The Analysis of Monetary Policy Transmission Mechanism by Exchange Rate Channel in Influencing The Inflation in Indonesia

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***Abstract*-This study aims to find out the effectiveness of monetary policy transmission on exchange rate pass-through in Indonesia for period 2004.1 – 2018.4. The variables consist of this study such as Exchange Rate, Net Exports, a difference of BI Rate and The Fed Rate, Foreign exchange reserves and Inflation. This study uses secondary data through Bank Indonesia office and The Federal Reserve which analyzed by Vector Error Correction Model (VECM) and Eviews 10 program. The result during the period of this study shows that transmission direct exchange rate pass-through is more effective to affect Inflation. While transmission indirect exchange rate pass-through is less effective to affect the Inflation which reflects the price stability as the ultimate objective of monetary policy in Indonesia.**

Keywords-Exchange Rate; Net Exports; Difference of BI Rate and The Fed Rate; Foreign Exchange; Reserves and Inflation

I. INTRODUCTION

Inflasi Inflation is an increase in the price of goods that are common and ongoing continuously. In Indonesia, the inflation rate continues to increase from year to year therefore, the Government must have a target of inflation that will be used as a reference to control the inflation that occurs annually. The inflation target is the level of inflation that must be achieved by Bank Indonesia, coordinating with the government. The inflation target is based on Bank Indonesia LAW.

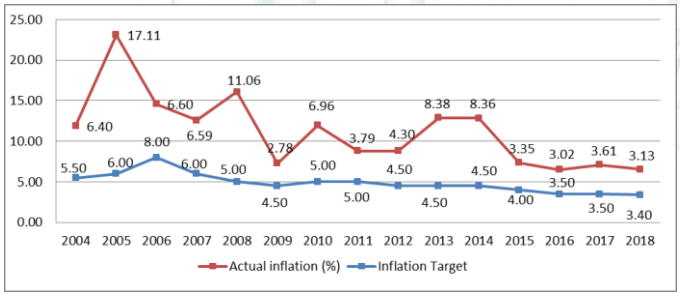


Fig. 1. Inflation rate in Indonesia year 2004-2018 (%)

From the picture above that the development of inflation target and actual inflation fluctuated. The fuel prices for oil in the years 2005, 2008 and 2013 also became a considerable contributor to inflation in those years [1].

Indonesia with an open economy that has established the Inflation Targeting Framework (ITF) policy and adheres to the floating exchange rate system, making the role of exchange rate pathways increasingly important. Exchange rate pass-through) against price stability. The importance of this pathway lies in how the exchange rate pathway affects price stability due to foreign and domestic economic activity as an open economy. The monetary policy of the exchange rate path is initiated, e.g. rising BI Rate as a reference instrument The increase in the BI Rate will encourage the increase in the difference between interest rates in Indonesia and foreign interest rates, the difference can encourage foreign investors to invest in financial instruments in Indonesia [2]. This foreign incoming capital flow will in turn, encourage appreciation of the rupiah exchange rate which can impact both direct exchange rate pass-through and indirect exchange rate pass-through against price stability.

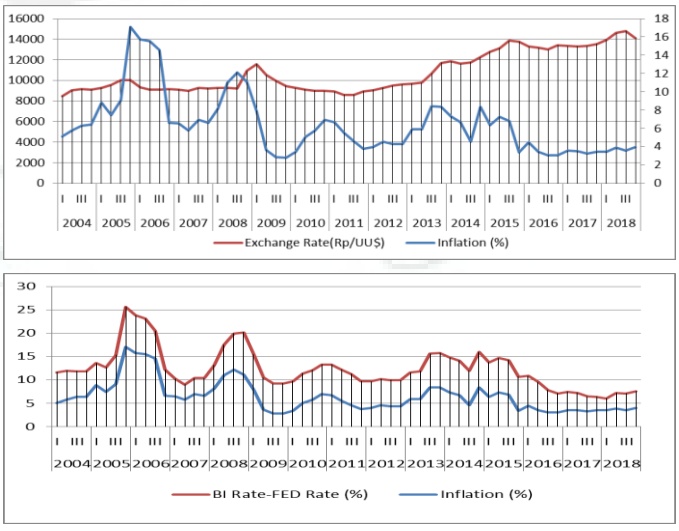


Fig 2. The development of inflation rate, the difference between BI Rate & FED Rate and exchange rate year 2004.1-2018.4

The development of variable-variable monetary policy transmission of the last thirty years of exchange rates subjected to varying fluctuations. This fluctuation indicates the vulnerability of the monetary policy transmission of the exchange rate pathway to inflation in Indonesia which can lead to the uncertainty and complexity of the transmission of monetary policy and economic conditions in general

Direct influence occurs because the development of exchange rate affects the pattern of price formation by the company and expectations of inflation in the community, especially for goods and services imported from abroad both as finished goods and materials Raw and capital goods. Meanwhile, indirect influence occurs because the change in the exchange rate affects especially the export and import components in aggregate demand. This development will impact the magnitude of the real output in the economy which will ultimately determine the magnitude of inflation pressure from the output gap side

In the open economy, inflation is also influenced by the international trade situation, namely import and export conditions. Increased exports also provide guarantees of financial-economic stability of a country. However, the increased exports as said by [3,4] are not only beneficial to the economy but can also increase inflation pressure in the economy due to an increase in aggregate demand.

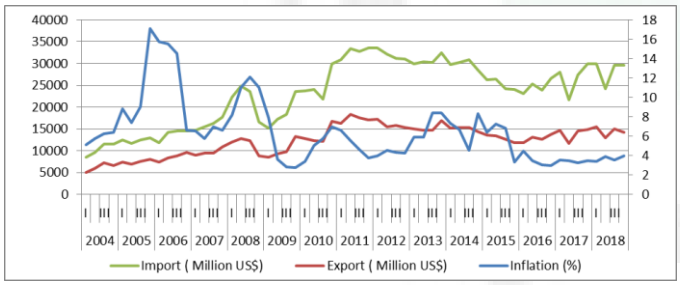


Fig 3. The development of inflation rate, Export, and Import in Indonesia year 2004.1-2018.4

In addition to exports and imports, the exchange rate of rupiah against the United States dollar is also a factor affecting foreign exchange reserves because any exchange rate changes that occur both influenced by domestic, regional and foreign factors will provide Influence on foreign exchange reserves owned by the Indonesian government both the number of foreign exchange reserves and foreign debt owed by the Indonesian government. The strengthening of the rupiah exchange rate against foreign currencies can cause reduced foreign exchange reserves.

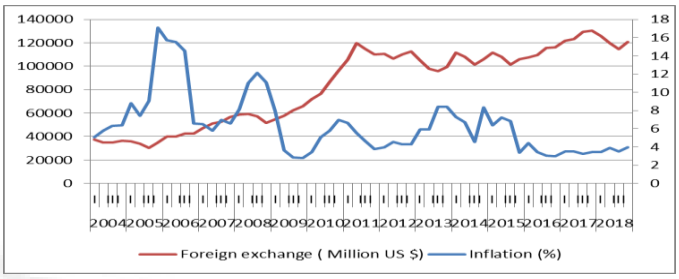


Fig 4. The development of inflation rate, Foreign exchange in Indonesia year 2004.1-2018.4

A sudden increase in inflation rates in a country will lead to increased imports by the country against various goods and services from abroad so that a lot of foreign exchange is required to pay for import transactions The. This will result in increased demand for foreign exchange in the foreign exchange market. The sudden increase in inflation, also enabling the educational capability of the country's national export capabilities, will reduce the supply of foreign exchange in its country. It is explained that the relationship between inflation with foreign exchange reserves is negative.

The problem of the monetary policy transmission mechanism is still an interesting and contentious topic in both the academic world and the practitioners at the central bank. In addition empirical evidence still needs to be examined considering the transmission of monetary policy is complex and difficult to predict, not only to sharpen the development of monetary economic theory in providing an explanation Rational and actual about the emerging phenomenon, but also to provide input for the central Bank in formulating the Monemichein policy regarding monetary policy transmission mechanisms is still an interesting topic and be a debate, both in academia and in the central bank practitioners. In addition empirical evidence still needs to be examined considering the transmission of monetary policy is complex and difficult to predict, not only to sharpen the development of monetary economic theory in providing an explanation and actual about the emerging phenomenon, but also to provide input for the central Bank in formulating monetary policy.

To overcome these problems, the Government is required to be able to design a variety of regulations that are more directed so that the economy, especially in the macroeconomic sector can be more restrained. Monetary policy is one of the right policies in resolving macroeconomic problems. Monetary policy will affect price stability, economic growth, expansion of employment opportunities and the occurrence of price balance [5].

In its execution, Bank Indonesia has a monetary policy framework covering the implementation of monetary policy and monetary policy strategy. The monetary policy implementation includes determining the combination of monetary instruments, operational targets, and the implementation of monetary control operations in the financial markets by the direction and response of monetary policy. Meanwhile, the strategic framework of monetary policy is generally related to the achievement of the final goal of

monetary policy as well as strategies to achieve that is exchange rate targeting, monetary tergeting and inflation targeting.

Based on the three frameworks of strategy implementation of this strategy, Bank Indonesia tries to influence monetary policy by changing the monetary policy from various economic activities to achieve the final destination that has been Set. The process of implementing the policy will describe a mechanism that in its development is referred to as the monetary policy transmission mechanism.

Referring to LAW No. 23 of 1999, it is apparent that monetary policy is implemented using monetary instruments (interest rates or monetary aggregates) affecting the goal between achieving the final goal, which is price stability (inflation). The 1997/1998 monetary crisis is one of the reasons demanded a change in the institutional order of Bank Indonesia into an independent central bank, a crisis that was initially triggered from declining rupiah exchange rate continued to debit on economic variables Other. With the influence of exchange rate as the root problem of the crisis the framework of the exchange rate strategy targeting considered very precise for the monetary crisis does not happen again or in other words, the mechanism of transmission of monetary policy with the exchange rate pathway Very appropriately applied in Indonesia [6]. Therefore, this research was conducted to analyze the linkages between exchange rate (EXC), Export Net (EN), Foreign exchange reserves (CD), and Difference BI Rate & FED Rate (SBI & FED) to the inflation rate (INF) as the final target of monetary policy in Indonesia period In 2004.1-2018.4.

II. METHOD

This research uses secondary data in the form of time series during the year 2004.1-2018.4 which is the amount of exchange rate (EXC), net exports (EN), foreign exchange reserves (CD), and the difference between BI Rate and FED Rate (SBI & FED Rate) on inflation (INF). All data are obtained from related agencies namely the Indonesian Financial and economic Statistics (SEKI) issued by Bank Indonesia and The Federal Reserve.

Vector Autoregression (VAR) is used as an analysis tool for this research to figure out the intertwining dynamic relationships between variables inside the model. By using the VAR method can be known causality relationship between variable exchange rate, Net export, foreign exchange reserves, difference between BI Rate and FED Rate, and inflation. Also besides, with VAR can be known time lag of each variable in affecting other variables so that it can be known the effectiveness of BI monetary policy in influencing the variables inside the model [7].

The first step in the study is to find out whether the data used by the unit root element is stationary. If the data contains the unit root then the model will be difficult to estimate because the data trend is stochastic or fluctuating not around the average value that will be difficult to estimate. Data tends towards to average values and variants of time series data do not undergo a systematic change all the time, or the average and variant are constant. To test the presence of stationary or non-stationary data is used Augmented-Dickey-Fuller (ADF) test and then result of ADF compared to McKinnon Critical Value.

After a stationary test, the next step is to determine the optimal lag length aimed at eliminating autocorrelation in the VAR system that is sensitive to leg lengths. With such optimal usage, lag is expected the autocorrelation problem no longer appears. Determination of long lag using the Akaike Information Criterion (AIC) criteria, Schwarz Information Criterion (SIC) or Hannan Quinnon (HQ).

The next step is to test the cointegration to know the relationship between variables in the long run. There is a long-term relationship between variables when there is a cointegration in the variables used inside the model. To know there is a cointegration between variables conducted Johansen test. In Johansen's test when indications of trace statistic and Max Eigen statistic higher than the critical value indicates a cointegration in the model.

The Impulse Response Function (IRF) is used to determine the shaking influence of the standard deviation against the changes of endogenous variables on the model for current and future periods. In other words, IRF is used to investigate the current and future response of each variable due to the shaking of a variable by using information in the past. Through the dynamic structure of the VAR directly the innovation variable will affect the corresponding variables and then to the other variables.

Forecast Error Variance Decomposition (FEVD) explains the innovation of a variable to another variable in the model. FEVD will explain the proportion of movements sequentially resulting from self-shocks and other variables. FEVD is used to identify the contributions of each variable in the model due to the fluctuations or changes in certain variables in the VAR/VECM system. This research uses the help of E-Views statistical program version 10.

III. RESULTS AND DISCUSSION

A. Stasionary Test

The value of the test results with the Augmented Dickey-Fuller (ADF), indicated by the value of the statistical regression coefficients t on the observed variable (X). If the value is greater than the value of the ADF test critical values MacKinnon on the level of the 1 percent, 5 percent, or 10 percent, then the stationary means data.

TABLE I. ROOT UNIT TEST

Variables	ADF T-Statistik	Nilai Kritis Mackinon			Prob	Information
		1%	5%	10%		
INF	-2.248512	-3.546099	-2.911730	-2.593551	0.1920	Non-Stasionary
EXC	-0.933460	-3.548208	-2.912631	-2.594027	0.7706	Non-Stasionary
EN	-5.903623	-3.546099	-2.911730	-2.593551	0.0000	Stasionary
CD	-1.561487	-3.548208	-2.912631	-2.594027	0.4956	Non-Stasionary
SBI-FED Rate	-2.721769	-3.548208	-2.912631	-2.594027	0.0765	Non-Stasionary

According to the table I that not all of the variables used in this study have a count DF value greater than the critical value (Mackinnon critical values). Since it has not been stationary at zero degrees, it is necessary to do the station test again using the integration degree test one.

The degree test integration is a continuation of the unit root test and is only required when all data is not stationary at zero or 1 degrees. The degree test integration is used to know at what degree the data will be stationary. If the data is not stationary at one degree then testing must continue until each variable is stationary. To perform this test used test DF. The decision is when the DF count of a variable is greater than the

Variables	ADF T-Statistik	Nilai Kritis Mackinon			Prob	Information
		1%	5%	10%		
INF	-7.159992	-3.548208	-2.912631	-2.594027	0.0000	Stasionary
EXC	-5.941983	-3.550396	-2.913549	-2.594521	0.0000	Stasionary
EN	-12.99114	-3.548208	-2.912631	-2.594027	0.0000	Stasionary
CD	-5.427290	-3.548208	-2.912631	-2.594027	0.0000	Stasionary
SBI-FED Rate	-4.633896	-3.548208	-2.912631	-2.594027	0.0004	Stasionary

critical value MacKinnon, meaning that the variable is stationary, and vice versa.

TABLE II. INTEGRATION TEST RESULTS

According to table II that the variable exchange rate (EXC), net exports (EN), Foreign exchange reserves (CD), the difference of SBI Rate & FED Rate (SBI-FED Rate) and inflation (INF) have been stationary at the same degree, i.e. the degree one, which is shown from the value DF count which is more Critical value (Mackinnon critical values) at α = 5%. Thus, a cointegration test requiring data to be used at the same degree can be applied

B. *Determination of Optimum Lag*

To eliminate the problem of autocorrelation in the VAR system done testing the optimum length of lag. From this lag test indicate to the Akaike Information Criterion (AIC) criterion the smallest value lies in lag two, for the smallest value of the Schwarz Information Criterion (SC) criterion lies at Lag one and for the Hannan Quinnon (HQ) criterion the smallest value Located at Lag one.

TABLE III. OPTIMUM LAG RESULTS

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-179.0857	NA	0.000393	6.347782	6.525406	6.416970
1	107.9938	514.7632	4.69e-08	-2.689442	-1.623696*	-2.274313
2	144.9202	59.84615*	3.17e-08*	-3.100696*	-1.146827	-2.339625*

C. *VAR Stability Test*

The VAR stability test is used to calculate the roots of polynomial functions or known roots of charactersitic polynomials. A VAR system is said to be stationary when all of its roots have a smaller modulus than one and are located inside a circle.

Based on the results of the above VAR stability test it is known that the modulus value of the entire root unit of the < 1 and based on the inverse roots of AR characteristic polynominal image is apparent that the entire Rootnya (illustrated with the dot) is on the circle then Can be concluded that the model specifications are stable, so that the existing VAR estimation is used for the analysis of Impulse Response Function (IRF) and Variant Decomposition (VD) stable and valid. And the entire root unit of the stability test result of the VAR estimation has a smaller modulus than 1. Thus, the estimated VAR that satisfies the stability condition is the estimated VAR by using lag two.

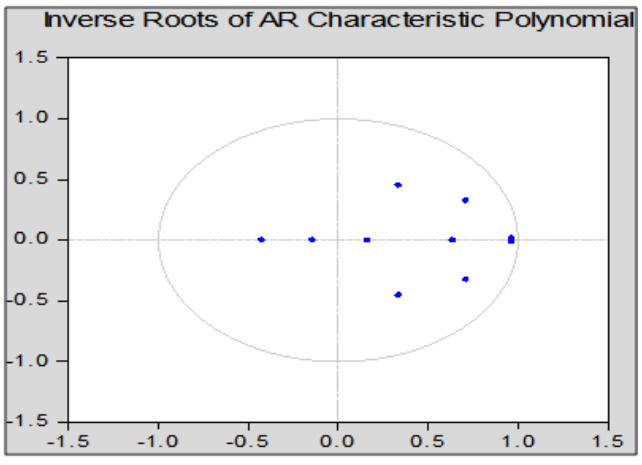
TABLE IV. VAR STABILITY TEST

Roots of Characteristic Polynominal	
Root	**Modulus**
0.965880 - 0.016777i	0.966026
0.965880 + 0.016777i	0.966026
0.712350 - 0.325704i	0.783279
0.712350 + 0.325704i	0.783279
0.637700	0.637700
0.337661 - 0.451861i	0.564086
0.337661 + 0.451861i	0.564086
-0.424481	0.424481
0.163970	0.163970
-0.142576	**0.142576**

Fig 5. Inverse Roots of AR Characteristic Polynominal

D. *Cointegration Test*

Based on the Cointegration test table shows the



cointegration test results from the trace test value indicate a cointegration in the five equations because the trace value statistic is greater than the critical value at the rate of α Trust = 5% or value Probability (P-value) is smaller than α = 5%. With the integration of the Johansen test, the initial indication of the long-term relationship between variables (cointegrated) makes it a linear relationship. The cointegration test results showed that the inflation (INF) variable with the exchange rate (EXC), net exports (EN), Foreign exchange reserves (CD) and the difference of SBI-FED Rate (SBI_FED) had a long-term relationship.

TABLE V. COINTEGRATION TEST

No	Rank Test (Trace)		Rank Test (Maximum Eigenvalue)	
	Trace Statistic	Critical Value 5%	Max-Eigen Statistic	Critical Value 5%
None *	157.8424	69.81889	56.12143	33.87687
At most 1 *	101.7210	47.85613	45.51585	27.58434
At most 2 *	56.20513	29.79707	25.24778	21.13162
At most 2 *	30.95735	15.49471	20.64262	14.26460
At most 4 *	10.31473	3.841466	10.31473	3.841466

E. Granger Cause Test

The testing of a Granger causality is an analytical technique for the causality of the variables examined.

TABLE VI. GRANGER CAUSE TEST

Null Hypothesis	F-Statistic	Prob
LNEXC does not Granger Cause LNINF	2.14517	0.1271
LNINF does not Granger Cause LNEXC	0.41963	0.6595
LNEN does not Granger Cause LNINF	2.87594	0.0652
LNINF does not Granger Cause LNEN	0.96695	0.3868
LNCD does not Granger Cause LNINF	2.89505	0.0641
LNINF does not Granger Cause LNCD	0.52991	0.5917
LNSBIFED does not Granger Cause LNINF	5.36989	0.0075
LNINF does not Granger Cause LNSBIFED	1.68483	0.1953

The variable difference of SBI-FED Rate (SBI_FED Rate) statistically significantly affects inflation (INF) because the probability value is smaller at = 5%. While inflation (INF) statistically does not significantly affect the difference of SBI-FED Rate (SBI_FED Rate) The probability value is greater at = 5%. It is concluded that there is a one-way causality between inflation (INF) and the difference of SBI-FED Rate (SBI_FED Rate).

F. Estimation Vector Error Correction Model (VECM)

After conducting a few previous tests, found that the stationary data at the 1st level of difference and the cointegration occurred, then the next stage will form a VECM model. VECM shows short-term and long-term relationships. In the shor-term, variables in the study will tend to adapt to other variables forming a long-term balance. Here is the result of VECM lag two estimation based on LR, FPE, AIC and HQ at the optimum lag determination

TABLE VII. ESTIMATION VECM TEST

Variables	Coefisien	t-statistik	t-tabel	Interprestation
Short-term				
CointEq1	-0.345320	[-3.82678]	-	-
D(LNINF(-1))	0.104598	[0.76243]	1.673	Non-Significant
D(LNINF(-2))	0.156898	[1.67440]	1.673	Significant
D(LNEXC(-1))	0.475081	[1.72141]	1.673	Significant
D(LNEXC(-2))	-0.208679	[-1.34925]	1.673	Non-Significant
D(LNEN(-1))	0.285529	[1.76462]	1.673	Significant
D(LNEN(-2))	-0.110691	[-0.72251]	1.673	Non-Significant
D(LNCD(-1))	-0.622381	[-3.65096]	1.673	Significant
D(LNCD(-2))	-0.191553	[-0.92419]	1.673	Non-Significant
D(LNSBIFED(-1))	0.285265	[1.85859]	1.673	Significant
D(LNSBIFED(-2))	0.099381	[0.63752]	1.673	Non-Significant
C	0.001620	[0.04409]	-	-
Long-term				
LNINF(-1)	1.000000	-	-	-
LNEXC(-1)	0.096377	[1.83705]	1.673	Significant
LNEN(-1)	0.100923	[4.87708]	1.673	Significant
LNCD(-1)	-1.035317	[-6.82825]	1.673	Significant
LNSBIFED(-1)	0.043900	[1.68407]	1.673	Significant
C	-10.56710	-	-	-

Based on the results presented in table VII it is known that in the short term there are five variables that affect inflation (INF) in the current period significantly at 5% level such as $INF_{(t-2)}$, $EXC_{(t-1)}$, $EN_{(t-1)}$, $CD_{(t-1)}$, BI Rate & $FED\ Rate_{(t-1)}$. In addition to the long-term four variables that affect inflation (INF) significantly at the level of 5% namely the exchange rate (EXC), Net Exports (EN), Foreign exchange reserves (CD), BI Rate & FED Rate. These variables are said to have a significant influence on inflation (INF) because the t-Statistic value of each of those variables is greater than the T-table (1.673).

While in the short-term there are five variables that affect inflation (INF) in the current period insignificantly at 5% levels such as $INF_{(t-1)}$, $EXC_{(t-2)}$, $EN_{(t-2)}$, $CD_{(t-2)}$, $SBI\_FED_{(t-2)}$. While on the long run there are no variables that are not significant at a 5% level. These variables are said to have a significant influence on inflation (INF) because the T-Statistic value of each of those variables is smaller than the T-table (1.673)

G. Impulse Response Function (IRF)Test

The Impulse Responses (IR) is useful to see the effects of the turbulence of a standard deviation from a new variable against the current value and the upcoming value (future values) of the model variable being observed. If the Impulse Responses (IR) image is above the horizon line and in the direction then the response given is a positive response and vice versa if it is below the horizon line and in the opposite direction then the response is shown with the graph where the response tends to close to the horizon line. When the Impulse Responses (IR) image shows a movement that draws closer to the balance point or returns to the previous balance, this means

the response of a variable due to shock occurring in other variables, the longer it will disappear So that the shock did not leave a permanent influence on the variables.

In this study, IRF test results will be displayed in the form of tables depicted throughout the 60 periods (quarterly). Next will be seen in three periods period of short-term is a period of one year (4 quarters), the medium-term is a period above five years (20 quarters) and the long-term is a period above five years (60 quarters).

IRF's test result of inflation (INF) responds negatively to the shock of the variable exchange rate (EXC) ranging from the initial period to the long-term period. The negative relationship shows in the event of shock or change, such as the depreciation, of the exchange rate will directly lead to increased inflation. In line with PPP theory that inflation can be determined by foreign exchange rates and prices, in the event of a depreciation, the exchange rate can drive a major price increase on imported goods and have an impact on domestic price increases

The second phase, the transmission of monetary policy through the exchange rate pathway occurs the transmission of net shock exports to inflation. Results of IRF indicate in the short-term period and long-term net export variable and the difference BI Rate & FED Rate responds positively. While the response is given net export to shock variable inflation, exchange rates and foreign reserves are negative. This condition becomes less effective in the net transmission of exports to inflation, where inflation only responds relatively quickly and strongly in the early quarter then becomes weak and new response in the second quarter, and the role of export is not so great in Inflation movements. As for its influence only causes inflation to fluctuate at the beginning of the period after the shock and in the long run, the impact of the resulting shock can stabilize, it indicates the impact of export movement does not make stability Price in the long run, becomes unstable.

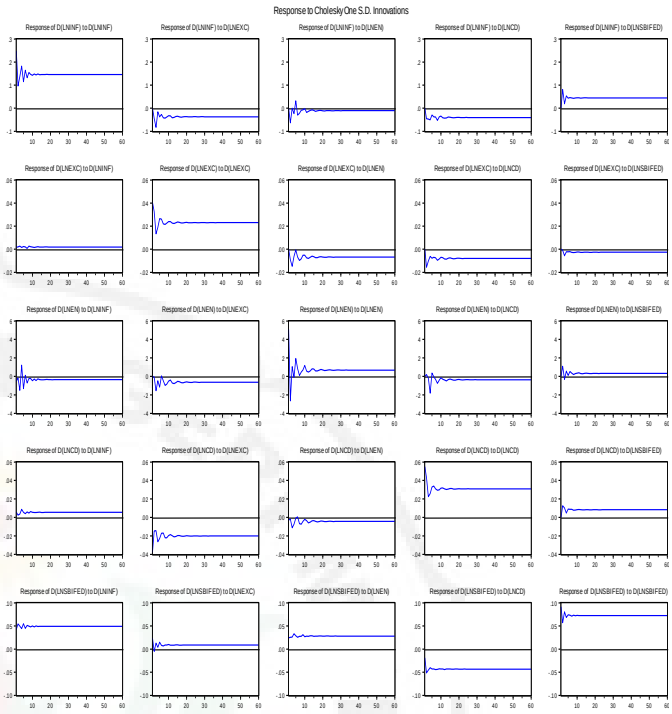


Fig 6. The Impulse Responses Function (IRF) Test

The third stage, the transmission of monetary policy through the exchange rate pathway occurs shock transmission of foreign exchange reserves against inflation. Results of IRF indicate in short term period and long-term variable foreign exchange reserves positive response to shock variable inflation (INF) and interest rate difference of BI & FED rates. Positive relationships both indicate when a shock or change occurs, for example, the foreign exchange reserves will directly lead to increased inflation. The increase in the rate of inflation in a country will lead to increased imports by the country to various goods and services from abroad so that a lot of foreign exchange is required to pay for the import transaction. This will result in increased demand for foreign exchange in the foreign exchange market. The sudden increase in inflation, also enabling the educational capability of the country's national export capabilities, will reduce the supply of foreign exchange in its country. It is explained that the relationship between inflation with foreign exchange reserves is negative, [8].

The fourth stage, the transmission of monetary policy through the exchange rate line occurs the transmission of shock rates difference of BI & FED Rate against inflation. Results of IRF indicate in short term period and long-term variable interest rate difference BI & FED Rate responds positively to the variable shock inflation, exchange rate, net exports, and foreign exchange reserves. This indicates that inflation is one of the most important indicators determining the interest rate difference of & FED rates BI. The results of this study can be explained by the Fisher equation stating that a one percent increase in inflation led to a one percent increase in nominal interest rate [9]. The results of this research are

also relevant to the study of [10] If it sees its causal relationship, where there is a causality relationship between the interest rates on inflation. And the interest rate pathways are quite dominant in influencing inflation.

H. Varian Decomposition (VD) Test

Based on the results of variance decomposition (VD) Overall both short-term, medium-term and long-term. The inflation variable itself, the exchange rate, net exports, experienced an increase from short to long-term. The variable difference of BI Rate & FED Rate has decreased contribution from short-term to medium-term and long-term. In the long run the greatest contributor to inflation is the variable exchange rate and the difference between the BI & FED Rate. This indicates that the Exchange Rate and the difference between the BI & FED Rate is one of the most important indicators to determine the future rate of inflation.

IV. CONCLUSION AND RECOMMENDATIONS

Only the BI Rate variable has a significant influence on inflation in Indonesia in both the short-term and long-term. The variable exchange rate has a significant influence on inflation in Indonesia in the short-term. A very small Error Correction Term (ECT) value minus 0.626682 indicates the process of correction to the long-term balance is slowing down. Thus, the research results using VECM indicate the relevant path to be adopted as one of the path of the instruments of monetary policy, because in addition to being proven to influence the final goal of price level stability

References

[1] Shah, M. A. A., Aleem, M., & Nousheen, A. 2014. Statistical Analysis of the Factors Affecting Inflation in Pakistan. Middle-East *Journal of Scientific Research, Vol.21, Isuue 1, pp 181–189*

[2] Venkadasalam, S. 2015. The Determinant of Consumer Price Index in Malaysia. Journal of Economics, Business and Management. Vol.3, Isuue 12. https://doi.org/10.7763/JOEBM.2015.Vol.344

[3] Mankiw, N. Gregory. 2003. *Teori Makro Ekonomi*. Edisi Kelima. Jakarta: Erlangga.

[4] Bashir, F., Nawaz, S., Yasin, K., Khursheed, U., Khan, & Qureshi, M. J. 2011. Determinants of Inflation in Pakistan: an Econometric Analysis Using Johansen CoIntegration Approach. Australian *Journal of Business and Management Research, Vol.1(5), pp. 71–82.*

[5] Ascarya. 2002. *Instrumen-Instrumen Pengendalian Moneter*. Buku Seri Kebanksentralan No. 3 Pusat Pendidikan Dan Studi Kebanksentralan (PPSK) Bank Indonesia.

[6] Warjiyo, Perry. 2004. *Mekanisme Transmisi Kebijakan Moneter Di Indonesia*. Buku Seri Kebanksentralan No. 1 Pusat Pendidikan Dan Studi Kebanksentralan (PPSK) Bank Indonesia.

[7] Endri. Analisis Faktor-faktor yang Mempengaruhi Inflasi di Indonesia. Jurnal Ekonomi Pembangunan, vol.13(1), pp.1-13, April 2008.

[8] Nopirin. 2009. *Ekonomi Internasional*. Edisi Ketiga. Jakarta: Erlangga

[9] Herlambang, dkk. 2002. *Ekonomi Makro; Teori, Analisis dan Kebijakan.* Jakarta : PT. Gramedia Pustaka Utama.

[10] Natsir. 2007. *Peranan Jalur Suku Bunga dalam Mekanisme Transmisi Kebijakan Moneter di Indonesia*. Kendari. Universitas Halu Ole0.

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