



(RESEARCH ARTICLE)



## Analysis of blend policies in price stability control during the covid-19 pandemic in the five super power countries

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### Abstract

Inflation is one of the economic problems that cannot be ignored. Combating the rate of inflation itself is a type of financial strategy in the form of economic policy which is often known as price stability. This study aims to determine the effect of monetary and fiscal policies in controlling price stability in the form of inflation from 2010 to 2021. This study uses the Vector Autoregressive (VAR) method using quantitative data in the form of secondary data taken from the world and processed using Eviews10. The objects in this study are from several monetary policy variables and fiscal policies, namely interest rate (SB), Gross Domestic Product (GDP), Money Supply (JUB), Government Expenditure (GOV), Exchange Rate (KURS), and Tax (TAX) in 5 Super Power countries; Indonesia, India, Russia, China, and the United States. The study results show that the Blend Policies variable (Monetary and Fiscal Policy) influence each other in controlling price stability in the 5 Super Power countries in the short, medium, and long term.

**Keywords:** Inflation; Price Stability; Monetary Policy; Fiscal Policy; VAR

### 1. Introduction

In the form of economic policy, combating the inflation rate itself is a type of financial strategy known as price stability, and is very important for a nation's economy (Waluyo, 2004). One effort that can be made to maintain price stability is through monetary policy using monetary economic variables or instruments. The goal is to uphold the stability of the value of money and promote efficient production and development to improve the standard of living of the general public. Monetary authorities can influence the value of money and interest rates by controlling the growth of the money supply in society. This will allow the development of money to drive the economy on the targeted path, in line with national development goals (Pohan, 2008).

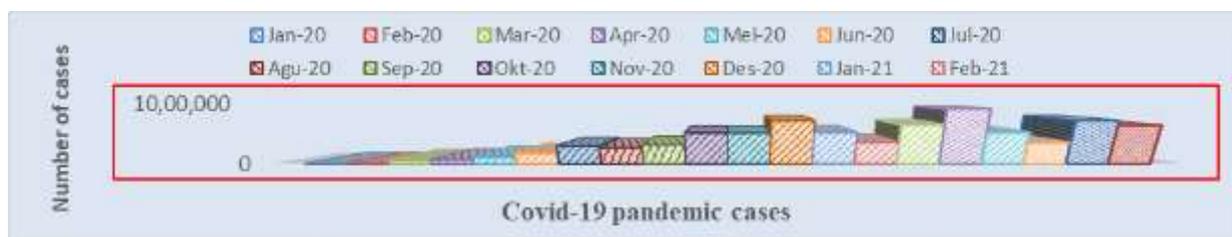
At the beginning of 2020 there was an economic recession caused by the COVID-19 pandemic. The COVID-19 pandemic or global pandemic has shocked the world since its first appearance in December 2019 in Wuhan, China. Although this case was first found in Wuhan, the spread of this virus has spread to other countries in a short period of time. The number of cases of the spread that were most found were in European countries, American countries and the least was Africa (WHO, 2020). The following is data on global COVID - 19 cases at the end of each month since its spread in 2020.

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**Table 1** Data on the Number of COVID-19 Cases in the World Since Its Spread in Early 2020-2021 at the End of Each Month

Period	Number of Cases
Jan-20	2,008
Feb-20	1,358
Mar-20	57,655
Apr-20	71,493
May-20	116,048
Jun-20	178,328
Jul-20	293,244
Aug-20	264,107
Sep-20	311,514
Oct-20	505,854
Nov-20	504,932
Dec-20	700,941
Jan-21	513,060
Feb-21	355,564
Mar-21	636,291
Apr-21	884,322
May-21	516,215
Jun-21	347,975
Jul-21	703,241
Aug-21	628,361

Source : <https://en.wikipedia.org/wiki/Template:COVID-19pandemidatQ>



**Figure 1** Data on the Number of COVID-19 Cases in the World Since Its Spread in Early 2020-2021 at the End of Each Month

Source: Table 1

The case data above shows how fast the spread of the corona virus pandemic is, which continues to increase every month and has shown a significant increase since the beginning of January 2020. With this number as many as 2,008 cases in the first month of the spread and at the end of August 2021 the figure had increased to 6,283,61 cases.

Size on economy global on year 2020 No Can only in the economic sphere itself, but economic instability in a country and even on a global scale can arise due to the Corona Virus (Burhanudin & Abdi, 2020). At first glance, sectors such as tourism, transportation, trade are the sectors most affected and are a priority for recovery (Wardhana, 2020). World

trade activities have also been greatly shaken by this pandemic. The decline in trade volume will certainly have a negative impact on state revenues including tax revenues.

China at present is the largest world trade holder competing with the United States and as the country where COVID-19 first spread and is included as one of the countries with the largest economic power in the world which is commonly referred to as a Superpower . The following table lists the names of countries that are included in the 21st century Superpower countries.

**Table 2** Power Countries

No	Country
1	Indonesia
2	Russia
3	Germany
4	French
5	India
6	United States of America
7	Italy
8	China
9	England
10	Japan

Source: <https://id.wikipedia.org>

According to Wikipedia, the country superpower or superpower is a country with a dominant position marked by its broad ability to exert influence or project power on a global scale. This is done through the combination of economic, military, technological and cultural power as well as diplomatic influence and soft power of a country (Wikipedia, 2021). A Superpower or Superpower is a term in international relations to refer to a country that has enormous power and influence that can penetrate various aspects of global life, including politics, economics and security (Etania & Indriawati, 2023). From the table above, the countries included in the list of Superpower Countries *are* Indonesia, Russia, Germany, France, India, the United States, Italy, China, England and Japan.

This virus hampers economic movement in all countries around the world, requiring every citizen to stay at home and not do economic activities and resulting in a global economic paralysis on a large scale. Not only does it affect small countries but it also has a significant impact on large countries such as this *Super Power country*.

## 2. Literature Review

### 2.1. Price Stability (INFLATION)

Inflation is one of the economic indicators to analyze economic growth, unemployment, poverty, and exports-imports. Inflation figures that are too high will have an impact on society, namely that people's real income will decrease, but inflation figures that are too low will also be dangerous for entrepreneurs, especially if they reach deflation. Deflation is the opposite of inflation where prices generally fall and the value of money increases, but causes entrepreneurs to lose money and the economy to become sluggish and finally layoffs occur everywhere and people's incomes decrease (Mulyani, 2020). According to Boedi Ono (1995) there are three categories of inflation theory, each emphasizing different aspects of the inflation process, such (Santosa, 2017) as:

#### 2.1.1. Quantity Theory

The following is an explanation of the basic ideas of quantity theory:

- Public expectations of future price increases also affect the inflation rate;

- Only an increase in the money supply (addition of currency or coins) can cause inflation, if there is no visible change in the quantity of goods produced.

There are three (3) options in terms of public expectations regarding price increases. First, if the public does not anticipate price increases, then they will tolerate an increase in the money supply to increase its liquidity. Second, if the general public begins to recognize inflation based on past experience. Third, it occurs when hyperinflation, a more severe type of inflation, is present. Public expectations for the future are higher because they no longer have confidence in the currency in this situation.

### 2.1.2. Keynes Theory

His macro theory serves as the basis for Keynesian inflation theory. When a group aspires to live beyond its means, it leads to inflation (disposable income). This results in a situation where there is an inflationary gap because the public demand for products is greater than the supply of goods.

The reason for this difference in inflation is that individuals can effectively translate their wants into commodity demands. As long as society's effective demand is greater than society's capacity to produce its output, inflation will continue. If the total effective demand is less than the prevailing level for the quantity of output available, new inflation will cease.

High inflation rates are often the result of rapid growth in the money supply. Aggregate demand will increase in response to the increase in the money supply. Prices will rise (inflation occurs) if these factors are not balanced by growth in the real sector.

### 2.1.3. Structuralist Theory

The structuralist theory of inflation originates from observations made in Latin American countries. The rigidity of the economic structure of developing countries is under pressure from this idea. According to this theory, there are two main rigidities in the economy of developing countries that can cause inflation because inflation is related to structural factors.

The first rigidity is the “inelasticity” of export revenues, which refers to the value of exports growing more slowly than other sectors.

The second rigidity is related to the “inelasticity” of domestic food production or supply. Population and per capita income growth are greater than the growth rate of domestic food production. Therefore, domestic food prices usually continue to rise faster than non-food prices. The public, or employees, will “demand” to receive a salary increase, which will have an impact on the demand side. The salary increase results in higher production costs, which in turn raises the cost of goods. If food costs do not increase, the process will inevitably end.

In developing countries, inflation is considered normal if it is at 3% - 4% per year with a deviation tolerance of between 1% - 2%, but for developed countries, the central bank usually targets inflation of 2%. If hyperinflation occurs, it indicates that the country is experiencing an economic crisis (recession) (Triwahyuni, 2021). The definition of inflation according to experts is (Watulingas, Rotinsulu, & Siwu, 2016) as follows:

According to A.P.Lehner, When there is extra demand for goods across the economy, it is called inflation.

According to Ackley, a persistent increase in the cost of goods and services as a whole rather than just one type of good or over a short period of time is called inflation.

According to Buediono, the widespread and sustained tendency for price increases is known as inflation.

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## 3. Research Methods

This study uses associative/quantitative research methodology. Where the VAR model can describe the long-term reciprocal relationship of economic variables as endogenous variables, the VAR model is used to facilitate quantitative analysis. 5 *Super Power countries* namely: China, Russia, India, Indonesia, and the United States participated in this study. The data collection method used in this study is a documentation study, which requires the collection and analysis

of data from previous studies on the problem being studied. With the help of the Eviews10 computer application, secondary data from the World Bank was collected and processed for this study between 2010 and 2021.

## 4. Research Result

### 4.1. Stationary Data Test

One way to perform the stationarity test is by developing the Dickey Fuller module from unit roots. Augmented Dickey Fuller (ADF), which aims to reduce autocorrelation, is an alternative to the Dickey Fuller test. The first differentiation of the time-lapse data is regressed in this test into the lag variable, the lagged difference term, the constant, and the trend variable. By comparing the Augmented Dickey Fuller value with the Mc Kinnon critical value at the 5% significance level, stationarity is determined using the DF or ADF test. The stationarity test of the data must be performed because rapidly decreasing data can result from non-stationary data.

This study begins with a stationary test on the variables used in the study, namely: Inflation, GDP, KURS, JUB, SB, GOV and TAX. The following are the results of the data stationarity test on the 7 research variables:

**Table 3** Stationary Test Results With Unit Roots At Level

Variable	Augmented Dickey Fuller Value	Critical Value McKinnon in level Significance 1%	Prob	Information
Inflation	-3.491452	-3.536587	0.0113	Stationary
GDP	-5.589099	-3.536587	0.0000	Stationary
KURS	-1.977647	-3.536587	0.2958	Not Stationary
JUB	-4.883867	-3.536587	0.0001	Stationary
SB	-1.818051	-3.536587	0.3687	Not Stationary
GOV	-2.942609	-3.536587	0.0461	Stationary
TAX	-2.046289	-3.536587	0.2669	Stationary

Source: Eviews 10

There are two variables data that are not stationary at the level or actual data from the *Augmented Dickey Fuller test results* in table 3, indicated by the Dickey Fuller statistical value above the Mc Kinnon critical value at a 1 percent confidence level. For that, the solution is to form a new variable by means of the first difference (1<sup>st</sup>) and retested with the ADF test. The test results for the 1st difference can be seen in the following table:

**Table 4** Stationary Test Results With Unit Roots At 1<sup>st</sup> difference

Variable	Augmented Dickey Fuller Values	Critical Value McKinnon in level Significance 1%	Prob	Information
Inflation	-9.280324	-3.538362	0.0000	Stationary
GDP	-12.58004	-3.538362	0.0000	Stationary
KURS	-3.538362	-3.538362	0.0000	Stationary
JUB	-8.928457	-3.540198	0.0000	Stationary
SB	-9.842775	-3.538362	0.0000	Stationary
GOV	-11.14895	-3.538362	0.0000	Stationary
TAX	-6.943672	-3.538362	0.0000	Stationary

Source: Eviews 10

Table 4 above shows that the results of the *Augmented Dickey Fuller test* data on all variables are stationary at 1<sup>st</sup> difference. Thus, all data on the variables are stationary, and the granger causality test can be performed.

**4.2. Granger Causality Test Results**

The purpose of this test is to see the pattern of relationships between variables. The results of the Granger causality test are as follows:

**Table 5** Granger Causality Test

Pairwise Granger Causality Tests			
Date: 09/21/24 Time: 21:04			
Sample: 1 65			
Lag: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause INFLATION	63	1.57360	0.2160
INFLATION does not Granger Cause GDP		0.73032	0.4861
KURS does not Granger Cause INFLATION	63	0.01824	0.9819
INFLATION does not Granger Cause KURS		0.99221	0.3770
JUB does not Granger Cause INFLATION	63	2.58006	0.0844
INFLATION does not Granger Cause JUB		0.25772	0.7737
SB does not Granger Cause INFLATION	63	0.48822	0.6162
INFLATION does not Granger Cause SB		3.71368	0.0304
GOV does not Granger Cause INFLATION	63	0.49512	0.6120
INFLATION does not Granger Cause GOV		0.83649	0.4384
TAX does not Granger Cause INFLATION	63	4.13169	0.0210
INFLATION does not Granger Cause TAX		1.83768	0.1683
KURS does not Granger Cause GDP	63	0.65854	0.5214
GDP does not Granger Cause KURS		0.23252	0.7933
JUB does not Granger Cause GDP	63	1.35145	0.2669
GDP does not Granger Cause JUB		0.33632	0.7158
SB does not Granger Cause GDP	63	0.51791	0.5985
GDP does not Granger Cause SB		1.16169	0.3201
GOV does not Granger Cause GDP	63	0.16926	0.8447
GDP does not Granger Cause GOV		0.05372	0.9477
TAX does not Granger Cause GDP	63	0.54395	0.5834
GDP does not Granger Cause TAX		0.17788	0.8375
JUB does not Granger Cause KURS	63	0.02718	0.9732
KURS does not Granger Cause JUB		0.30915	0.7353
SB does not Granger Cause KURS	63	1.41942	0.2501
KURS does not Granger Cause SB		0.65209	0.5247
GOV does not Granger Cause KURS	63	0.11271	0.8936

KURS does not Granger Cause GOV		0.48454	0.6185
TAX does not Granger Cause KURS	63	1.45292	0.2423
KURS does not Granger Cause TAX		1.40998	0.2524
SB does not Granger Cause JUB	63	0.44103	0.6455
JUB does not Granger Cause SB		1.66723	0.1977
GOV does not Granger Cause JUB	63	0.44688	0.6418
JUB does not Granger Cause GOV		0.20869	0.8123
TAX does not Granger Cause JUB	63	1.98277	0.1469
JUB does not Granger Cause TAX		0.02557	0.9748
GOV does not Granger Cause SB	63	0.46528	0.6303
SB does not Granger Cause GOV		0.50684	0.6050
TAX does not Granger Cause SB	63	4.41534	0.0164
SB does not Granger Cause TAX		3.98874	0.0238
TAX does not Granger Cause GOV	63	1.46605	0.2393
GOV does not Granger Cause TAX		0.83819	0.4377

Source: Eviews 10

The results of the granger causality test above show that there are several variables that have a short-term relationship. This is evidenced by the prob value below 0.05. The relationship between the Inflation and SB variables has a prob value of 0.03 (below 0.05), the Tax variable with Inflation has a prob value of 0.02, the Tax variable with SB has a prob value of 0.01 (below 0.05) and the SB and Tax variables have a prob value of 0.02 (below 0.05). Then the relationship of other variables explained in the granger causality results above has a prob value above 0.05 which means that the variables have a long-term relationship. Therefore, it can be concluded that The Johansen Cointegration Test can now be performed.

#### 4.3. Johansen Cointegration Test Results

The purpose of this test is to find out how many cointegration equations there are. The results of the Johansen cointegration test are as follows:

**Table 6** Johansen Cointegration Test

Date: 09/21/24 Time: 13:52				
Sample (adjusted): 4 65				
Included observations: 62 after adjustments				
Trend assumption: Linear deterministic trend				
Series: INFLATION GDP EXCHANGE RATE JUB SB GOV TAX				
Lags interval (in first differences): 1 to 2				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistics	Critical Value	Prob.**
None *	0.596845	156.8584	125.6154	0.0002
At most 1 *	0.427537	100.5355	95.75366	0.0225
At most 2	0.409883	65.95149	69.81889	0.0979

At most 3	0.223374	33.25059	47.85613	0.5430
At most 4	0.144243	17.57719	29.79707	0.5974
At most 5	0.080874	7.919520	15.49471	0.4740
At most 6	0.042474	2.690930	3.841466	0.1009
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source: Eviews 10

It is known from this test that there is a long-term relationship between variables which is proven by seeing 3 cointegrated equations (as stated at the bottom of the table) at the 5% level. So that the VAR Structure Lag Stability Test can be used for further testing.

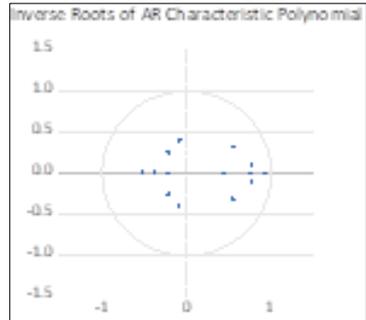
#### 4.4. VAR Structure Lag Stability Test Results

*Inverse Roots of AR Characteristic Polynomial* is used to see the stability of the VAR system. The VAR system is said to be stable if all AR-roots values are below 1, as evidenced by the modulus value in the AR-nomial table. The VAR stability test is carried out by calculating the roots of the polynomial function or known as *the roots of characteristic polynomial*. If all the roots of the polynomial function are in *the unit circle* or if the absolute value is  $<1$ , then the VAR model is considered stable so that the resulting IRF and FEVD will be considered valid. The results of the *Roots of Characteristic Polynomial test* are as follows:

**Table 7** Stability Table of Lag Structure

Roots of Characteristic Polynomials	
Endogenous variables: INFLATION GDP KURS JUB SB GOV TAX	
Exogenous variables: C	
Lag specifications: 1 2	
Date: 09/21/24 Time: 13:48	
Root	Modulus
0.924827	0.924827
0.771962 - 0.108254i	0.779516
0.771962 + 0.108254i	0.779516
0.767171	0.767171
0.550559 - 0.314964i	0.634285
0.550559 + 0.314964i	0.634285
-0.519482	0.519482
0.445331	0.445331
-0.079769 - 0.397826i	0.405744
-0.079769 + 0.397826i	0.405744
-0.377102	0.377102
-0.213431 - 0.256832i	0.333939
-0.213431 + 0.256832i	0.333939
-0.213125	0.213125

No root lies outside the unit circle.
VAR satisfies the stability condition.



**Figure 2** Stability of Lag Structure

Source: Eviews 10

Seen in table 7 the roots modulus value shows below 1 and the roots point in figure 4.1 shows that it is inside the circle. Seen from all the root units that are inside the circle, *the Inverse Roots of AR Characteristic Polynomial image* shows stable results where the model specifications formed use the *Roots of Characteristic Polynomial* and *Inverse Roots of AR Characteristic Polynomial*. So the lag stability has been met and the VAR analysis can be continued.

**Table 8** VAR at Lag 1

<b>Vector Autoregression Estimates</b>	
Date: 09/21/24 Time: 14:42	
Sample (adjusted): 2 65	
Determinant residual covariance (dof adj.)	539.8453
Determinant residual covariance	211.9950
Log likelihood	-807.0945
Akaike information criterion	26.97170
Black criterion	28.86073
Number of coefficients	56

Source: Eviews 10

**Table 9** VAR at Lag 2

<b>Vector Autoregression Estimates</b>	
Date: 09/21/24 Time: 14:43	
Sample (adjusted): 3 65	
Determinant residual covariance (dof adj.)	3050.981
Determinant residual covariance	1179.219
Log likelihood	-848.5390
Akaike information criterion	28.71552
Black criterion	30.62053
Number of coefficients	56

Source: Eviews 10

According to the results of the *lag determination* above, the AIC value of VAR at *lag 1* (26.97170) is lower than the AIC value of VAR at *lag 2* (28.71552). In short, using VAR at *lag 1* is more optimal than using VAR at *lag 2*. Thus, VAR at *lag 1* will be used in the analysis of this study.

**4.5. Vector Autoregression Analysis**

After conducting assumption tests in the form of stationarity tests, causality tests, cointegration tests, structural *lag* stability tests and determining the optimal *lag level*, the next step is to enter the VAR analysis stage. By entering the time factor (*lag*), this study was conducted to ensure whether there is a simultaneous relationship. (interrelated or mutually contributing) between variables, as exogenous variables and endogenous variables.

**Table 10** VAR Estimation Results

Vector Autoregression Estimates							
Date: 09/21/24 Time: 14:42							
Sample (adjusted): 2 65							
Included observations: 64 after adjustments							
Standard errors in ( ) & t-statistics in [ ]							
	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
INFLATION(1)	0.508292	0.022489	-0.075589	-0.220226	0.225655	0.242765	-0.104752
	(0.17454)	(0.25374)	(0.07054)	(0.35471)	(0.09856)	(0.17453)	(0.05195)
	[ 2.91225]	[ 0.08863]	[-1.07154]	[-0.62086]	[ 2.28943]	[ 1.39098]	[-2.01641]
GDP(-1)	0.003002	0.225648	-0.004129	0.246468	0.059248	-0.028034	-0.004044
	(0.08559)	(0.12443)	(0.03459)	(0.17394)	(0.04833)	(0.08558)	(0.02548)
	[ 0.03507]	[ 1.81345]	[-0.11935]	[ 1.41694]	[ 1.22583]	[-0.32756]	[-0.15873]
KURS(-1)	0.036177	-0.006229	0.873494	-0.071236	0.197797	0.154667	-0.235479
	(0.22245)	(0.32340)	(0.08991)	(0.45209)	(0.12562)	(0.22244)	(0.06621)
	[ 0.16263]	[-0.01926]	[ 9.71538]	[-0.15757]	[ 1.57454]	[ 0.69532]	[-3.55647]
JUB(-1)	0.103305	0.261173	-0.005203	0.331236	-0.014861	-0.023144	0.055799
	(0.07432)	(0.10805)	(0.03004)	(0.15104)	(0.04197)	(0.07432)	(0.02212)
	[ 1.39000]	[ 2.41717]	[-0.17323]	[ 2.19297]	[-0.35408]	[-0.31142]	[ 2.52242]
SB(-1)	-0.034266	-0.035917	0.092638	0.238140	0.646258	0.024165	0.040620
	(0.16323)	(0.23730)	(0.06597)	(0.33173)	(0.09218)	(0.16322)	(0.04858)
	[-0.20993]	[-0.15136]	[ 1.40421]	[ 0.71787]	[ 7.01104]	[ 0.14805]	[ 0.83608]
GOV(-1)	0.065886	0.151179	-0.015394	0.022497	0.071606	0.738168	0.099952
	(0.09987)	(0.14519)	(0.04036)	(0.20297)	(0.05640)	(0.09986)	(0.02973)
	[ 0.65972]	[ 1.04123]	[-0.38137]	[ 0.11084]	[ 1.26964]	[ 7.39166]	[ 3.36248]
TAX(-1)	0.513753	-0.764327	0.076604	1.010030	0.499245	-0.344807	0.663530
	(0.30856)	(0.44859)	(0.12471)	(0.62709)	(0.17425)	(0.30854)	(0.09184)
	[ 1.66501]	[-1.70385]	[ 0.61426]	[ 1.61065]	[ 2.86512]	[-1.11753]	[ 7.22475]
C	-5.101540	6.748058	-0.314481	-5.228097	-5.702447	4.982828	3.232357
	(3.28309)	(4.77303)	(1.32694)	(6.67233)	(1.85403)	(3.28294)	(0.97720)

	[-1.55388]	[ 1.41379]	[-0.23700]	[-0.78355]	[-3.07570]	[ 1.51780]	[ 3.30777]
R-squared	0.510118	0.238739	0.846072	0.301566	0.872683	0.667892	0.794712
Adj. R-squared	0.448883	0.143582	0.826831	0.214262	0.856768	0.626378	0.769051
Sum sq. resids	267.0508	564.4366	43.62434	1103.019	85.16511	267.0251	23.65890
SE equation	2.183750	3.174780	0.882613	4.438105	1.233209	2.183645	0.649985
F-statistic	8.330471	2.508886	43.97248	3.454200	54.83521	16.08852	30.96968
Log likelihood	-136.5259	-160.4743	-78.54750	-181.9136	-99.95475	-136.5228	-58.96747
Akaike AIC	4.516433	5.264822	2.704609	5.934801	3.373586	4.516337	2.092733
Black SC	4.786293	5.534682	2.974470	6.204661	3.643446	4.786197	2.362594
Mean dependent	4.458783	4.111936	5.584394	10.89696	7.799224	12.20307	10.59645
SD dependent	2.941582	3.430605	2.120977	5.006782	3.258496	3.572448	1.352526
Determinant residual covariance (dof adj.)		539.8453					
Determinant residual covariance		211.9950					
Log likelihood		-807.0945					
Akaike information criterion		26.97170					
Black criterion		28.86073					
Number of coefficients		56					

Source: Eviews 10

Estimation Proc:

=====

LS 1 1 INFLATION GDP EXCHANGE RATE JUB SB GOV TAX

VAR Model:

=====

$$\text{INFLATION} = C(1,1)*\text{INFLATION}(-1) + C(1,2)*\text{GDP}(-1) + C(1,3)*\text{KURS}(-1) + C(1,4)*\text{JUB}(-1) + C(1,5)*\text{SB}(-1) + C(1,6)*\text{GOV}(-1) + C(1,7)*\text{TAX}(-1) + C(1,8)$$

$$\text{GDP} = C(2,1)*\text{INFLATION}(-1) + C(2,2)*\text{GDP}(-1) + C(2,3)*\text{KURS}(-1) + C(2,4)*\text{JUB}(-1) + C(2,5)*\text{SB}(-1) + C(2,6)*\text{GOV}(-1) + C(2,7)*\text{TAX}(-1) + C(2,8)$$

$$\text{EXCHANGE} = C(3,1)*\text{INFLATION}(-1) + C(3,2)*\text{GDP}(-1) + C(3,3)*\text{KURS}(-1) + C(3,4)*\text{JUB}(-1) + C(3,5)*\text{SB}(-1) + C(3,6)*\text{GOV}(-1) + C(3,7)*\text{TAX}(-1) + C(3,8)$$

$$\text{JUB} = C(4,1)*\text{INFLATION}(-1) + C(4,2)*\text{GDP}(-1) + C(4,3)*\text{KURS}(-1) + C(4,4)*\text{JUB}(-1) + C(4,5)*\text{SB}(-1) + C(4,6)*\text{GOV}(-1) + C(4,7)*\text{TAX}(-1) + C(4,8)$$

$$SB = C(5.1)*INFLATION(-1) + C(5.2)*GDP(-1) + C(5.3)* KURS(-1) + C(5.4)*JUB(-1) + C(5.5)*SB(-1) + C(5.6)*GOV(-1) + C(5.7)*TAX(-1) + C(5.8)$$

$$GOV = C(6.1)*INFLATION(-1) + C(6.2)*GDP(-1) + C(6.3)* KURS(-1) + C(6.4)*JUB(-1) + C(6,5)*SB(-1) + C(6,6)*GOV(-1) + C(6,7)*TAX(-1) + C(6,8)$$

$$TAX = C(7.1)*INFLATION(-1) + C(7.2)*GDP(-1) + C(7.3)* KURS(-1) + C(7.4)*JUB(-1) + C(7.5)*SB(-1) + C(7.6)*GOV(-1) + C(7.7)*TAX(-1) + C(7.8)$$

VAR Model - Substituted Coefficients:

=====

$$INFLATION = 0.50829151008*INFLATION(-1) + 0.00300180768085*GDP(-1) + 0.0361773535868* KURS(-1) + 0.10330524997*JUB(-1) - 0.0342658827566*SB(-1) + 0.0658864797393*GOV(-1) + 0.513753029104*TAX(-1) - 5.10154004184$$

$$GDP = 0.02248942445*INFLATION(-1) + 0.225647983273*GDP(-1) - 0.00622916379196* KURS(-1) + 0.261172572761*JUB(-1) - 0.0359174615179*SB(-1) + 0.1 51179092074*GOV(-1) - 0.764326760963*TAX(-1) + 6.74805784044$$

$$KURS = -0.0755890074868*INFLATION(-1) - 0.00412874263391*GDP(-1) + 0.873493968597* KURS(-1) - 0.00520343444964*JUB(-1) + 0.0926382774141*SB(-1) - 0.0153938576983*GOV(-1) + 0.0766044315378*TAX(-1) - 0.31448115497$$

$$JUB = -0.220226409832*INFLATION(-1) + 0.246468146755*GDP(-1) - 0.0712357983901* KURS(-1) + 0.331235598322*JUB(-1) + 0.238140241596*SB(-1) + 0.0 224965740161*GOV(-1) + 1.01003034539*TAX(-1) - 5.22809698044$$

$$SB = 0.225655305997*INFLATION(-1) + 0.0592484820755*GDP(-1) + 0.19779658868* KURS(-1) - 0.0148609613562*JUB(-1) + 0.646258149788*SB(-1) + 0.07 16058799022*GOV(-1) + 0.499245301181*TAX(-1) - 5.70244701702$$

$$GOV = 0.242764637658*INFLASI(-1) - 0.0280343039248*GDP(-1) + 0.154667285656*KURS(-1) - 0.0231441264029*JUB(-1) + 0.0241646152146*SB(-1) + 0.738167563487*GOV(-1) - 0.344807203165*TAX(-1) + 4.98282847727$$

$$TAX = -0.104752370557*INFLASI(-1) - 0.004043530064*GDP(-1) - 0.235478903233*KURS(-1) + 0.0557990343683*JUB(-1) + 0.040619745728*SB(-1) + 0.0999524789747*GOV(-1) + 0.663530451308*TAX(-1) + 3.23235689091$$

**Table 11** Results of VAR Analysis

Variables	Biggest contribution 1	Biggest contribution 2
Inflation	TAX <sub>t-1</sub> 0.513	INFLATION <sub>t-1</sub> 0.508
GDP	JUB <sub>t-1</sub> 0.261	GDP <sub>t-1</sub> 0.28
KURS	KURS <sub>t-1</sub> 0.87	SB <sub>-1</sub> 0.09
JUB	TAX <sub>t-1</sub> 1.01	JUB <sub>t-1</sub> 0.331
SB	SB <sub>t-1</sub> 0.646	TAX <sub>t-1</sub> 0.499

GOV	GOV <sub>t-1</sub> 0.738	INFLATION <sub>t-1</sub> 0.242
TAX	TAX <sub>t-1</sub> 0.663	GOV <sub>t-1</sub> 0.099

Source: Table 10

The conclusion of table 4.7 is described in table 4.8 with the conclusion of the contribution of the VAR analysis with the largest contribution 1 and the largest contribution 2 to a variable and analyzed as follows:

**VAR Analyst on Inflation**

The largest contribution to inflation is TAX in the previous period, followed by INFLATION itself in the previous period.

**Analyst is VAR on GDP**

The largest contribution to GDP is JUB in the previous period and followed by GDP in the previous period.

**Analyst is VAR on the RATE**

The largest contribution to the CURS is the CURS of the previous period and followed by SB in the previous period.

**Analyst is VAR on JUB**

The largest contribution to JUB was TAX itself in the previous period and followed by JUB in the period before that.

**Analyst is VAR against SB**

The largest contribution to SB is SB in the previous period and followed by TAX in the previous period.

**Analyst is VAR against GOV**

The largest contribution to GOV is GOV in the previous period and followed by INFLATION in the previous period.

**Analyst is VAR against TAX**

The largest contribution to TAX was TAX in the previous period and followed by GOV in the previous period.

**4.6. Impulse Response Function (IRF)**

This analysis is used to determine the interaction of other variables with changes in one variable in the short term, medium term and long term. The estimates made for IRF focus on the response of one variable to a change in one standard deviation of the variable itself or of other variables contained in the model.

*4.6.1. Response Function of Inflation*

Based on the research results shown in Table 12, it was found that in the short term (year 1) inflation was 2.204453 above average but not responded to by all other variables in the study.

**Table 12** Impulse Response Function of Inflation

<b>Response to INFLATION:</b>							
Period	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	2.204453	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
	(0.19639)	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)
2	1.163966	0.081398	-0.231607	0.541569	0.017645	0.140847	0.384115

	(0.33281)	(0.31347)	(0.31242)	(0.31677)	(0.32758)	(0.29794)	(0.30728)
3	0.643554	-0.465554	-0.373830	0.855083	-0.183054	0.306730	0.174135
	(0.36071)	(0.34141)	(0.24970)	(0.36081)	(0.26932)	(0.22720)	(0.25963)
4	0.374060	-0.231167	-0.441459	0.432913	0.018285	0.349755	0.062956
	(0.36322)	(0.30225)	(0.25937)	(0.34497)	(0.29516)	(0.24792)	(0.26333)
5	0.166316	-0.111267	-0.367728	0.130927	-0.002291	0.258159	0.114014
	(0.33917)	(0.27102)	(0.24084)	(0.32803)	(0.26276)	(0.24019)	(0.21282)
6	0.126477	-0.047534	-0.320337	-0.032080	0.033711	0.251366	0.081231
	(0.31889)	(0.21784)	(0.23835)	(0.27665)	(0.22087)	(0.22399)	(0.17534)
7	0.194527	-0.021505	-0.277285	-0.073922	0.017243	0.237710	0.040085
	(0.29575)	(0.17067)	(0.22909)	(0.23126)	(0.18033)	(0.20288)	(0.14912)
8	0.258347	-0.010096	-0.243765	-0.086600	0.014069	0.230214	0.012278
	(0.27162)	(0.14232)	(0.21808)	(0.19830)	(0.15005)	(0.18613)	(0.13416)
9	0.301705	-0.026119	-0.210347	-0.069451	-0.002464	0.220044	-0.007887
	(0.24779)	(0.12722)	(0.20852)	(0.17903)	(0.13395)	(0.17696)	(0.12726)
10	0.314603	-0.043006	-0.181463	-0.053383	-0.007612	0.210078	-0.022087
	(0.23245)	(0.12014)	(0.20183)	(0.16596)	(0.12713)	(0.17265)	(0.12061)

Source: Eviews 10

In the medium term (year 5), where one standard deviation of Inflation of (0.16) is responded negatively by GDP (-0.111), KURS (-0.367), SB (-0.002). Then a positive response is found in JUB (0.130), GOV (0.258), and TAX (0.114).

In the long term (year 10) one standard deviation of Inflation of (0.314) is responded positively only by GOV (0.210). Then a negative response is given by GDP (-0.043), KURS (-0.181), JUB (-0.053), SB (-0.007), and TAX (-0.022).

Based on the results of the response of one standard deviation of Inflation, it can be concluded that there is a change in the influence of each standard deviation of each variable, which was originally positive to negative and which was negative to positive, in the medium term and in the long term. These results show that there are different responses to monetary policy and macroeconomic variables, both positive and negative responses.

**Table 13** Summary of Inflation Impulse Response Function Results

No	Variables	Short-term	Medium term	Long-term
1	INFLATION	+	+	+
2	GDP	+	-	-
3	KURS	+	-	-
4	JUB	+	+	-
5	SB	+	-	-
6	GOV	+	+	+
7	TAX	+	+	-

Source: Table 12

Based on the table above, it is known that the increase in inflation is responded positively in the short term to the inflation variable itself, GDP, KURS, JUB, SB, GOV, and TAX. And in the medium term, it is responded positively by the inflation variable, JUB, GOV, and TAX. However, it is responded negatively by GDP, KURS, and SB. Then in the long term, it is responded positively by the inflation variable, and GOV. However, it is responded negatively by the GDP, KURS, JUB, SB, and TAX variables.

4.6.2. Response Function of GDP

Based on the research results shown in Table 14, it was found that in the short term (year 1) GDP was 3.184047 above the average and was responded negatively by Inflation (-0.491044) but was not responded to by other variables in the study.

**Table 14** Impulse Response Function GDP

Response of GDP:							
Period	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	-0.491044	3.184047	0.000000	0.000000	0.000000	0.000000	0.000000
	(0.40353)	(0.28366)	(0.00000)	(0.00000)	(0.00000)	(0.00000)	(0.00000)
2	-0.150020	0.539494	0.416198	1.038165	-0.497421	-0.160811	0.133051
	(0.47456)	(0.46809)	(0.46371)	(0.46565)	(0.47556)	(0.42982)	(0.44643)
3	0.533519	0.545894	0.139108	0.406165	-0.174475	0.275717	-0.298089
	(0.44839)	(0.43835)	(0.28811)	(0.47496)	(0.37395)	(0.32211)	(0.32546)
4	0.463971	0.230601	0.339886	0.483052	-0.272180	0.011274	-0.011303
	(0.38558)	(0.30559)	(0.26725)	(0.38377)	(0.31836)	(0.25041)	(0.25961)
5	0.150183	0.007732	0.259145	0.343243	-0.151847	0.113762	0.002561
	(0.33674)	(0.26643)	(0.25203)	(0.33314)	(0.26623)	(0.24553)	(0.20076)
6	0.004492	-0.100096	0.265428	0.285767	-0.147698	0.064274	0.014972
	(0.31759)	(0.20943)	(0.24014)	(0.26094)	(0.20351)	(0.21551)	(0.16411)
7	-0.177000	-0.062378	0.235154	0.120052	-0.053919	0.045990	0.054074
	(0.29234)	(0.15755)	(0.22036)	(0.21710)	(0.16569)	(0.19079)	(0.14585)
8	-0.261901	-0.054554	0.226145	0.042445	-0.047663	0.011733	0.079447
	(0.26268)	(0.13277)	(0.20412)	(0.18545)	(0.12859)	(0.17131)	(0.12960)
9	-0.286662	-0.018542	0.200679	-0.013833	-0.011052	0.004144	0.084597
	(0.23848)	(0.11318)	(0.18993)	(0.15884)	(0.10557)	(0.15586)	(0.11918)
10	-0.267198	0.000637	0.176710	-0.029164	-0.009261	-0.003436	0.085776
	(0.22290)	(0.10628)	(0.17589)	(0.13922)	(0.09310)	(0.14679)	(0.11181)

Source: Eviews 10

In the medium term (year 5), where one standard deviation of GDP of (0.007) is responded positively by Inflation (0.150), KURS (0.259), JUB (0.343), GOV (0.113), and TAX (0.002). Then a negative response is found in SB (-0.151).

In the long term (year 10) one standard deviation of GDP of (0.0006) is responded positively by the KURS (0.176), and tax (0.085). Then a negative response is given by inflation (-0.26), JUB (-0.291), SB (-0.009), and GOV (-0.003).

Based on the results of the response of one standard deviation of GDP, it can be concluded that there is a change in the influence of each standard deviation of each variable, which was originally positive to negative and negative to positive, in the medium term and in the long term. These results indicate a different response from monetary policy and macroeconomic variables, both positive and negative responses.

**Table 15** Summary of GDP Impulse Response Function Results

No	Variables	Short term	Medium term	Long-term
1	Inflation	-	+	-
2	GDP	+	+	+
3	KURS	+	+	+
4	JUB	+	+	-
5	SB	+	-	-
6	GOV	+	+	-
7	Tax	+	+	+

Source: Table 14

Based on the table above, it is known that the increase in GDP is responded positively in the short term to the GDP variable itself, KURS, JUB, SB, GOV, TAX. Then responded negatively by Inflation. And in the medium term it is responded positively by the inflation variable, GDP, KURS, JUB, GOV, and TAX. However, it is responded negatively by SB, Then in the long term it is responded positively by the GDP, CURS, and TAX variables. However, it is responded negatively by the Inflation variable, JUB, SB, GOV.

*4.6.3. Response Function of KURS*

Based on the research results shown in Table 16, it was found that in the short term (year 1) the KURS was 0.788851 above the average and was responded negatively by Inflation (-0.435222) and responded positively by GDP (0.006212) but was not responded to by other variables in the study.

**Table 16** Impulse Response Function KURS

<b>Response of KURS:</b>							
Period	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	-0.435222 (0.10668)	0.006212 (0.09939)	0.788851 (0.07028)	0.000000 (0.00000)	0.000000 (0.00000)	0.000000 (0.00000)	0.000000 (0.00000)
2	-0.506978 (0.15571)	-0.039164 (0.14802)	0.629297 (0.13684)	-0.014619 (0.12845)	0.178992 (0.13340)	0.037762 (0.12025)	0.048582 (0.12488)
3	-0.378151 (0.17904)	0.010846 (0.16830)	0.574724 (0.12988)	-0.142351 (0.16742)	0.017315 (0.13274)	-0.006142 (0.11373)	0.147226 (0.13562)
4	-0.388824 (0.20124)	0.026038 (0.17293)	0.515164 (0.14054)	-0.074308 (0.18050)	0.056418 (0.16044)	0.000201 (0.13435)	0.231681 (0.13967)
5	-0.377673 (0.20992)	-0.026285 (0.17389)	0.406780 (0.15396)	0.021299 (0.19234)	-0.001258 (0.17109)	0.044257 (0.15138)	0.228225 (0.13667)
6	-0.350169 (0.21371)	-0.011513 (0.16651)	0.316823 (0.16301)	0.032578 (0.19215)	0.008568 (0.16898)	0.070684 (0.16074)	0.217217 (0.13285)
7	-0.326279	-0.000272	0.246624	0.023119	-0.001601	0.085702	0.211452

	(0.21233)	(0.14984)	(0.16955)	(0.18285)	(0.16035)	(0.16207)	(0.12728)
8	-0.284695	0.008187	0.189294	0.009979	-0.001336	0.101610	0.194060
	(0.20705)	(0.13425)	(0.17303)	(0.17128)	(0.14929)	(0.16030)	(0.11957)
9	-0.230063	0.012926	0.142454	0.000186	-0.004574	0.114627	0.172549
	(0.19855)	(0.12008)	(0.17313)	(0.15893)	(0.13609)	(0.15606)	(0.11127)
10	-0.172923	0.013814	0.104917	-0.007360	-0.006537	0.124986	0.150744
	(0.18958)	(0.10650)	(0.17049)	(0.14550)	(0.12213)	(0.15009)	(0.10266)

Source: Eviews 10

In the medium term (year 5), where one standard deviation of the KURS of (0.406) is responded positively by JUB (0.021), GOV (0.044) and TAX (0.228). Then there was a negative response in Inflation (-0.377), GDP (-0.026) and SB (-0.001).

In the long term (year 10) one standard deviation of the KURS of (0.104) is responded positively by GDP (0.013), GOV (0.124), and TAX (0.150). Then responded negatively by Inflation (-0.172), JUB (-0.007), SB (-0.006).

Based on the results of the response of one standard deviation of the KURS, it can be concluded that there is a change in the influence of each standard deviation of each variable, which was originally positive to negative and negative to positive, in the medium term and in the long term. These results indicate a different response from monetary policy and macroeconomic variables, both positive and negative responses.

**Table 17** Summary of KURS Impulse Response Function Results

No	Variables	Short-term	Medium term	Long-term
1	Inflation	-	-	-
2	GDP	+	-	+
3	KURS	+	+	+
4	JUB	+	+	-
5	SB	+	-	-
6	GOV	+	+	+
7	TAX	+	+	+

Source: Table 16

Based on the above, it is known that the increase in the KURS is responded positively in the short term to the variables GDP, KURS, JUB, SB, GOV, TAX. However, the Inflation variable responds negatively. In the medium term, it is responded positively by the variables KURS, JUB, GOV, TAX. Then it is responded negatively by Inflation, GDP, SB. However, in the long term, it is responded positively by the variables GDP, KURS, GOV, TAX. And the variables Inflation and SB respond negatively.

**4.6.4. Response Function of JUB**

Based on the research results shown in Table 18, it was found that in the short term (year 1) JUB, which is 4.317419 above the average, was responded positively by inflation (1.609335), GDP (0.508844) and KURS (0.196201). However, it was not responded by other variables in the study.

**Table 18** Impulse Response Function JUB

Response from JUB:							
Period	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	1.609335	0.508844	0.196201	4.317419	0.000000	0.000000	0.000000
	(0.56670)	(0.54639)	(0.54422)	(0.38463)	(0.00000)	(0.00000)	(0.00000)
	-0.056349	0.755498	-0.961286	1.426765	-0.055936	0.235705	0.505918
	(0.68369)	(0.67483)	(0.66537)	(0.66600)	(0.68450)	(0.62183)	(0.64429)
3	0.142460	0.179681	-0.338132	1.079254	-0.330310	0.012593	0.470506
	(0.64515)	(0.63071)	(0.41639)	(0.68636)	(0.51532)	(0.43842)	(0.46677)
4	-0.054067	0.305829	-0.508842	0.602471	0.096845	0.296150	0.298038
	(0.57151)	(0.44473)	(0.38667)	(0.55513)	(0.46981)	(0.37105)	(0.37895)
5	0.111203	0.129686	-0.441275	0.412666	-0.127662	0.247004	0.210422
	(0.50556)	(0.39014)	(0.37722)	(0.48894)	(0.39597)	(0.37422)	(0.28582)
6	0.200416	0.173110	-0.418793	0.145090	0.022854	0.302309	0.133943
	(0.47453)	(0.29917)	(0.36975)	(0.38920)	(0.31427)	(0.33822)	(0.23718)
7	0.310681	0.076669	-0.361037	0.098886	-0.055115	0.292001	0.081527
	(0.43892)	(0.23001)	(0.34925)	(0.32073)	(0.25261)	(0.30447)	(0.21806)
8	0.377662	0.040214	-0.327080	0.035102	-0.018004	0.307581	0.026631
	(0.40048)	(0.19401)	(0.33032)	(0.28027)	(0.20987)	(0.27663)	(0.19848)
9	0.411398	-0.013243	-0.280896	0.016544	-0.039621	0.292991	-0.002549
	(0.36569)	(0.17735)	(0.31282)	(0.25082)	(0.18335)	(0.26112)	(0.18692)
10	0.404220	-0.042948	-0.240838	-0.009272	-0.027465	0.279876	-0.021717
	(0.34638)	(0.16927)	(0.29773)	(0.22724)	(0.16928)	(0.25140)	(0.17761)

Source: Eviews 10

In the medium term (year 5), where one standard deviation of JUB of (0.412) is responded positively by inflation (0.111), GDP (0.129), GOV (0.247) and TAX (0.210). Then the negative response is found in KURS (-0.441), SB (-0.127).

In the long term (year 10) one standard deviation of JUB of (-0.009) is responded positively by Inflation (0.404), and GOV (0.279). Then the negative response is found in GDP (-0.042), KURS (-0.240), SB (-0.027), and TAX (-0.021).

Based on the results of the response of one standard deviation of JUB, it can be concluded that there is a change in the influence of each standard deviation of each variable, which was originally positive to negative and which was negative to positive, in the medium term and in the long term. These results show that there are different responses to monetary policy and macroeconomic variables, both positive and negative responses.

Based on the table below, it is known that the increase in JUB is responded positively in the short term to the JUB variable itself, Inflation, GDP, KURS, SB, GOV, and TAX. In the medium term, it is responded positively by the Inflation, GDP, JUB, GOV, and TAX variables. However, it is responded negatively by the KURS, SB. Then in the long term, it is responded positively by the Inflation, and GOV variables. However, it is responded negatively by the GDP, KURS, JUB, SB, TAX variables.

**Table 19** Summary of JUB Impulse Response Function Results

No	Variables	Short-term	Medium term	Long-term
1	Inflation	+	+	+
2	GDP	+	+	-
3	KURS	+	-	-
4	JUB	+	+	-
5	SB	+	-	-
6	GOV	+	+	+
7	TAX	+	+	-

Source: Table 18

**4.6.5. Response Function of SB**

Based on the research results shown in Table 20, it was found that in the short term (year 1) SB which is 1.006001 above the average was responded positively by inflation (0.643935), KURS (0.232018) and responded negatively by GDP (-0.299954), JUB (-0.240332). However, it was not responded by other variables in the study.

**Table 20** Impulse Response Function SB

Response from SB:							
Period	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	0.643935	-0.299954	0.232018	-0.240332	1.006001	0.000000	0.000000
	(0.15018)	(0.13620)	(0.13194)	(0.12854)	(0.08962)	(0.00000)	(0.00000)
2	0.709866	0.026197	0.034783	-0.221208	0.355872	0.179705	0.223559
	(0.19713)	(0.18517)	(0.18496)	(0.18882)	(0.19332)	(0.17308)	(0.17788)
3	0.561877	-0.079464	-0.015223	0.100389	0.299097	0.227289	0.378325
	(0.21378)	(0.20051)	(0.15140)	(0.21925)	(0.17373)	(0.14795)	(0.16194)
4	0.464811	-0.158013	-0.183562	0.216848	0.132095	0.402697	0.313826
	(0.22852)	(0.19154)	(0.16524)	(0.21682)	(0.19018)	(0.15722)	(0.15956)
5	0.403577	-0.125183	-0.248425	0.186588	0.097602	0.444546	0.287561
	(0.23686)	(0.19708)	(0.17989)	(0.22467)	(0.19460)	(0.17257)	(0.15465)
6	0.336922	-0.101501	-0.287414	0.099216	0.056041	0.477446	0.260966
	(0.24727)	(0.19381)	(0.19146)	(0.22328)	(0.19435)	(0.17960)	(0.15212)
7	0.333387	-0.090771	-0.294231	0.033884	0.031232	0.489585	0.215632
	(0.25372)	(0.18942)	(0.19974)	(0.22050)	(0.19468)	(0.18600)	(0.15259)
8	0.354231	-0.081256	-0.289845	-0.019246	0.015465	0.492828	0.170053
	(0.25666)	(0.18571)	(0.20818)	(0.22040)	(0.19438)	(0.19168)	(0.15212)
9	0.382255	-0.083737	-0.273074	-0.051706	-0.000164	0.484238	0.130189
	(0.25816)	(0.18235)	(0.21626)	(0.21986)	(0.19404)	(0.19789)	(0.15258)
10	0.402481	-0.092006	-0.250774	-0.070529	-0.010080	0.469999	0.095960
	(0.26040)	(0.17911)	(0.22383)	(0.21878)	(0.19345)	(0.20347)	(0.15279)

Source: Eviews 10

In the medium term (year 5), where one standard deviation of SB is (0.097) it is responded positively by Inflation (0.403), JUB (0.186), GOV (0.444), Tax (0.287), then the negative response is found in GDP (-0.125), KURS (-0.24).

In the long term (year 10) one standard deviation of SB is (-0.100) and is responded positively by Inflation (0.402), SB (0.981), GOV (0.469), and TAX (0.095). Then responded negatively by GDP (-0.092), KURS (-0.250), JUB (-0.07).

Based on the results of the response of one standard deviation of SB, it can be concluded that there is a change in the influence of each standard deviation of each variable, which was originally positive to negative and negative to positive, in the medium term and in the long term. These results indicate a different response from monetary policy and macroeconomic variables, both positive and negative responses.

**Table 21** Summary of SB Impulse Response Function Results

No	Variables	Short-term	Medium term	Long-term
1	Inflation	+	+	+
2	GDP	-	-	-
3	KURS	+	-	-
4	JUB	-	+	-
5	SB	+	+	-
6	GOV	+	+	+
7	TAX	+	+	+

Source: Table 20

Based on the table above, it is known that the increase in SB is responded positively in the short term to the variables Inflation, KURS, SB, GOV, and TAX. However, the variables GDP, JUB respond negatively. In the medium term, it is responded positively by the variables Inflation, JUB, SB, GOV, TAX. However, it is responded negatively by GDP and KURS. Then in the long term, it is responded positively by the variables Inflation, GOV and TAX. However, it is responded negatively by the variables GDP, KURS, JUB, SB.

**4.6.6. Response Function of GOV**

Based on the research results shown in Table 22, it was found that in the short term (year 1) GOV was 1.842030 above the average and responded negatively by Inflation (-0.800405 ), GDP (-0.120688), KURS (-0.144614), JUB (-0.755220) . However, it was not responded by other variables in the study.

**Table 22** Impulse Response Function GOV

Response from GOV:							
Period	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	-0.800405 (0.26917)	-0.120688 (0.25933)	-0.144614 (0.25879)	-0.755220 (0.24956)	-0.495291 (0.23623)	1.842030 (0.16410)	0.000000 (0.00000)
2	0.013868 (0.33715)	-0.099977 (0.33450)	0.142311 (0.33387)	-0.625763 (0.33723)	-0.426878 (0.34425)	0.861717 (0.30446)	-0.072539 (0.30622)
3	0.119249 (0.35135)	-0.051503 (0.34071)	0.234023 (0.25351)	-0.866054 (0.36228)	-0.193794 (0.27349)	0.881325 (0.22421)	-0.060904 (0.23994)
4	0.302724 (0.35820)	-0.236352 (0.29942)	0.362361 (0.26738)	-0.512141 (0.33873)	-0.260019 (0.30704)	0.661529 (0.24622)	-0.061114 (0.24673)
5	0.264163	-0.252328	0.350959	-0.417869	-0.138671	0.599259	-0.055615

	(0.35713)	(0.29854)	(0.26809)	(0.33857)	(0.29033)	(0.26048)	(0.22239)
6	0.182916	-0.290554	0.373594	-0.299520	-0.146766	0.475597	-0.007559
	(0.35622)	(0.26447)	(0.27526)	(0.31438)	(0.27214)	(0.25979)	(0.20818)
7	0.051847	-0.263770	0.360069	-0.260630	-0.082947	0.401229	0.033813
	(0.34549)	(0.23514)	(0.27642)	(0.28899)	(0.24767)	(0.25578)	(0.19584)
8	-0.050386	-0.238783	0.344970	-0.218368	-0.069462	0.327447	0.070359
	(0.32993)	(0.20662)	(0.27549)	(0.26437)	(0.22376)	(0.24734)	(0.18109)
9	-0.126082	-0.191499	0.317269	-0.199327	-0.038536	0.275696	0.096683
	(0.31171)	(0.18218)	(0.27132)	(0.24114)	(0.19975)	(0.23809)	(0.16796)
10	-0.166067	-0.151746	0.287136	-0.174639	-0.028574	0.233681	0.114909
	(0.29689)	(0.16311)	(0.26524)	(0.21918)	(0.17941)	(0.22887)	(0.15626)

Source: Eviews 10

In the medium term (year 5), where one standard deviation of GOV is (0.599) Then responded positively by Inflation (0.2664), Exchange Rate (0.350). And responded negatively in GDP (-0.252), JUB (-0.417), SB (-0.13), and TAX (-0.05).

In the long term (year 10) one standard deviation of GOV is (0.233) responded positively by Exchange Rate (0.287), and Tax (0.114). Then responded negatively by Inflation (-0.16), GDP (-0.15), JUB (-0.17) and SB (-0.002) EXCHANGE RATE (-0.812).

Based on the results of the response of one standard deviation of GOV, it can be concluded that there is a change in the influence of each standard deviation of each variable, which was originally positive to negative and negative to positive, in the medium term and in the long term. These results indicate a different response from monetary policy and macroeconomic variables, both positive and negative responses.

**Table 23** Summary of GOV Impulse Response Function Results

No	Variables	Short-term	Medium term	Long-term
1	Inflation	-	+	-
2	GDP	-	-	-
3	KURS	-	+	+
4	JUB	-	-	-
5	SB	-	-	-
6	GOV	+	+	+
7	TAX	+	-	+

Source: Table 22

Based on the table above, it is known that the increase in GOV is responded positively in the short term to the GOV and TAX variables. However, the Inflation, GDP, CURS, JUB, and SB variables respond negatively. In the medium term, it is responded positively by the Inflation, CURS, GOV variables. However, it is responded negatively by GDP, JUB, SB, and TAX. Then in the long term, it is responded positively by the CURS, GOV, and TAX variables. However, it is responded negatively by the Inflation, GDP, JUB, SB variables.

#### 4.6.7. Response Function of TAX

Based on the research results shown in Table 24, it was found that in the short term (year 1) TAX was 0.540057 above the average, responded positively by the inflation variables ( 0.050001), GDP (0.023952), JUB ( 0.065778), and GOV (0.110992), then negatively by the exchange rate ( -0.278027 ), SB ( -0.066041).

**Table 24** Impulse Response Function TAX

Response of TAX:							
Period	INFLATION	GDP	EXCHANGE RATE	JUB	SB	GOV	TAX
1	0.050001	0.023952	-0.278027	0.065778	-0.066041	0.110992	0.540057
	(0.07886)	(0.07871)	(0.07468)	(0.07020)	(0.06971)	(0.06876)	(0.04811)
2	-0.094715	-0.027599	-0.437081	0.187994	-0.198974	0.177109	0.331247
	(0.11817)	(0.11726)	(0.11051)	(0.10421)	(0.10496)	(0.09470)	(0.09172)
3	-0.027182	-0.060181	-0.426885	0.213237	-0.070642	0.231226	0.114268
	(0.13592)	(0.13108)	(0.10692)	(0.12823)	(0.10628)	(0.09084)	(0.10253)
4	0.058063	0.034154	-0.413195	0.021316	-0.041470	0.216870	0.019233
	(0.14852)	(0.13165)	(0.10586)	(0.13626)	(0.11660)	(0.09782)	(0.10485)
5	0.158605	0.054964	-0.329409	-0.073515	-0.025604	0.173658	-0.014114
	(0.15150)	(0.12620)	(0.10963)	(0.13970)	(0.11979)	(0.10528)	(0.09885)
6	0.246335	0.035543	-0.271335	-0.083895	-0.020009	0.163202	-0.052648
	(0.15213)	(0.11735)	(0.11393)	(0.13559)	(0.11442)	(0.10811)	(0.09236)
7	0.306496	0.004720	-0.221064	-0.063220	-0.023161	0.147929	-0.076865
	(0.15327)	(0.10819)	(0.11823)	(0.12903)	(0.11002)	(0.10931)	(0.09007)
8	0.317501	-0.021338	-0.178691	-0.046567	-0.021638	0.131942	-0.084339
	(0.15372)	(0.10391)	(0.12092)	(0.12548)	(0.10739)	(0.11049)	(0.09022)
9	0.294822	-0.043497	-0.140875	-0.033167	-0.020895	0.113330	-0.082357
	(0.15217)	(0.10081)	(0.12224)	(0.12367)	(0.10524)	(0.11143)	(0.08971)
10	0.252968	-0.055006	-0.109024	-0.028066	-0.016261	0.094647	-0.075378
	(0.14922)	(0.09604)	(0.12256)	(0.11993)	(0.10163)	(0.11164)	(0.08688)

Source; Eviews 10

In the medium term (year 5), where one standard deviation of Tax is (-0.014). Then responded positively by Inflation (0.158), GDP (0.054) and GOV (0.17) and responded negatively to Exchange Rate (-0.329), JUB (-0.073), SB (-0.02).

**Table 25** Summary of TAX Impulse Response Function Results

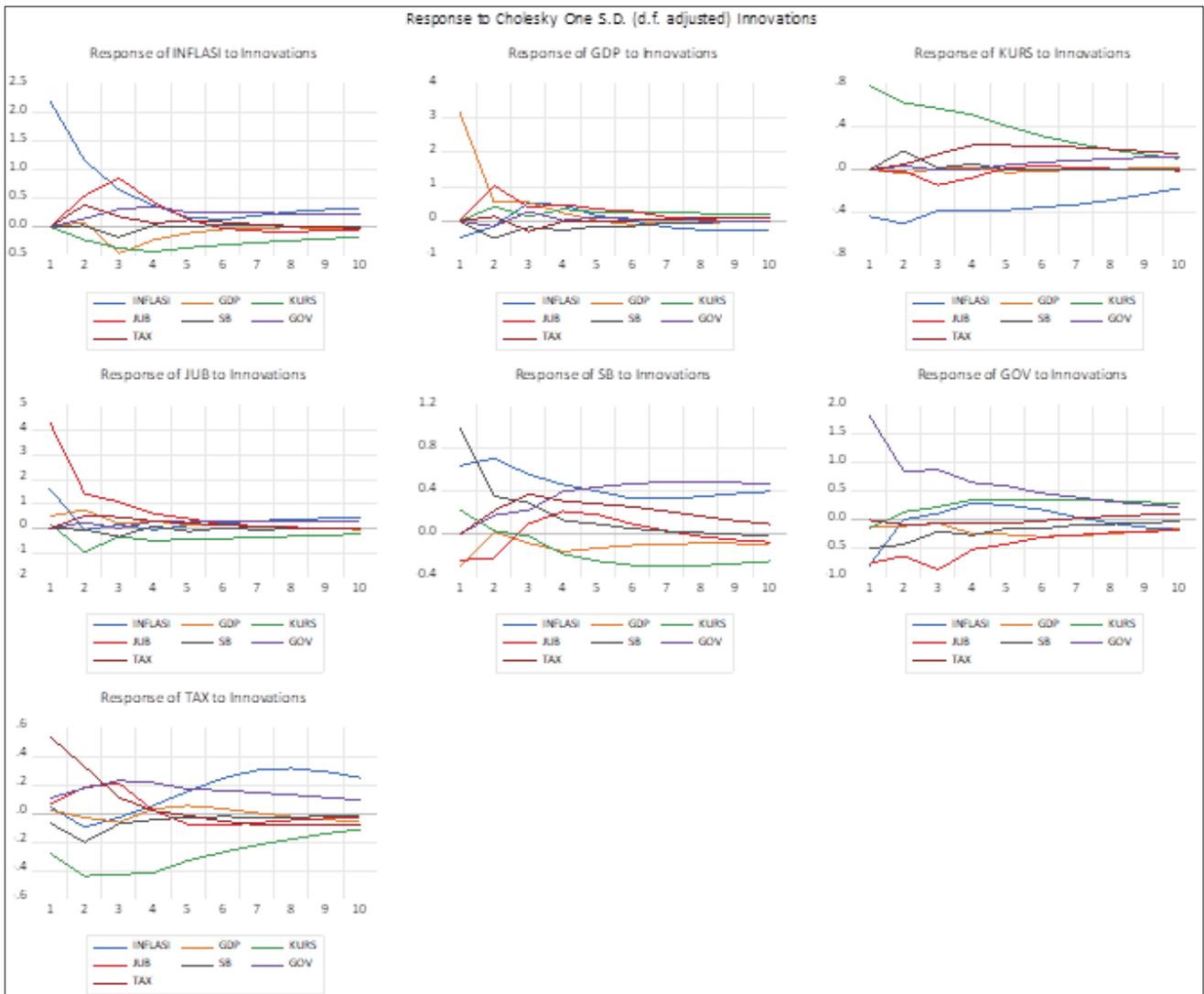
No	Variables	Short-term	Medium term	Long-term
1	Inflation	+	+	+
2	GDP	+	+	-
3	EXCHANGE RATE	-	-	-
4	JUB	+	-	-
5	SB	-	-	-
6	GOV	+	+	+
7	TAX	+	-	-

Source: Table 24

In the long term (year 10) one standard deviation of TAX is (-0.075) responded positively by Inflation (0.252), and Gov (0.09). Then responded negatively by GDP (-0.055), Exchange Rate (-0.109), JUB (-0.016) and SB (-0.028).

Based on the results of the response of one standard deviation of TAX, it can be concluded that there is a change in the influence of each standard deviation of each variable, which was originally positive to negative and negative to positive, in the medium term and in the long term. These results indicate a different response from monetary policy and macroeconomic variables, both positive and negative responses.

Based on the table above, it is known that the increase in TAX is responded positively in the short term to the variables of Inflation, GDP, JUB, GOV and TAX. However, the KURS and SB variables respond negatively. In the medium term, it is responded positively by the variables of Inflation, GDP, and GOV. However, it is responded negatively by the Exchange Rate, JUB, SB and TAX. Then in the long term, it is responded positively by the variables of Inflation, and GOV. However, it is responded negatively by the variables of GDP, KURS, JUB, SB and TAX.



**Figure 3** Graph of each Impulse Response Function (IRF) variable

#### 4.7. Forecast Error Variance Decomposition (FEVD)

This test is used to see the presentation of the contribution of each variable to one variable in the short, medium and long term, so that it becomes a recommendation for policy making to control the variable. The results of the *variance decomposition test* are as follows:

##### 4.7.1. Variance Decomposition of Inflation

The results of the study in Table 26 show that inflation in the short term (period 1), the estimated error variance is 100% which is explained by inflation itself, while the other variables, namely GDP, KURS, JUB, SB, GOV, TAX do not respond at all, where the response of these variables only appears in the second period.

**Table 26** Inflation Decomposition Variants

<b>Variance Decomposition of INFLATION:</b>								
Period	S.E.	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	2.204453	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
2	2.595321	92.26125	0.098367	0.796380	4.354376	0.004622	0.294521	2.190486
3	2.897485	78.95485	2.660574	2.303525	12.20265	0.402838	1.356942	2.118621
4	3.016240	74.39802	3.042574	4.267856	13.32069	0.375416	2.596801	1.998642
5	3.061007	72.53303	3.086361	5.587129	13.11687	0.364572	3.232691	2.079347
6	3.092343	71.23775	3.047756	6.547567	12.86314	0.369105	3.828256	2.106422
7	3.121162	70.31675	2.996482	7.216472	12.68279	0.365372	4.337932	2.084198
8	3.150994	69.66381	2.941038	7.678951	12.51931	0.360480	4.789967	2.046438
9	3.180885	69.26034	2.892766	7.972609	12.33280	0.353797	5.178912	2.008773
10	3.209254	69.00226	2.859808	8.151998	12.14340	0.348132	5.516257	1.978153

Source: Eviews 10

In the medium term (period 5) the estimated error variance is 72.53% explained by the Inflation variable itself. Other variables that have the greatest influence on Inflation as a policy variable besides Inflation itself are JUB at 13.11 %, then KURS at 5.58 %, GOV at 3.23%, GDP at 3.08%, TAX at 2.07% while the smallest influence on Inflation is SB at 0.36 %.

In the long term (period 10) the estimated error variance is 69.00 % explained by inflation itself. Other variables that most affect inflation as a policy variable besides inflation itself are JUB at 12.14%, then KURS at 8.15 %, GOV at 5.51%, GDP at 2.85%, TAX at 1.97% while the smallest affect on inflation is SB at 0.34 %.

**Table 27** Policy Recommendations for Inflation

Period	Inflation itself	Biggest 1	Biggest 2
Short-term (Period 1)	100%	Inflation 100%	-
Medium Term (Period 5)	72.53 %	JUB 13.11%	GOV 3.23%
Long-term (Period 10)	69.00 %	JUB 12.14%	KURS 8.15%

Source: table 26

Based on the table above, it is known that in the short term, inflation control is only carried out by inflation itself, then in the medium term it is carried out by JUB and GOV, then in the long term, inflation control is recommended through JUB and KURS.

#### 4.7.2. Variance Decomposition of GDP

Based on the research results shown in Table 28, it was found that SB in the short term (period 1), the estimated error variance was 97.67 % which was explained by GDP itself and inflation of 2.32%, while other variables did not respond at all, where the response of these variables only appeared in the second period.

**Table 28** Variant Decomposition of GDP

<b>Variance Decomposition of GDP:</b>								
Period	S.E.	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	3.221689	2.323130	97.67687	0.000000	0.000000	0.000000	0.000000	0.000000
2	3.497833	2.154749	85.24192	1.415797	8.809156	2.022323	0.211366	0.144690
3	3.632784	4.154490	81.28449	1.459193	9.416872	2.105529	0.771987	0.807444
4	3.726763	5.497552	77.61949	2.218297	10.62798	2.534070	0.734458	0.768154
5	3.759303	5.562392	76.28203	2.655254	11.27845	2.653545	0.813375	0.754960
6	3.784268	5.489385	75.34884	3.112297	11.70037	2.770980	0.831526	0.746598
7	3.799152	5.663512	74.78654	3.471076	11.70873	2.769452	0.839677	0.761018
8	3.816647	6.082592	74.12295	3.790413	11.61400	2.759717	0.832942	0.797387
9	3.833676	6.587801	73.46824	4.030828	11.51235	2.736085	0.825675	0.839013
10	3.848116	7.020589	72.91789	4.211508	11.43186	2.716168	0.819570	0.882414

Source: Eviews 10

In the medium term (period 5) the estimated error variance is 76.28% explained by the GDP variable itself. Other variables that have the greatest influence on GDP as a policy variable other than GDP itself are JUB at 11.27 %, then Inflation at 5.56 %, KURS at 2.655%, SB 2.653%, GOV 0.813% while the smallest influence on GDP is TAX at 0.754 %.

In the long term (period 10) the estimated error variance is 72.91 % explained by GDP itself. Other variables that have the greatest influence on GDP as a policy variable other than GDP itself are JUB at 11.43%, then Inflation at 7.02 %, KURS at 4.21%, SB 2.71%, TAX 0.88% while the smallest influence on GDP is GOV at 0.81 %.

**Table 29** Policy Recommendations for GDP

Period	GDP itself	Biggest 1	Biggest 2
Short-term (Period 1)	99.32%	GDP 97.67%	Inflation 2.32%
Medium Term (Period 5)	76.28 %	JUB 11.27%	KURS 2.655%
Long-term (Period 10)	72.91%	JUB 11.43%	KURS 4.21%

Source: table 28

Based on the table above, it is known that in the short term, GDP control is carried out by GDP itself and inflation, then in the medium and long term, it is carried out through JUB and KURS.

**4.7.3. Variance Decomposition of KURS**

Based on the research results shown in Table 30, it was found that the short-term KURS (period 1), the estimated error variance was 76.69% which was explained by the KURS variable itself, then inflation was 23.33%, and GDP was 0.004% while the other variables did not respond at all, where the response of these variables only appeared in the second period.

**Table 30** Variants of KURS Decomposition

<b>Variance Decomposition of KURS:</b>								
Period	S.E.	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	0.900968	23.33476	0.004753	76.66049	0.000000	0.000000	0.000000	0.000000
2	1.225706	29.71633	0.104660	67.78023	0.014225	2.132533	0.094916	0.157102
3	1.420583	29.20845	0.083744	66.82709	1.014711	1.602435	0.072530	1.191037
4	1.580410	29.65245	0.094807	64.61971	1.040927	1.422152	0.058604	3.111351
5	1.691447	30.87266	0.106917	62.19774	0.924603	1.241618	0.119622	4.536840
6	1.771280	32.06068	0.101722	59.91678	0.876964	1.134558	0.268327	5.640973
7	1.832296	33.13191	0.095062	57.80441	0.835450	1.060330	0.469527	6.603313
8	1.876791	33.88061	0.092511	56.11333	0.799133	1.010700	0.740648	7.363073
9	1.907529	34.25211	0.094146	54.87718	0.773587	0.978965	1.078077	7.945929
10	1.928266	34.32358	0.097264	53.99925	0.758495	0.959171	1.475146	8.387091

Source: Eviews 10

In the medium term (period 5) the estimated error variance is 62.19% explained by the KURS variable itself. Other variables that most affect the KURS as a policy variable besides the KURS itself are INFLATION at 30.87 %, then TAX at 4.53 %, SB at 1.24%, JUB 0.92%, GOV 0.11%, while the smallest influence on the KURS is GDP at 0.106 %.

In the long term (period 10) the estimated error variance is 53.99 % explained by the KURS itself. Other variables that most affect the KURS as a policy variable besides the KURS itself are Inflation at 34.32%, then TAX at 8.38 %, GOV at 1.47%, SB 0.95%, while the smallest one affecting the KURS is JUB at 0.758 %.

**Table 31** Policy Recommendations for KURS

Period	KURS itself	Biggest 1	Biggest 2
Short-term (Period 1)	76.69%	KURS 76.66%	inflation 23.33 %
Medium Term (Period 5)	62.19%	INF 30.87%	TAX 4.53%
Long-term (Period 10)	53.99 %	Inflation 34.32%	TAX 8.38 %

Source: table 30

Based on the table above, it is known that in the short term, control of the KURS carried out by KURS and inflation, then in the medium and long term carried out by inflation and tax.

#### 4.7.4. Variance Decomposition of JUB

Based on the research results shown in Table 32, it was found that JUB in the short term (period 1), the estimated error variance was 86.58% which was explained by the JUB variable itself, Inflation was 12.03%, GDP was 1.20%, and the exchange rate was 0.178% while the other variables did not respond at all, where the response of these variables only appeared in the second period.

**Table 32** JUB Decomposition Variants

<b>Variance Decomposition of JUB:</b>								
<b>Period</b>	<b>SE</b>	<b>INFLATION</b>	<b>GDP</b>	<b>KURS</b>	<b>JUB</b>	<b>SB</b>	<b>GOV</b>	<b>TAX</b>
1	4.639772	12.03094	1.202752	0.178816	86.58749	0.000000	0.000000	0.000000
2	5.037440	10.21892	3.269646	3.793239	81.47827	0.012330	0.218937	1.008652
3	5.199822	9.665710	3.188029	3.982884	80.77683	0.415093	0.206063	1.765392
4	5.286058	9.363375	3.419589	4.780614	79.46177	0.435225	0.513272	2.026154
5	5.334622	9.237124	3.416710	5.378214	78.61997	0.484605	0.718356	2.145018
6	5.369787	9.255837	3.476033	5.916256	77.66662	0.480090	1.025926	2.179236
7	5.401120	9.479633	3.455970	6.294637	76.80166	0.484949	1.306338	2.176810
8	5.433249	9.851007	3.420696	6.582813	75.90020	0.480329	1.611413	2.153543
9	5.464084	10.30702	3.382785	6.773001	75.04689	0.480181	1.880800	2.129328
10	5.491730	10.74528	3.354928	6.897303	74.29349	0.477860	2.121637	2.109507

Source: Eviews 10

In the medium term (period 5) the estimated error variance is 78.61% explained by the JUB variable itself. Other variables that most affect JUB as a policy variable besides JUB itself are inflation at 9.23%, then the KURS at 5.37%, GDP at 3.41%, TAX at 2.14%, GOV at 0.71%, while the smallest one affecting JUB is SB at 0.48 %.

In the long term (period 10) the estimated error variance is 74.29% explained by the JUB variable itself. Other variables that most affect JUB as a policy variable besides JUB itself are inflation at 10.74 %, then the KURS at 6.89 %, GDP at 3.35%, GOV at 2.12%, while the smallest influence on JUB is Tax at 2.10 %.

**Table 33** Policy Recommendations for JUB

<b>Period</b>	<b>JUB itself</b>	<b>Biggest 1</b>	<b>Biggest 2</b>
Short-term (Period 1)	86.58%	JUB 86.58%	Inflation 12.03%
Medium Term (Period 5)	78.61%	Inflation 9.23%	KURS 5.378%
Long-term (Period 10)	74.29%	Inflation 10.74%	KURS 6.89%

Source: table 32

Based on the table above, it is known that for the short term, JUB control influenced by the JUB itself and INF, then in the medium and long term, JUB control is carried out by Inflation and the KURS.

#### 4.7.5. Variance Decomposition of SB

Based on the research results shown in Table 34, it was found that the SB in the short term (period 1), the estimated error variance was 62.15% which was explained by the SB variable itself, Inflation was 25.46%, GDP was 5.52, JUB was 3.54% and KURS was 3.30%, while other variables did not respond at all, where the response of these variables only appeared in the second period.

**Table 34** SB Decomposition Variants

<b>Variance Decomposition of SB:</b>								
Period	SE	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	1.276030	25.46605	5.525718	3.306129	3.547317	62.15478	0.000000	0.000000
2	1.546580	38.40286	3.790234	2.301176	4.460541	47.60558	1.350128	2.089482
3	1.734500	41.02616	3.223330	1.837261	3.881351	40.82254	2.790573	6.418790
4	1.899559	40.19363	3.379455	2.465657	4.539306	34.51991	6.820856	8.081189
5	2.042851	38.65562	3.297499	3.610724	4.759087	30.07536	10.63298	8.968735
6	2.165342	36.82695	3.154706	4.975594	4.445828	26.83591	14.32578	9.435227
7	2.276616	35.45943	3.012830	6.171405	4.044006	24.29554	17.58423	9.432558
8	2.381487	34.61769	2.869743	7.121116	3.702216	22.20712	20.35213	9.129990
9	2.480582	34.28173	2.758992	7.775389	3.455776	20.46828	22.56928	8.690551
10	2.573289	34.30245	2.691617	8.174943	3.286383	19.02157	24.30832	8.214711

Source: eviews 10

In the medium term (period 5) the estimated error variance is 30.07% explained by the SB variable itself. Other variables that most affect SB as a policy variable besides SB itself are inflation of 38.65%, then GOV of 10.63 %, Tax of 8.96%, JUB 4.75%, KURS 3.61%, while the smallest affect on SB is GDP 3.29%.

In the long term (period 10) the estimated error variance is 19.02% explained by the SB variable itself. Other variables that most affect SB as a policy variable besides SB itself are Inflation of 34.30 %, then Gov 24.30%, Tax of 8.21 %, KURS 8.17%, JUB 3.28%, while the smallest affect on SB is GDP of 2.69%.

**Table 35** Policy Recommendations for SB

Period	SB itself	Biggest 1	Biggest 2
Short-term (Period 1)	62.15%	SB 62.15%	Inflation 25.46%
Medium Term (Period 5)	30.07 %	Inflation 38.65%	Gov 10.63%
Long-term (Period 10)	19.02%	Inflation 34.30%	Gov 24.30%

Source: table 34

Based on the table above, it is known that in the short term, the increase in SB is carried out by SB itself and inflation. Then in the medium and long term, the increase in SB is carried out by inflation and GOV.

#### 4.7.6. Variance Decomposition of GOV

Based on the research results shown in Table 36, it was found that GOV in the short term (period 1), the estimated error variance was 69.46% which was explained by the GOV variable itself, Inflation was 13.11%, JUB was 11.67%, SB was 5.02%, KURS was 0.42%, GDP was 0.298%.

**Table 36** GOV Decomposition Variants

<b>Variance Decomposition of GOV:</b>								
Period	SE	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	2.210174	13.11495	0.298179	0.428119	11.67598	5.021904	69.46086	0.000000
2	2.497385	10.27494	0.393801	0.660030	15.42321	6.854943	66.30871	0.084366
3	2.806532	8.316526	0.345499	1.217937	21.73501	5.904744	62.36639	0.113895
4	2.987756	8.364842	0.930649	2.545600	22.11653	5.967548	59.93249	0.142337
5	3.120794	8.383359	1.506725	3.597875	22.06396	5.667045	58.61882	0.162219
6	3.214702	8.224480	2.236885	4.741314	21.66182	5.549223	57.43284	0.153433
7	3.282249	7.914405	2.791581	5.751623	21.40995	5.387038	56.58761	0.157796
8	3.334126	7.692869	3.218297	6.644559	21.17783	5.264106	55.80488	0.197456
9	3.375826	7.643483	3.461070	7.364697	21.00651	5.147892	55.10172	0.274632
10	3.410041	7.728034	3.589987	7.926668	20.84936	5.052128	54.47113	0.382699

Source: eviews 10

In the medium term (period 5) the estimated error variance is 58.61% explained by the GOV variable itself. Other variables that most affect GOV as a policy variable besides GOV itself are JUB at 22.06 %, then Inflation at 8.38 %, SB at 5.66%, KURS at 3.59%, GDP at 1.506% and the smallest influencing GOV is the TAX variable at 0.16%.

In the medium term (period 10) the estimated error variance is 54.47% explained by the GOV variable itself. Other variables that have the greatest influence on GOV as a policy variable other than GOV itself are JUB at 20.84 %, then KURS at 7.92%, Inflation at 7.72 %, SB at 5.05%, GDP at 3.58%, and the smallest influence on GOV is TAX at 0.38%.

**Table 37** Policy Recommendations for GOV

Period	GOV itself	Biggest 1	Biggest 2
Short-term (Period 1)	69.46%	GOV 69.46%	Inflation 13.11%
Medium Term (Period 5)	58.61%	JUB 22.06%	Inflation 8.38%
Long-term (Period 10)	54.47%	JUB 20.84%	KURS 7.92%

Source: table 36

Based on the table above, it is known that in the short term, GOV control is carried out by GOV itself and Inflation. Then in the medium term, GOV control is carried out by JUB and Inflation. Then in the long term, GOV control is carried out by JUB and KURS.

#### 4.7.7. Variance Decomposition of TAX

Based on the research results shown in Table 38, it was found that TAX in the short term (period 1), the estimated error variance was 74.20% which was explained by the tax variable itself, the KURS was 19.66%, Gov was 3.13%, JUB was 1.109%, JUB was 1.100%, Inflation was 0.63% and GDP was 0.14%.

**Table 38** TAX Decomposition Variants

Variance Decomposition of TAX:								
Period	SE	INFLATION	GDP	KURS	JUB	SB	GOV	TAX
1	0.626931	0.636078	0.145967	19.66683	1.100834	1.109649	3.134338	74.20631
2	0.899911	1.416447	0.164902	33.13480	4.898313	5.427266	5.394521	49.56376
3	1.055184	1.096609	0.445225	40.46736	7.646620	4.395715	8.725648	37.22282
4	1.156831	1.164280	0.457587	46.42596	6.395841	3.785685	10.77410	30.99655
5	1.229374	2.695369	0.605066	48.28822	6.020880	3.395468	11.53545	27.45954
6	1.297603	6.023238	0.618140	47.71616	5.822377	3.071561	11.93612	24.81240
7	1.363426	10.50913	0.561094	45.84906	5.488777	2.811003	11.98863	22.79230
8	1.421014	14.66682	0.539087	43.78947	5.160302	2.610968	11.89874	21.33462
9	1.465981	17.82531	0.594560	42.06773	4.899769	2.473563	11.77760	20.36147
10	1.497898	19.92589	0.704342	40.82386	4.728297	2.381059	11.68030	19.75624

Source: eviews 10

In the medium term (period 5) the estimated error variance is 27.45% explained by the TAX variable itself. Other variables that have the greatest influence on TAX as a policy variable besides TAX itself are the KURS of 48.28 %, then GOV of 11.53 %, JUB of 6.02%, SB 3.39%, Inflation 2.69% and the smallest influence on TAX is the GDP variable of 0.60%.

In the medium term (period 10) the estimated error variance is 19.75% explained by the tax variable itself. Other variables that have the greatest influence on TAX as a policy variable besides TAX itself are the KURS of 40.82 %, then inflation 19.92%, GOV 11.68%, JUB 4.72%, Sb 2.38%, and the smallest influence on TAX is GDP of 0.70%.

**Table 39** Policy Recommendations for TAX

Period	TAX itself	Biggest 1	Biggest 2
Short-term (Period 1)	74.20%	TAX 74.20%	KURS 19.66%
Medium Term (Period 5)	27.45%	KURS 48.28%	GOV 11.53%
Long-term (Period 10)	19.75%	KURS 40.82%	INFLATION 19.92%

Source: table 38

Based on the table above, it is known that in the short term, TAX control is carried out by TAX itself and the KURS. Then in the medium term, TAX control is carried out by the KURS and Gov. Then in the long term, TAX control is carried out by the KURS and Inflation.

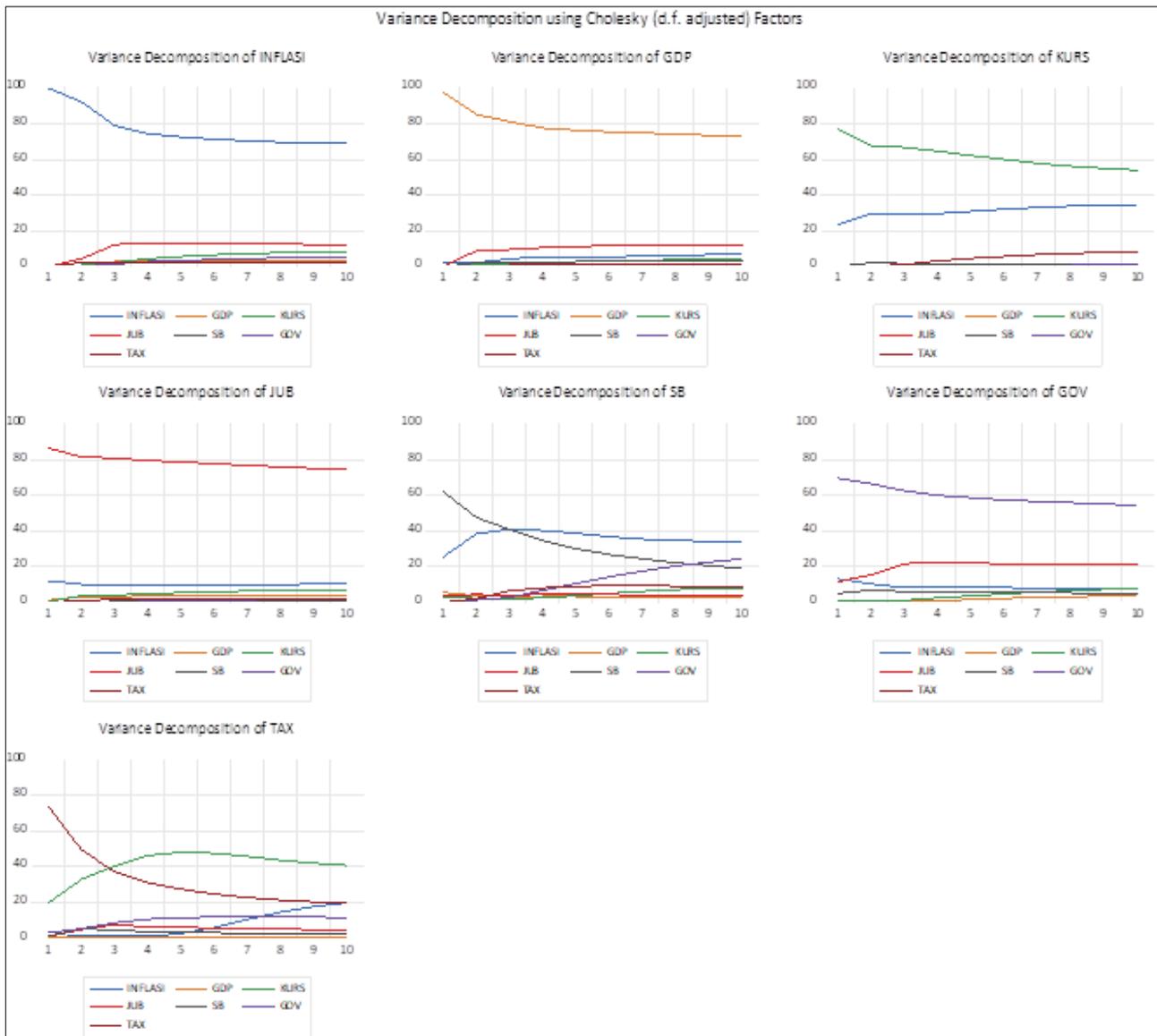


Figure 4 Graph of each Forecast Error Variance Decomposition (FEVD) variable

## 5. Conclusion

Based on the results of the analysis in this study, the following conclusions can be drawn:

- *The forecast error variance decomposition (FEVD) INFLATION test show that in the short term, inflation control is only carried out by inflation itself, then in the medium term it is carried out by JUB and GOV, then in the long term, inflation control is recommended through JUB and KURS.*
- *GDP forecast error variance decomposition (FEVD) test show that in the short term, GDP control is carried out by GDP itself and inflation, then in the medium and long term, it is carried out through JUB and KURS.*
- *Forecast error variance decomposition (FEVD) test for the KURS show that short term KURS control carried out by KURS and inflation, then in the medium and long term carried out by inflation and tax.*
- *Forecast error variance decomposition (FEVD) test show that in the short term, JUB control is influenced by JUB itself and INF, then in the medium and long term, JUB control is carried out by Inflation and the KURS.*
- *The forecast error variance decomposition (FEVD) SB test show that in the short term, the increase in SB is caused by SB itself and inflation. Then in the medium and long term, the increase in SB is caused by inflation and GOV.*

- *Forecast error variance decomposition* (FEVD) test show that in the short term, GOV control is carried out by GOV itself and Inflation. Then in the medium term, GOV control is carried out by JUB and Inflation. Then in the long term, GOV control is carried out by JUB and KURS.
- *Forecast error variance decomposition* (FEVD) test show that in the short term, TAX control is carried out by TAX itself and the KURS. Then in the medium term, TAX control is carried out by the KURS and Gov. Then in the long term, TAX control is carried out by the KURS and inflation.

### Suggestion

Based on the conclusions drawn from the results of the analysis in this study, the following suggestions can be obtained:

- In order to control the rate of INFLATION , the governments *of the five super power countries* need to pay attention to the exchange rate figures and government expenditure figures (GOV) which are regulated in 2 government policies, namely monetary policy and fiscal policy.
- To control GDP figures , the governments *of the five super power countries* need to pay attention to the money supply figures ( JUB) and the exchange rate. in order to control the current INFLATION rate which is regulated in monetary policy.
- To control the exchange rate (KURS) figures, therefore the governments *of the five super power countries* need to pay attention to state tax revenues (TAX) in order to control the current INFLATION rate which is regulated in fiscal policy .
- To control the amount of money in circulation (JUB) , the governments *of the five super power countries* need to pay attention to the exchange rate figures in order to control the current INFLATION rate which is regulated in monetary policy.
- To control the interest rate (SB), the governments *in the five super power countries* need to pay attention to the government expenditure (GOV ) figures in order to control the current INFLATION rate which is regulated in fiscal policy .
- To control government expenditure figures (GOV) , the governments *in the five super power countries* need to pay attention to money supply figures (JUB) and exchange rate values in order to control the current INFLATION rate which is regulated in monetary policy.
- In order to control the state tax revenue figures (TAX) , the governments *of the five super power countries* need to pay attention to... exchange rate figures and government expenditure figures (GOV) in order to control the current INFLATION rate which is regulated in 2 government policies, namely monetary policy and fiscal policy.

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### Compliance with ethical standards

#### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

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