Monetary Policy and Inflation Targeting Framework (ITF) in Indonesia Dual Banking System

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Since 1990 the use of inflation as a nominal anchor used as the main target of monetary policy began to be an option for central banks in several countries. The new monetary policy framework is then known as Inflation Targeting Framework (ITF). This study tries to look at some important variables that affect the inflation rate within the framework of the Inflation Targeting Framework concept using Vector Error Correction Model. The results of data processing using VECM analysis can determine the behavior of Bank Indonesia Rate (BI Rate), Money Supply, Interbank Money Market (PUAB), Sharia Interbank Money Market (PUAS), and Sharia Bank Indonesia Certificates (SBIS). These variables significantly affect the inflation rate. The results of this study can provide important information for decision makers and academics as an evaluation of the application of ITF based on its application in Indonesia.

Keywords: ITF; Indonesia; VECM; Dual banking

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Received: 15 September 2023
Accepted: 2 December 2023
Published: 31 December 2023

Citation:
(2023) Monetary Policy and Inflation Targeting Framework (ITF) in Indonesia Dual Banking System. Islamic Capital Market. 1.1.

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INTRODUCTION

Since 1990 the use of inflation as a nominal anchor used as the main target of monetary policy began to be an option for central banks in several countries (Bernanke Mishkin, 1997). The new monetary policy framework became known as *Inflation Targeting Framework* (ITF). The early pioneer of the use of ITF was New Zealand which was later followed by the UK, Canada, Sweden and Australia. By 2007, ITF had been adopted by 26 countries in the world. The popularity of the ITF shifted the old paradigm of monetary policy that used money supply targets and other monetary quantities.

However, monetary policy with the ITF is not without criticism. Some economists point out the weakness of the ITF as a policy framework that ignores the rate of economic growth and the unemployment rate. In addition, in times of crisis where it is necessary to reduce interest rates to stimulate the economy, the ITF cannot justify the need. Against claims of success in reducing inflation in countries that implemented IT, it was argued that low inflation in these countries had occurred before the implementation of the ITF. Finally, it is concluded that the ITF is more of a means of central bank hand-washing of problems in the economy.

In response to these criticisms, ITF proponents explain that ITF is able to provide a solution for long-term stability with low inflation and can still accommodate the need to stabilize the economy in the short term to promote growth. The ITF is not a rigid *rule* like the money growth model proposed by Milton Friedman. Some features of ITF such as inflation target in a *range* and medium and long horizons in achieving the target provide flexibility for achieving price stabilization in the long run as well as achieving output and unemployment levels in the short run. Furthermore, the advantage of ITF over the quantitative approach is the transparency and accountability for monetary policy managers which makes market participants more aware of the direction of monetary policy and ultimately encourages inflation expectations at the desired level.

However, criticism of the ITF that makes the central bank more focused on inflation and ignores the growth rate and unemployment targets as described earlier, should remain a concern. Bank Indonesia itself has stated that the application of ITF in Indonesia is not a rigid *rule* and still uses discretion by considering economic quantities other than inflation such as growth and exchange rates. To get a more satisfactory answer based on empirical facts, further research needs to be done.

Dissatisfaction with the old monetary policy model in realizing its objectives, as well as the discovery of new evidence on the role of money in the economy, is the starting point of the development of *inflation targeting*. However, since it is still relatively new, the implementation of *inflation targeting* still faces many obstacles. Generally, countries that adopt this model are still at the "implementing while learning" stage. Therefore, before going further, in this first section I would like to explain the basic concept of *inflation targeting* and the consequences of adopting this model, as well as the experience of developing countries in implementing inflation *targeting*.

The main characteristic of *inflation targeting* is that it makes the inflation target the main objective of monetary policy. The target to be achieved is a low and stable inflation rate. However, the actual low inflation rate itself is still controversial, and the magnitude of inflation in each country is difficult to say the same (Mishkin & Schmidt-Hebel, 2007). In addition, *inflation targeting is* also different from other monetary policy models such as *monetary targeting*, *interest targeting* and *exchange-rate targeting* (Genberg, 2007). In *inflation targeting*, it is the ultimate target (i.e. inflation) that is revealed, whereas in the latter three models, it is the intermediate targets, i.e. money supply, interest rate and exchange rate, respectively, that are highlighted.

The main feature of such *inflation targeting* model should be distinguished from the condition where the Central Bank announces the predicted inflation rate to be achieved. The latter case cannot be categorized as inflation *targeting* (Debelle, 2001) because there is no obligation for the Central Bank to realize the inflation estimate in time. The magnitude of the announced inflation estimate is only indicative and the level is still at the "expected" level and not at the level that "must be realized", so it cannot be equated with the target that must be achieved as in inflation *targeting*.

However, the notion of the primary objective in *inflation targeting* should not be interpreted in an absolute way. That is, the primary objective of inflation targeting should not be interpreted as the loss of other objectives such as economic growth and employment (Debelle, 2001). However, it should be realized that the inflation target remains the main target, while other objectives become *subordinate objectives* that should not interfere with the realization of the main objective. Even in a strict inflation *targeting* model, economic growth is still an important consideration because of its enormous

role in determining the magnitude of future inflation rates3. However, the extent to which economic growth and employment are considered in the *inflation targeting* framework depends on the flexibility of the model adopted and, in reality, the framework cannot be generalized to all countries (Masson *et al.,* 1999).

The development of *inflation targeting* cannot be separated from the long controversy among monetary experts. Although the controversy has not ended, and it seems that it will never end, there are at least four things that have been agreed upon, which later became the basic premise of the *inflation targeting* model (Masson *et al.,* 1999). The four basic premises are as follows.

First, money is neutral in the long run. That is, in the long run, changes in the money supply only affect nominal variables (e.g. inflation), but have no impact at all on real variables (such as economic growth and employment opportunities). In the monetary literature, this issue is actually related to a long debate between two camps of thought. On the one hand, the *implicit mainstream view* which emphasizes the function of money as a medium of exchange and concludes that money is neutral and, on the other hand, the *money as social relation* or *credit approach* which believes that money is not neutral (Smithin, 2003). However, most studies conducted since the 1970s support the neutrality of money towards the real sector in the long run.

Second, high and fluctuating inflation rates are very costly to the economy. There are many studies that prove the strong negative relationship between inflation and economic growth, especially for countries that have inflation rates above developed countries. In addition, inflation also has a negative impact on income distribution through disproportionate changes in the value of wealth, and at the same time reduces people's welfare.

Third, money is not neutral in the short run. However, the problem is that, although monetary policy has a positive impact on output in the short run, economists' understanding of the policy's impact is still unclear. This uncertainty includes: how large the impact is, when it will occur, and how monetary policy is transformed to all sectors of the economy. Therefore, monetary policy, which is intended to create economic growth and employment opportunities, actually faces very high uncertainty (Dodge, 2005).

Fourth, there is a long *lag* between the implementation of a monetary policy and the emergence of inflation. Although the impact of monetary policy on inflation is true, but when and how big the effect is, cannot be known immediately in the short term. As a consequence, the formulation of monetary policy aimed at creating price stability, needs to be formulated in the medium and long term framework.

Thus, focusing on a single inflation target will facilitate the achievement of other macro policy targets such as growth and employment. In reality, monetary policy, which was originally intended to achieve three targets at once (inflation, growth and employment), actually makes it difficult for the Central Bank, because not all of these targets can be properly controlled by monetary instruments. As a result, all three targets are difficult to realize at the same time.

To be successful, there are several conditions that must be met in implementing a single inflation targeting model. In simple terms, these requirements can be divided into two groups, namely the requirements before *inflation targeting is* implemented and the requirements at the time *inflation targeting* is implemented. Before officially adopting inflation *targeting*, there are two things that need to be prepared by the government, namely, first, creating the independence of the Central Bank and, second, avoiding other nominal targets other than inflation.

The most important aspect of Central Bank independence is instrument independence. This means that the Central Bank has the freedom to use each of its policy instruments without being interfered by the interests of other parties. The interference that often occurs is from the fiscal side, namely the policy of financing the budget deficit through printing new money (*seignorage*). If this is the case, it is very difficult for the Central Bank to regulate the money supply that meets two interests at once. Therefore, the loss of fiscal dominance in the *inflation targeting* model is a must.

The second requirement before *inflation targeting* is implemented is the absence of other nominal targets besides inflation, such as the exchange rate. Inflation has a close relationship with the exchange rate. Consequently, choosing inflation must be at the expense of the exchange rate. If inflation is the desired target, then the economy must be ready to accept all the consequences of whatever the exchange rate is. That is the reason why the appropriate exchange rate model in *inflation targeting* is free floating. This requirement is not easy to implement, especially for countries with very open economies. Because the ups and downs of the exchange rate, in certain cases, have a more serious impact than inflation itself.

In principle, after the independence of the Central Bank and the absence of a nominal target other

than inflation, a country can start implementing monetary policy with a single inflation target. However, in order for it to work well, there are at least four conditions that must be considered in implementing *inflation targeting* (Masson *et al.,* 1999).

First, the Central Bank explicitly sets the inflation target for the next few periods, and this should be publicly announced. Second, there is clear information about the monetary and non-monetary variables used to formulate monetary policy. Third, having a reliable model for forecasting inflation that includes an explanation of the variables and indicators used. Fourth, using a forward-looking operational procedure where the determination of policy instruments is based on the inflationary pressures that occur and the estimated inflation used as the intermediate target of monetary policy.

With some of the requirements as mentioned above, it is possible for positive things to arise in economic policy. Among others, the implementation of *inflation targeting* allows the monetary authority to focus on inflation without being disturbed by external issues. In addition, with *inflation targeting,* it is possible to create transparency in economic policy. The necessity to announce all aspects to the public, in addition to making the public familiar, also avoids the emergence of *time inconsistency* by the monetary authority. Such policy transparency is an important reason for the success of developed countries in creating low and stable inflation (Mishkin, 2000). Finally, unlike in the *monetary targeting* model, the implementation of *inflation targeting* does not require the assumption of a stable relationship between money and inflation. In reality, this assumption is very difficult to fulfill.

However, this does not mean that *inflation targeting is* without its drawbacks. The most important, and politically costly, drawback is the sacrifice of growth and employment objectives in the short run. It is this fear that has led to the current widespread controversy in the United States to implement *inflation targeting* (Schott, 2005). This issue becomes more dramatic when unemployment and poverty have become chronic problems. In such a situation, from a socio-political perspective, sacrificing growth for inflation is highly unpopular. Based on the above background, the problem formulation in this study is what are the responses that influence the monetary policy of *Inflation Targeting Framework,* especially in Indonesia which adopts dual banking system. Then, how is the monetary policy of *Inflation Targeting Framework* in Islamic economic perspective.

METHOD

Data Collection Sources

The data used in this study used secondary data. Using quantitative data, *Time Series* and using the VAR / VECM method because it looks at long-term relationships and what variables are correlated with the Y variable in ITF from 2014 - 2019. BI Rate data is obtained from the Bank Indonesia website. The data used in this study are all data in monthly periodization obtained from Bank Indonesia's Indonesian Economic and Financial Statistics (SEKI-BI), Indonesian Banking Statistics (SPI), Bank Indonesia Sharia Banking Statistics (SPS-BI).

The VAR approach was developed by Sims (1980), where VAR is a system of equations that shows each variable as a linear function of constants and *lag* values of the variable itself and *lag* values of other variables in the system. In VAR, the separation of exogenous and endogenous variables is ignored and assumes that all variables used in the analysis have the potential to become endogenous variables.

The specification of the VAR model in accordance with the criteria of Sims (1980) includes the selection of variables in accordance with the relevant economic theory and in accordance with the selection of the *lag* used in the model. In the selection of the optimal interval used, this study utilizes the *Schwarz Information Criterion* (SC).

The VAR model was developed as a solution to criticisms of simultaneous equation models, namely: 1. The specification of the simultaneous equation system is based too much on the aggregation of the partial equilibrium model, without paying attention to the *omitted interrelation* results; 2. The dynamic structure of the model is often specified in order to provide the necessary restrictions in obtaining the identification of the structural form.

According to McCoy (1997), to overcome these criticisms especially for determining endogenous and exogenous variables, the VAR approach tries to let the data speak by making all variables potentially endogenous variables. In the VAR framework each variable, both in *level* and *first difference,* is treated symmetrically in the system of equations containing the same *set of regressors*.

VECM Analysis

Cointegration is the presence of a linear combination between nonstationary variables that are cointegrated at the same order (Enders, 2004). After testing for cointegration in the model used, it is

recommended to include the cointegration equation in the model used. Most *time series* data have stationarity at *first difference* or I(1). Therefore, to anticipate the loss of long-run information, VECM is used if it turns out that the data used has a degree of stationarity of I(1).

The following is a list of variables used in this study, along with their descriptions:

Table 1. Operational variables

No.	Variables	Description	Unit
1	INF	Inflation	Percent (%)
2	BIRATE	Bank Indonesia Interest Rate	Percent (%)
3	LN_EXC	Rupiah to USD exchange rate	Natural Logarithm (LN)
4	LN_M2	Money in circulation	Natural Logarithm (LN)
5	PUAB	Conventional Interbank Money Market	Percent (%)
6	PUAS	Sharia Interbank Money Market	Percent (%)
7	SBIS	Sharia Bank Indonesia Certificate	Percent (%)

RESULT AND ANALYSIS

Stationarity Test Results

The first step is to test the stationarity of all variables. The data stationarity test is conducted to see whether there is a *unit root* among the variables based on the *Augmented Dickey-Fuller* (ADF) test at the level and *first difference*. If the absolute value of t-ADF is greater than the absolute value of *MacKinnon Critical* Values, the data is stationary at a predetermined real level of 5 percent. Stationarity test can be seen from the ADF probability value less than the real level. The stationary test results can be seen in the following table.

Table 2. Stationarity test

Variables	ADF Value	
	Level	1st Difference
INF	**-4.066081**	**-7.635610**
BIRATE	-2.285754	**-6.244998**
LN_EXC	-2.945254	**-8.147185**
LN_M2	**-4.388909**	**-11.91202**
PUAB	**-4.735391**	**-10.66471**
PUAS	-2.703893	**-10.20467**
SBIS	-1.885135	**-4.316295**

Notes: Bold indicates that the data is stationary at the 5% level.

Based on the result, there are three variables that are stationary at the level, namely INF, LN_M2 and PUAB. Then the unit root test is continued at the *first difference* level. After all variables are tested for unit roots at the *first difference* with the ADF, the test results show that all variables are stationary at the *first difference* level. From the test results, the statistical ADF value of all variables is smaller than the critical value, so it can be concluded that the data does not contain unit roots at the *first difference*.

Optimum Lag Test Results

The next step in estimating this model is to determine the optimum *lag* length, which is important because it is useful in identifying how long the reaction of a variable is to other variables and to eliminate autocorrelation problems. Candidate intervals will be sought using available information criteria, namely the *Likehood Ratio (LR)*, *Final Prediction Error (FPE)*, *Akaike Information Criterion (AIC), Shwarz Information Criterion (SC)*, and *Hannan-Quin (HQ) criteria*. If the information criterion refers to a candidate *lag*, then that *lag* will be selected to continue estimation at the next stage.

Based on the results of testing the optimum *lag on the* variables tested, the optimum lag in the equation is at *lag* two and lag five. Referring to the LR statistics, lag five was chosen to obtain significant VECM estimation results and adjustments from short term to long term. The results of the *lag* optimum test can be seen in the table below.

Table 3. Optimum lag

Lag	LogL	LR	FPE	AIC	SC	HQ
0	252.3153	NA	1.01e-11	-5.451452	-5.257022*	-5.373047*
1	313.2118	110.9668	7.79e-12	-5.715817	-4.160380	-5.088573
2	368.6573	92.40915	6.88e-12*	-5.859050*	-2.942606	-4.682968
3	403.3374	52.40548	9.93e-12	-5.540830	-1.263378	-3.815910
4	427.6913	33.01312	1.89e-11	-4.993140	0.645320	-2.719382
5	484.6965	**68.40625***	1.87e-11	-5.171033	1.828434	-2.348437

Notes: An asterisk (*) indicates that the lag is optimum based on the Akaike Information Criterion (AIC).

VAR Stability Test Results

After testing the optimal lag in the VAR system used, the next step is to test the stability of the VAR system at the optimal *lag*. The VAR stability test is used to see all the roots have a modulus (absolute value smaller than one and located in the *unit circle,* then the VAR model is stable so that the resulting IRF and FEVD analysis is considered valid.

The modulus values of the tested models were in the range of 0. 218089 to 0. 917986. Based on the results of the VAR model stability test, it can be concluded that the VAR system is stable because all of its roots are in the *unit circle* or have a modulus value of less than one. The processing results can be seen in the table below.

Table 4. Modulus range

Lag	Modulus Range				
Lag 5	0.917986	0.887535	0.808896	0.716829	0.648973
	0.917986	0.868489	0.808896	0.716167	0.648973
	0.915469	0.868489	0.79903	0.685963	0.591054
	0.915469	0.854072	0.79903	0.685963	0.591054
	0.889368	0.854072	0.755594	0.683132	0.540183
	0.889368	0.820424	0.755594	0.673914	0.540183
	0.887535	0.815914	0.716829	0.673914	0.218089

Cointegration Test Results

The cointegration test in this study uses *Johannsen's trace statistic* approach. The cointegration relationship in this study can be seen by comparing the *trace statistic* and *critical value*. If the *trace statistic* value is greater than the *critical* value of five percent, then there is a cointegration relationship.

Based on the *Johanssen Cointegration Test* results, it is found that there are 3 equations in this equation model that are cointegrated at the five percent real level. In addition, the cointegration test shows that for each equation there is at least one *rank of* cointegration at the five percent real level. The processing results can be seen in the *trace* table below.

Table 5. Cointegration test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.
None*	0.391953	152.9893	125.6154	0.0004
At most 1*	0.334574	108.2140	95.75366	0.0053
At most 2*	0.282093	71.55453	69.81889	0.0361
At most 3	0.194564	41.72717	47.85613	0.1665
At most 4	0.142154	22.25370	29.79707	0.2846
At most 5	0.080255	8.453936	15.49471	0.4182
At most 6	0.010221	0.924604	3.841466	0.3363

VECM Analysis

After the cointegration test is conducted and it is proven that each equation has cointegration, the analysis of monetary policy responsiveness to inflation with VAR modeling and VECM estimation approach. Later the processed VECM results will provide two main estimation outputs, namely measuring cointegration or the effect of long-term equilibrium between variables, and measuring *error-correction* or the speed of these variables moving towards their long-term equilibrium. In this study, the significance used is at the real level of five percent.

Table 6. VECM Analysis

LONG TERM					
Variables	**Coefficient**	**T-Statistics**	**Variables**	**Coefficient**	**T-Statistics**
BIRATE(-1)	-12.10222	**[-4.64479]**	PUAS(-1)	24.6911	**[4.88974]**
LN_EXC(-1)	57.6345	[1.92128]	SBIS(-1)	-22.11388	**[-4.98043]**
LN_M2(-1)	-96.94548	**[-4.31812]**	C	799.789	
INTERBANK(-1)	7.34577	**[4.25704]**			
SHORT TERM					
Variables	**Coefficient**	**T-Statistics**	**Variables**	**Coefficient**	**T-Statistics**
CointEq1	-0.02228	[-0.99776]	D(LN_M2(-4))	5.348038	[0.56639]
D(INF(-1))	0.310839	**[2.25340]**	D(LN_M2(-5))	1.804531	[0.18922]
D(INF(-2))	-0.27762	[-1.87119]	D(PUAB(-1))	-0.08734	[-0.56076]
D(INF(-3))	0.002804	[0.01759]	D(PUAB(-2))	-0.07229	[-0.51397]
D(INF(-4))	-0.03281	[-0.19982]	D(PUAB(-3))	-0.07515	[-0.56524]
D(INF(-5))	0.066556	[0.42897]	D(PUAB(-4))	-0.00975	[-0.08184]
D(BIRATE(-1))	0.325791	[0.70917]	D(PUAB(-5))	-0.07011	[-0.69529]
D(BIRATE(-2))	0.19646	[0.38599]	D(PUAS(-1))	-0.39663	[-0.71596]
D(BIRATE(-3))	-0.16732	[-0.29969]	D(PUAS(-2))	-0.60447	[-1.16472]
D(BIRATE(-4))	0.408341	[0.74767]	D(PUAS(-3))	-0.43796	[-0.88353]
D(BIRATE(-5))	-0.15087	[-0.29001]	D(PUAS(-4))	-0.2214	[-0.51116]
D(LN_EXC(-1))	2.471931	[0.50476]	D(PUAS(-5))	0.20205	[0.63573]
D(LN_EXC(-2))	-1.35048	[-0.26298]	D(SBIS(-1))	0.676099	[1.01913]
D(LN_EXC(-3))	-2.00368	[-0.38035]	D(SBIS(-2))	0.371116	[0.58286]
D(LN_EXC(-4))	-1.99897	[-0.41979]	D(SBIS(-3))	0.091273	[0.15927]
D(LN_EXC(-5))	-0.433	[-0.09276]	D(SBIS(-4))	-0.06726	[-0.11764]
D(LN_M2(-1))	-7.66626	[-0.79636]	D(SBIS(-5))	-0.17158	[-0.32313]
D(LN_M2(-2))	3.746756	[0.37632]	C	-0.08097	[-0.57697]
D(LN_M2(-3))	5.356114	[0.55411]			

Based on the VECM estimation results in the table above, it can be seen that in the short term only the inflation variable (INF) has a significant effect on itself, namely inflation at lag 1. Furthermore, in the long run, all variables have a significant effect on inflation except the exchange rate variable (LN_EXC).

Long Run VECM Model

In the long-term estimation, the model used in this study is as follows

$$Y = \beta_0 + \beta_1 BIRATE + \beta_2 LN\_EXC + \beta_3 LN\_M2 + \beta_4 PUAB + \beta_5 PUAS + \beta_6 SBIS + \varepsilon$$

After conducting the long-run estimation on the VECM, the following is the long-run model in this study:

$$Y = 799.78 + (-12.1)(BIRATE) + 57.63(LN\_EXC) + (-96.94)(LN\_M2) + 7.34(PUAB) + 24.69(PUAS) + (-22.11)(SBIS) + \varepsilon$$

To be able to interpret the results, the *ceteris paribus* assumption can be used, for example, as in the interest rate variable (BIRATE). If the interest rate increases by 1 (one) percent, it will reduce inflation by 12.1 percent. Furthermore, if the exchange rate (LN_EXC) increases by one percent, it will increase inflation by 57.63 percent. The relationship increases or decreases based on the sign on the constant of each variable, if there is a minus sign, it means that the relationship between the independent variable and the dependent variable (inflation) will decrease, and vice versa if there is no minus sign, it means that the relationship becomes positive.

Impulse Response Function

In identifying the response of monetary policy indicators to inflation, the standard *Cholesky Decomposition* is used. *Cholesky Decomposition* aims to *generate impulse responses* that depend crucially on the order of variables in the system. In this study, the time period used in analyzing monetary policy on inflation is projected in the next 48 months (four years).

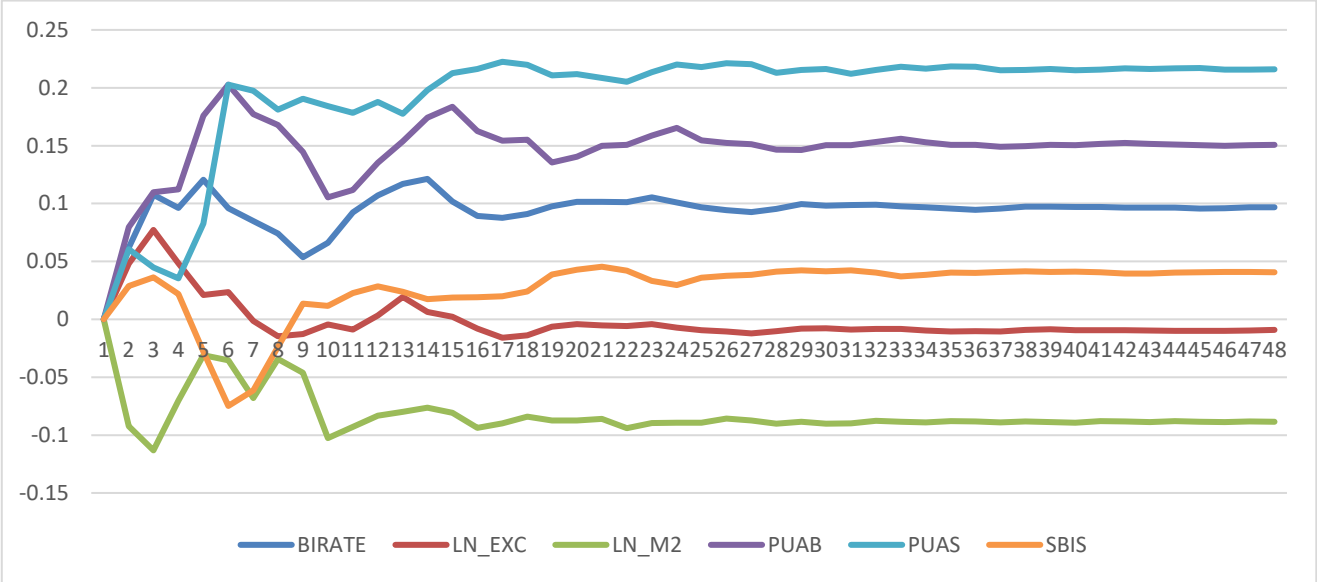

Figure 1. Impulse response function

The figure above shows that in the first month, inflation has not responded to shocks to all monetary policy variables. In the 2nd month, the variable that gives a negative response to inflation is M2. The M2 variable continues to give a negative response until the end of the observation period. Furthermore, the variables that respond positively to inflation in month 2 are BIRATE, LN_EXC, PUAB, PUAS, and SBIS. These variables continue to respond positively until the end of the observation period except for the LN_EXC variable. All of the above variables begin to reach stability in the 38th period.

Next is the FEVD analysis which in this study aims to explain the contribution of each monetary policy variable in explaining the diversity in its effect on inflation. FEVD observation is conducted for 48 periods (four years). The FEVD results can be seen in the figure below. In the first month, 100 percent of inflation variability is only influenced by the variable itself. Inflation that is affected by other variable shocks is only responded in the second period. At the end of the observation, the largest response is still influenced by inflation of 84.52 percent. The second largest response at the end of the observation was PUAS which contributed 7.71 percent. The third largest response is PUAB which contributes 4.3 percent.

Discussion

$$Y = 799.78 + (-12.1)(BIRATE) + 57.63(LN\_EXC) + (-96.94)(LN\_M2) + 7.34(PUAB) + 24.69(PUAS) + (-22.11)(SBIS) + \varepsilon$$

The results of data processing using VECM analysis can determine the behavior of Bank Indonesia Rate (BI Rate), Money Supply, Interbank Money Market (PUAB), Sharia Interbank Money Market

(PUAS), and Sharia Bank Indonesia Certificates (SBIS) variables. These variables significantly affect the inflation rate. The findings in this study will be explained based on conflicting facts that are based on appropriate theories to explain the correlation.

Bank Indonesia has implemented various monetary control instruments, both direct and indirect instruments. With the ultimate goal of both types of instruments is to be able to influence the amount of money circulating in society. The circulation of money in society is reflected by a condition called the inflation rate. One of the monetary policies to maintain the inflation rate is to control the interest rate using the BI Rate. In this study it was found that the BI rate variable showed a negative and significant effect on inflation. This is because when the BI Rate level rises, lending and deposit interest rates will increase. In that condition, people will tend to keep their money in the bank, so the amount of money in circulation decreases. Likewise, businesses will respond to the increase in interest rates by reducing their investment because the cost of capital is getting higher. This can ultimately dampen economic activity by reducing inflationary pressures. (Yodiatmaja, 2012). When the inflation rate increases, Bank Indonesia will respond by raising the BI Rate to put the brakes on fast-moving economic activity to reduce inflationary pressures (Bank Indonesia, 2013). This finding is different from the results conducted by Kalalo (2016), Utama et al, (2017) and Setiartiti & Hapsari (2019). Where they found that the BI Rate variable has a positive influence on the inflation rate.

In the short term, the VECM estimation results show that money supply has no significant effect on the inflation rate. However, in the long run, money supply shows a negative and significant influence on the inflation rate. This seems to contradict the theory of economic growth which states that an increase in money supply will accelerate the level of aggregate production by reducing the cost of production. The availability of money supply increases credit options in the economy with lower cost of capital. (Qamruzzaman & Jiangou, 2017). As well as the monetarian theory which states that expansionary monetary policy can increase inflation (Jamar & Aimon, 2020). This is supported by research conducted by Ascarya (2017). His findings prove that the money supply has a positive influence on the inflation rate. This is related to the practice of fractional reserve banking which can increase the money supply (Ishaq, 2015).

CONCLUSION

The main characteristic of *inflation targeting* is that it makes the inflation target the main objective of monetary policy. The target to be achieved is a low and stable inflation rate. This research tries to see some important variables that affect the inflation rate within the framework of the Inflation Targeting Framework concept. The results of data processing using VECM analysis can determine the variable behavior of Bank Indonesia Rate (BI Rate), Money Supply, Interbank Money Market (PUAB), Sharia Interbank Money Market (PUAS), and Sharia Bank Indonesia Certificates (SBIS). These variables significantly affect the inflation rate.

Bank Indonesia has implemented various monetary control instruments, both direct and indirect instruments. With the ultimate goal of both types of instruments is to be able to influence the amount of money circulating in society. The circulation of money in society is reflected by a condition called the inflation rate. One of the monetary policies to maintain the inflation rate is the control of interest rates using the BI Rate. The results of this study can provide important information for decision makers and academics as an evaluation of the application of ITF based on its application in Indonesia.

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