If the country's national income continues to increase in the long term, it can be said that the economy is developing. One of the reasons for the economic growth that occurred in Indonesia was the monetary policy instrument regulated by BI.

The policy indicator that can increase economic growth is the monetary policy on the side of changes in the Money Supply (JUB). Based on table 1, it can be seen that the data on the money supply continues to increase from year to year, along with data on economic growth in Indonesia, which also continues to increase. Based on the data above, it can be seen that what is happening in Indonesia is not under the research conducted by Prihatin *et al* . (2019), which states that if the Money Supply increases, GDP will decrease.

The central bank issues the next indicator through the BI *rate*. The purpose of the BI *rate* is to keep inflation, which can impact economic growth. Based on Table 1, it can be seen that when the central bank lowered its benchmark interest rate, inflation also decreased, consequently improving economic growth. In 2005-2007 when the BI *rate* experienced adeclining trend, inflation also decreased, and Indonesian economic growth has increased. In 2008, when the interest rates BI experience *trend* increased to 9.25%, inflation has increased 11.06%, and the economy experienced a slowdown and grew 6.01%. BI is different when interest rates fell to the lowest level at 4.25%, and inflation was at 3.13%; economic growth grew steady at 5%.

Based on Table 1, the development of the rupiah exchange rate in Indonesia can be seen from 2005 that it has continually increased. In 2005 the rupiah exchange rate in Indonesia increased by 8.6%, then in 2017, the rupiah exchange rate strengthened by 0.27%. In 2013 the rupiah exchange rate depreciated by 26.4% from the previous year, and GDP also experienced an increase from the previous year, which was 5.78 percent.

In Islamic economics, there must be harmony between the monetary and real sectors. The monetary sector must follow developments in the real sector (Karim, 2002). Indonesia implements sharia monetary policy through Sharia Monetary Operations (OMS). Sharia monetary operations are the implementation of monetary policy by BI in monetary management through sharia open market operations. The objective of the CSO is to meet the operational target of sharia monetary control to support the achievement of the ultimate target of Bank Indonesia's monetary policy.

In carrying out open market operations, the central bank uses the SBIS instrument or Islamic Certificates of Bank Indonesia for monetary control that is carried out based on sharia principles. SBIS are short-term securities based on sharia principles in rupiah currency issued by Bank Indonesia.

In this case, Islamic Bank has to assist Bank Indonesia in absorbing liquidity from the public and keeping it in BI within a certain period for monetary control. To meet specified targets, the absorption of liquidity through monetary operations of Bank Indonesia will get the benefit as promised by BI. SBIS rights level fluctuated every month following the provisions that the central bank has made. Remuneration of Bank Syariah is done so that the absorption of liquidity from the community can be met so that the economy can remain stable and even growing. Research conducted by Wulan Asnuri (2015) indicates a negative and significant impact on economic growth in Indonesia's short term and long term from 2007-2011. However, Dita Kusumawati's (2018) research indicates that the variable SBIS only negatively affected GDP in Indonesia in 2010-2017.Countries in the stage of development, especially in the economic field, such as Indonesia, need the right policies to continue to maintain and increase their economic growth. The Central Bank must be able to make a balanced monetary policy between conventional and sharia systems.

Literature Review

Economic Growth

Economic growth is one indicator of the success of development in an economy. The progress of an economy is determined by the amount of growth indicated by changes in national output. Economic growth is an effort to increase production capacity to achieve additional output, which is measured using the Gross Domestic Product (GDP) in a region. GDP at current prices can be used to see the shift and structure of the economy, while constant prices are used to determine economic growth from year to year.

According to Abul Hasan Muhammad Sadeq, Islam defines economic growth as the continuous development of the right factors of production that are able to contribute to human welfare. The goal is not only material welfare in this world, but also welfare in the hereafter.

Monetary Policy

To reduce instability in the economy, the government through the central bank will carry out monetary policy. This policy is to influence the development of money supply, interest rates, credit interest rates, and exchange rates, which are monetary variables in achieving the desired target, namely economic growth, job creation, price stability, and balance of payments. Monetary policy can be classified into two, namely expansionary monetary policy and contractionary monetary policy.

In Islam, the rationale of monetary management is to create stability in the demand for money and direct the demand for money to important and productive goals. Al-Ghazali stated that the government's task is how to maintain the stability of the value of its currency by regulating the money supply, and anticipating money trading.

Amount of Money Supply

According to Rahardja and Manurung, the money supply is the total value of money in the hands of the public. Money is distinguished in a narrow sense and a broad sense. A growing and developing economy causes the money supply to also increase.

In the concept of Islamic economics, money belongs to the community (money is public goods). Anyone who hoards money or is left unproductive means reducing the money supply which can cause the economy to fail. Therefore Islam forbids the accumulation / hoarding of wealth and monopolizing wealth.

Islam strongly recommends business/trade, investment in the real sector so that money can rotate. The money that is circulated for production will be able to lead to prosperity and economic health of the community.

BI Interest Rate

The definition of BI rate according to Bank Indonesia is the instrumental interest rate of Bank Indonesia determined at the quarterly Board of Governors Meeting to be valid for the current quarter, unless stipulated differently by the monthly Board of Governors Meeting in the same quarter. The BI rate is used as a reference in the implementation of monetary control operations to direct the weighted average 1-month SBI interest rate resulting from open market operations auctions to be around the BI rate.

Currently, Bank Indonesia uses the SBI interest rate as an instrument to control inflation. If inflation is felt to be high enough, Bank Indonesia will raise the SBI interest rate to curb rising inflation.

Inflation

According to Rahardja and Manurung, inflation can be interpreted as a symptom of a general and continuous increase in the price of goods. According to the monetarist view, inflation is the result of too much money in circulation, so that the purchasing power of the money decreases and causes the price of goods to rise. Meanwhile, according to structuralists, inflation is an economic symptom caused by structural problems.

According to the Islamic view, the definition of inflation is no different from conventional inflation. Taqiuddin Ahmad ibn al-Maqrizi classifies inflation into two groups, namely natural inflation and Human Error Inflation.

Exchange Rate (Exchange Rate)

The exchange rate is the amount of domestic currency that must be paid to obtain one unit of foreign currency. Over time the exchange rate can strengthen (appreciate) or weaken (depreciate). There are several currency exchange systems that apply in the international economy, namely;

1. Floating exchange rate system
2. Controlled floating
3. Creepy tethered exchange rate system
4. Currency basket system
5. Fixed rate system

There are 3 types of currency exchange rates or exchange rates, namely:

1. Selling Rate
2. Middle Rate
3. Buying rate

The exchange rate policy according to Islam can be said to adhere to a managed floating system, where the exchange rate is the result of government policies but the government does not interfere with the balance that occurs in the market unless things happen that disturb the balance itself. In Islam, the known standardized exchange rate system is the dinar (gold) and the dirham (silver). The gold standard is recommended in the Islamic exchange rate system because gold is not affected by inflation.

The National Sharia Council of MUI decided to issue a fatwa regarding currency trading (alsharf) Number 28/DSN-MUI/III/2002 which contains the law to allow buying and selling of foreign currencies by way of spot transactions with the following conditions:

1. Not for speculation (chance).
2. There is a need for transactions or just in case (savings).
3. If the transaction is made against a similar currency, the value must be the same and in cash (attaqabudh).
4. If different types, it must be done with the exchange rate (exchange rate) prevailing at the time the transaction is made in cash.

Islamic Certificate of Bank Indonesia

According to Bank Indonesia Regulation Number 10/11/PBI/2008, Islamic Certificates of Bank Indonesia are short-term securities based on sharia principles in rupiah currency issued by Bank Indonesia. Islamic Certificates of Bank Indonesia (SBIS), formerly known as Bank Indonesia Wadiah Certificates (SWBI) are certificates made for the implementation of monetary control based on sharia principles and as an effort to overcome excess liquidity of Islamic Banks. Parties that can have SBIS are Sharia Commercial Banks (BUS) and Sharia Business Units (UUS).

SBIS is issued using a ju'alah contract or prize, which is promised when someone succeeds in doing a job. SBIS issuance mechanism is issued through auction. In this case, the mechanism for issuing SBIS through auction has been regulated in Bank Indonesia Circular Letter No. 10/16/DPM in 2003, and then revised by Bank Indonesia Circular Letter No. 10/66/INTERN 2008.

Methodology

This study uses quantitative analysis methods. In this study, secondary data is used*: time-series* data, monthly data from the 2010-2019 period. The data used and obtained comes from the Central Statistics Agency (BPS) and Bank Indonesia (BI).

The population used in this study is all data regarding the money supply, BI interest rate (BI *rate*), inflation, exchange rate, SBIS, and GDP in Indonesia. At the same time, the sample used in this study amounted to 120 observations in the form of monthly data on the money supply, BI interest rate, inflation, exchange rate, SBIS, and GDP in Indonesia in 2010-2019.

Vector Autoregression (VAR) or Vector Error Correction Model (VECM) analysis methods are used in this research. VAR is one of the dynamic linear models (MLD) commonly used to forecast economic variables (especially) in the long term. Usually, knowing the impact of monetary policy can not be instantaneous requires a certain grace period *(lag)*. By using the VAR model, the *lag* can be known (Widarjono, 2007). Four things can be obtained from the VAR method: data description, forecasting, structural inference, and policy analysis.
In general, the VAR equation model is as follows:

$$\boldsymbol{Y_t = A_0 + A_1 Y_{t-1} + A_2 Y_{t-2} + ... + A_p Y_{t-p} + \varepsilon_t}$$

Where:

$\boldsymbol{Y_t}$ = vector of dependent variables
$\boldsymbol{A_0}$ = Vector sized intercept nx 1
$\boldsymbol{A_1}$ = size parameter vector nx 1
ε_t = vector of residuals

The equation model for the effect of economic growth used in this study is:

$$PDB = \alpha_0 + \Sigma a_1 PDB_{t-1} + \Sigma a_2 JUB_{t-1} + \Sigma a_3 BR_{t-1} + \Sigma a_4 INF_{t-1} + \Sigma a_5 KURS_{t-1} + \Sigma a_6 SBIS_{t-1} + \varepsilon_t$$

Where:
GDP = Gross Domestic Product
JUB = Total Money Supply
BR = BI *rate*
INF = Inflation
EXCHANGE = Exchange Rate
SBIS = Islamic Certificates of Bank Indonesia

Test Stages Model VAR (Widarjono, 2007) are as follows: Test stationery, Determination Optimal Lag, Stability Test VAR, Test Cointegration, VECM, Test Impulse Response and Test Forecast Error Variance Decomposition (FEDV).

Results

This study uses five variables that are estimated to be able to influence Economic Growth (GDP), namely the Money Supply (JUB), BI *Rate* (BI RATE), Inflation (INF), Rupiah Exchange Rate (KURS), and Islamic Certificates of Bank Indonesia (SBIS).

The VAR or VECM method requires several testing steps. In the Stationary Data test, it can be concluded that only the inflation variable has static data *at the level testing using the PP method.* Therefore, all data must be retested at the *first difference* level to produce the same data level. Meanwhile, the PP method test shows that all variables are stationary at the *first difference* level. So that in this study, the stationarity test used is the result of the stationarity test with the PP method at the *first difference* level.

In determining Optimal Lag is the *lag* 8. On Lag 8, unknown lag LR value of 137.2833, FPE of 0.0000011, AIC amounted to 3.151334, and the HQ of 5.349687. The stabilization of the VAR model can be seen in Figure 1. It shows that all points are already inside the circle. It also indicates that the VAR model used is stable.

Furthermore, in the cointegration test above, it can be seen that the equation model is cointegrated. The trace statistic value indicates the nature of the cointegration>*critical value* (5%) and the *Max-Eigen statistic* > *critical value* (5%). As for the *Unrestricted Cointegration Rank Test Trace Statistics*, all variables are cointegrated. Meanwhile, in the *Unrestricted Cointegration Rank Test Maximum Eigenvalue, the* cointegrated variables are the money supply, inflation, and Islamic Certificates of Bank Indonesia. Because there are nine integrated variables, it can be concluded that this study uses the *Vector Error Correction Model* (VECM) analysis *model*.

Vector Error Correction Model (VECM) Estimation

Table VECM. Estimation Results

Short-term		
Variable	**Coefficient**	**t-Stats**
GDP (-1)	0,065403	1,00438
GDP (-2)	0,022569	0,35073
GDP (-3)	-0,133806	-2.04071*
GDP (-4)	0,011174	0,16657
GDP (-5)	-0,014574	-0,21525
GDP (-6)	-0,861322	-12,9731*
JOB (-1)	0,030616	1.73598*
JOB (-2)	0,032437	1.73668*
JOB (-3)	0,033451	1,82404*
JOB (-4)	-0,008696	-0,52514
JOB (-5)	-0,021164	-1.19981
JUB (-6)	-0,037203	-2.36112*
BI RATE (-1)	-0,003566	-1,39224
BI RATE (-2)	-0,001252	-0,45007
BI RATE (-3)	-0,000921	-0,33257
BI RATE (-4)	0,005289	1,84799*
BI RATE (-5)	0,004646	1,69823*
BI RATE (-6)	-0,000190	-0,07079
INFLATION (-1)	0,000743	0,73288
INFLATION (-2)	0,000641	0,56646
INFLATION (-3)	-0,000243	-0,19233
INFLATION (-4)	-0,001449	-1,16839
INFLATION (-5)	-0,000843	-0,74103
INFLATION (-6)	-0,000850	-0,85784
EXCHANGE (-1)	-1,27E-06	-0,73829
EXCHANGE (-2)	1,47E-06	0,85356
EXCHANGE (-3)	-1,81E-06	-1,03881
EXCHANGE (-4)	-1,92E-06	-1.11577
EXCHANGE (-5)	-2,58E-06	-1.51647
EXCHANGE (-6)	7,27E-07	0,44368
SBIS (-1)	0,001409	1,06438
SBIS (-2)	0,001914	1,48896
SBIS (-3)	0,002703	2,22109*
SBIS (-4)	-0,001226	-1,01403
SBIS (-5)	-0,001476	-1,07161
SBIS (-6)	-0,001875	-1,27443

Long-term		
Variable	**Coefficient**	**t-Stats**
Money Supply	-1,053985	-9.39127*
BI Rate	-0,031519	-2,27344*
Inflation	0,014365	0,24698
Exchange Rate	7,34E-05	4,70153*
SBIS	-0,050422	-2,94224*
		* If the t-statistic value is > from the t-table value with a significance level of 5%. then the independent variable has a significant effect on the dependent variable,
Critical value of t-statistic. df=nk. n=113. k=6. df=107		
5%	1,659	

Source: Data Processing Results

Based on the VECM estimation above, the variables that have a short-term effect on economic growth are Economic Growth Variable (GDP). When viewed from the level of significance, GDP at *lags* 3 and 6 has a significant effect on economic growth in Indonesia. The amount of money has a significant effect on economic growth in Indonesia at *lags* 1, 2, 3, and 6. The BI *rate* has a significant effect on economic growth in Indonesia at *lag* 4 . SBIS has a significant influence on economic growth in Indonesia at *lag* 3.

Meanwhile, the variables that have a long-term effect on economic growth are Variable Amount of Money Supply, Variable BI *Rate*, Variable Exchange Rate (Exchange Rate), Variable Islamic Certificates of Bank Indonesia.

In this analysis, it can be seen that there are strong and weak influences on each variable in influencing other variables over a long period. The results of the Forecast Error Variance Decomposition (FEVD) of this study can be seen in the following table:

Table Summary of Average Contribution to Economic Growth

No	Variable	Average Contribution
1	GDP	85.1437
2	Money Supply	3.5308
3	BI Rate	3.1669
4	Inflation	0.8708
5	Exchange Rate	1.8905
6	SBIS	5.3973

Source: Data Processing Results

Conclusion

Based on the description of the research results, data analysis, and discussions that have been carried out by researchers regarding the effect of monetary policy indicators on economic growth in Indonesia, it can be concluded as follows;

The variable of the money supply in influencing economic growth in Indonesia in the short term has a positive and significant effect. The increase in the money supply causes economic growth to increase. While in the long term, the money supply has a negative and significant effect. When the money supply in society increases, it results in a decrease in economic growth.

The BI *rate* variable in influencing economic growth in Indonesia in the short term has a direct and significant relationship. If the BI *rate is* high, economic growth will also be higher. Meanwhile, there is a significant and opposite relationship in the long term-the higher the BI *rate*, the lower the economic growth.

Inflation variable in the short term and the long term does not affect economic growth in Indonesia. The size of inflation does not cause economic growth to get bigger or smaller.

The exchange rate variable in the short term does not affect economic growth in Indonesia. While in the long term, the exchange rate has a positive and significant effect on economic growth in Indonesia. The greater the exchange rate will cause economic growth in Indonesia to increase.

The variable of Islamic Certificates of Bank Indonesia (SBIS) in the short term has a positive and significant effect on economic growth in Indonesia. If the SBIS increases, the economic growth in Indonesia will also increase. While in the long term adverse and significant effects. If the SBIS increases, the economic growth in Indonesia will decrease.

References

Asnawi, & Fitria, H. (2018). *The Influence of the Money Supply, Interest Rates, and Inflation on Economic Growth in Indonesia.* Indonesian Journal of Economics, VII (1), Pages: 24-32.

Asnuri, W. (2015). *The Influence of Islamic Monetary Instruments and Exports on Economic Growth in Indonesia*. Al-Iqtishad: Journal of Islamic Economics, 5 (2). https://doi.org/10.15408/aiq.v5i2.2569

Atmadja, AS (1999). *Inflation in Indonesia: Its Causes and Controls.* Journal of Accounting and Finance, 1 (1), 54–67.

Karim, AA (2002). *Islamic Economics A Study of Macroeconomics*. Jakarta: International Institute of Islamic Thought.

Kusumawati, D. (2018). *The Effect of Bank Indonesia Sharia Certificates, State Sharia Securities, and Household Consumption on Gross Domestic Product in Indonesia*. Tulungagung State Islamic Institute.

Perlambang, H. (2012). *Analysis of Effect of Money Supply, SBI Interest Rate, Exchange Rate on Inflation Rate*. Economic Media, 19.

Concerned, WA, Arintoko, & Suharno. (2019). *Analysis Of The Influence Of Monetary Variables On Indonesia's Economic Growth*. Journal of Economics, Business, and Accounting (JEBA) Volume 21 Number 03 of 2019 ANALYSIS, 21.

Salim, JF (2017). *The Effect of Monetary Policy on Economic Growth in Indonesia*. Journal of E-KOMBIS , III (2), 68–76.

Sukirno, S. (2010). *Introduction to Macroeconomic Theory*. Jakarta: Rajawali Press.

Usman, U., & Zakiah. (2019). *The Relationship of the Money Supply, Inflation, and Exchange Rate to National Income in Indonesia Using a Dynamic Model*. Unimal Journal of Regional Economics, 02, 98–108.

Widarjono, A. (2007). *Econometrics Theory and Applications to Economics and Business (Ekonisia F)*. Yogyakarta.

Appendix

Year	GDP Growth (Miliar Rupiah)	Money Supply (Miliar Rupiah)	BI Rate (Persen)	Inflation (Persen)	Exchange Rate (Rupiah)
2005	2,774,281	271,140	12.75	17.11	9,830
2006	3,339,216	347,013	9.75	6.6	9,020
2007	3,950,893	450,055	8	6.59	9,419
2008	4,948,688	456,787	9.25	11.06	10,950
2009	5,606,203	515,824	6.5	2.78	9,400
2010	6,864,133	605,411	6.5	6.96	8,991
2011	7,287,635	722,991	6	3.79	9,068
2012	7,727,083	841,722	5.75	4.3	9,670
2013	8,156,497	887,081	7.5	8.38	12,189
2014	8,564,866	942,221	7.75	8.36	12,440
2015	8,982,517	1,055,440	7.5	3.35	13,795
2016	9,434,613	1,237,643	4.75	3.02	13,436
2017	9,912,928	1,390,807	4.25	3.61	13,548
2018	10,425,851	1,457,150	4.25	3.13	14,481
2019	10,949,037	1,565,358	6	2.72	13,901

Table 1 Data on GDP, JUB, BI Rate, Inflation, and Exchange Rate for 2005-2019

Source: Central Bureau of Statistics (BPS) and Bank Indonesia

Variabel	PP Test Statistic	Critical Values (5%)	Prob,
PDB	-1,568661	-2,885863	0,4954
JUB	-2,017684	-2,885863	0,2790
BI RATE	-1,402610	-2,885863	0,5789
INFLATION	-7,118526	-2,885863	0,0000
KURS	-0,812580	-2,885863	0,8116
SBIS	-2,721617	-2,885863	0,0734

Table 2 Stationary Test Results for PP . Method Level Data

Source: Data Processing Results

Variabel	PP Test Statistic	Critical Values (5%)	Prob.
PDB	-5,225046	-2,886074	0,0000
JUB	-17,93816	-2,886074	0,0000

Variabel	PP Test Statistic	Critical Values (5%)	Prob.
BI RATE	-7,202590	-2,886074	0,0000
INF	-21,37665	-2,886074	0,0000
KURS	-11,87372	-2,886074	0,0000
SBIS	-11,51540	-2,886074	0,0000

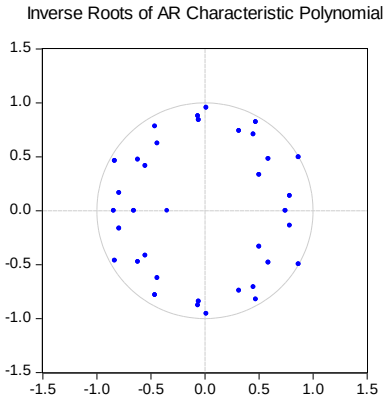
Table 3 Results of Stationary Test of First Difference. Level Data

Source: Data Processing Results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-315,9058	NA	1,33e-05	5,800104	**5,946565***	5,859519
1	-234,4921	152,5589	5,88e-06	4,981840	6,007068	5,397744
2	-196,9416	66,30543	5,75e-06	4,953903	6,857897	5,726297
3	-159,9909	61,25156	5,73e-06	4,936773	7,719534	6,065657
4	-98,42686	95,39656	3,71e-06	4,476160	8,137687	5,961533
5	-55,86151	61,35547	3,45e-06	4,357865	8,898159	6,199728
6	47,10094	**137,2833***	**1,10e-06***	**3,151334***	8,570395	**5,349687***
7	66,35462	23,59009	1,64e-06	3,453070	9,750897	6,007912
8	92,44206	29,14273	2,25e-06	3,631675	10,80827	6,543006

Table 4 Optimal Lag Determination Results

Source: Data Processing Results



Graph 1 VAR. Stability Test Results

Source: Data Processing Results

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	**Eigenvalue**	**Trace Statistic**	**0.05 Critical Value**	**Prob.****
None *	0,436651	179,9211	95,75366	0,0000
At most 1 *	0,314131	115,6492	69,81889	0,0000
At most 2 *	0,238335	73,41758	47,85613	0,0000
At most 3 *	0,161476	42,92570	29,79707	0,0009
At most 4 *	0,123802	23,20111	15,49471	0,0028
At most 5 *	0,072247	8,398826	3,841466	0,0038

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	**Eigenvalue**	**Max-Eigen Statistic**	**0.05 Critical Value**	**Prob.****
None *	0,436651	64,27191	40,07757	0,0000
At most 1 *	0,314131	42,23163	33,87687	0,0040
At most 5 *	0,072247	8,398826	3,841466	0,0038

Table 5 Cointegration Test Results

Source: Data Processing Results

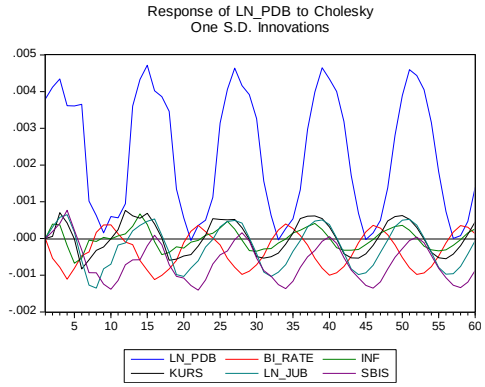
Impulse Response Function (IRF)

Shock	Economic Growth Response
JUB	Negatif
BI RATE	Negatif
INFLATION	Negatif
EXCHANGE RATE	Positif
SBIS	Negatif

Table 6 Results of Impulse Response Function (IRF)

Source: Data Processing Results

The overall Impulse Response Function (IRF) test results can be seen in the graph below:



Graph 2 IRF GDP Results with Combine Graph

Source: Data Processing Results