

## THE TRANSMISSION MECHANISM OF MONETARY POLICY CHANNELS INTEREST RATE PASS THROUGH IN INDONESIA

Setyoadi Pambudi<sup>1</sup>  
Munawar Ismail<sup>2</sup>  
David Kaluge<sup>3</sup>

---

### ABSTRACT

*The purpose of this study is to see how much effectiveness of each path of the transmission mechanism of monetary policy channel interest rates in Indonesia. This research was conducted on the the transmission mechanism of monetary policy channel interest rates in Indonesia using data from 1987 - 2017. This study uses Vector Autoregression (VAR) in the test. The results of this study indicate that the channels interest rate is most effective in achieving the ultimate goal of monetary policy in Indonesia. The results of this study are used in Central Bank policy making in determining the effectiveness the transmission mechanism of monetary policy channel interest rates in Indonesia.*

keywords: Effectiveness, MTKM, Interest Rates, VAR, Indonesia

---

### INTRODUCTION

Global economic stabilization began to be shaken due to financial globalization which increasingly made the world economy in the wake of global instability. The Central Bank is present in monetary control through various Monetary Policy operations. The Central Bank designs the Transmission Mechanism Monetary Policy, which aims to achieve the ultimate goal of monetary policy, the Ultimate Objective, so that each path of the Transmission Mechanism Monetary Policy has its own path. While with the increasingly complex problems of monetary stability, it is necessary to fix and see the extent to which the Transmission Mechanism Monetary Policy works and is able to maintain the monetary stability of a country. Thus, a country's macroeconomic conditions are more secure and planned in accordance with the established mechanism.

Today's The Transmission Mechanism of Monetary Policy has become an interesting and debating study widely by policy makers, especially the Transmission Mechanism of Monetary Policy in Indonesia which is a developing country that is more easily shaken economically. Many factors have caused a country's economic shock, including not being able to deal with global economic instability, inflation, exchange rate depreciation, and large capital outflows.

Indonesia is a country that is prone to global economic shocks in recent years, it is very possible when the central bank must form an effective and efficient transmission system to support the achievement of targets that have been set namely stable inflation and high economic growth. Monetary Policy has an effective and efficient power with a predetermined policy target, in order to achieve this, a flow that has been used for monetary policy in other countries is needed, namely the Monetary Policy Transmission Mechanism.

The Transmission Mechanism of Monetary Policy (MKTM) is "the Process through monetary policy decisions which are transmitted into changes in real GDP and inflation". (Taylor, 1995). The transmission mechanism of Monetary Policy was started since the monetary authority or Central Bank acted using monetary instruments in the implementation of its Monetary Policy until its influence on economic activity was seen, both directly and gradually. The influence of the policy on economic activity will occur through various channels, namely interest rate lines, credit lines, exchange rate channels, asset price lines, and expectation lines (Pohan, 2008).

This mechanism illustrates the actions of The Central Bank through changes in monetary instruments and operational targets capable of influencing various economic and financial variables before finally influencing the ultimate goal of inflation. In conditions of the monetary crisis, the interest rate channel looks quite effective in managing the Transmission Mechanism of Monetary Policy into deposits and lending rates. Effectiveness in influencing the real economy is hampered due to the fact that both consumption and investment are responsive to changes in interest rates because the economy is in a boom and capital adequacy. The fact is that bank loans before the crisis did not affect the banks because they got injections from foreign capital, both the IMF and the World Bank.

### LITERATURE REVIEW

#### Monetary policy

Monetary Policy is an action taken by monetary authorities (usually the Central Bank) to influence the amount of money supply and credit which in turn will affect the economic activities of the community. (Nopirin, 1992). Monetary policy is an integral part of macroeconomic policy. Monetary policy is intended to support the achievement of macroeconomic targets, namely high economic growth, price stability, equitable development, and balance of payments balance (Iswardono, 1997)

Monetary Policy can be classified into two, namely:

1. Monetary Expansive Policy Is a policy in order to increase the amount of money in circulation
2. Monetary Contractive Policy Is a policy in order to reduce the amount of money in circulation

### **Monetary Policy Instrument**

Monetary Policy Instrument is a regulation of the Monetary Policy system conducted by the Central Bank to determine which framework will be used in decision making so that it will produce policies that lead to inflation stabilization. Monetary Policy Instruments include Open Market Operations, Discount Rate, Reserve Requirement Ratio, Moral Suasion.

### **Operational Goals**

It is the operational system of the Central Bank to support intermediate targets which will have an impact on the ultimate objectives of Monetary Policy. Where operational targets are supported by short-term interest rates, and base money.

### **Target Between**

It is a target that bridges between operational targets and the ultimate goal of Monetary Policy, where the intermediate target is a policy framework including Money Supply targeting, Exchange Rate Targeting, and Inflation Targeting.

### **Final Target of Monetary Policy**

It's the final of Monetary Policy where the single target is decided namely stable inflation. Inflation stabilization will illustrate the success of Monetary Policy starting from instruments, operational targets, intermediate targets, and the ultimate goal of monetary policy, which is a standard framework of the the Transmission Mechanism of Monetary Policy.

### **The Transmission Mechanism of Monetary Policy Through Interest Rates**

The Transmission Mechanism of Monetary Policy places more importance on the quantity aspect of the money circulation process in community economic activities, so that the interest rate channel directly emphasizes the importance of the price aspect of the financial market for various economic activities in the real sector. Especially, the monetary policy employed by the Central Bank will affect the development of various interest rates in the financial sector and be able to influence the inflation rate and real output.

The process of interaction between the Central Bank and Banking as well as economic actors in the process of money circulation, the Transmission Mechanism of Monetary Policy through the interest rate channel is explained as follows: first, monetary policy adopted by the Central Bank was able to influence the development of short-term interest rates (SBI, PUAB) on the market rupiah. So that it is able to influence the deposit interest rates provided by banks on customer savings and credit interest rates charged by banks to their customers. So that the transmission mechanism of monetary policy in the interest rate pathway does not take place quickly but there is a deadline, when the internal conditions of the banking system are in asset and liability management (ALMA - Asset and Liability Management). Perry Warjiyo, 2004.

The second stage, the transmission of interest rates from the financial sector to the real sector can influence consumption and investment demand. The effect of interest rates on consumption demand can occur when deposit interest is a component of income income and credit interest as a substitution effect, whereas the effect of interest rates on investment demand is due to credit interest rates being a component of capital costs (Cost of capital), besides bond yields and stock dividends in investment financing. Perry Warjiyo, 2004.

## **RESEARCH METHODOLOGY**

### **Data Sources**

This research is in the category of quantitative research where finding a number as an analytical tool to achieve what you want to achieve. This study uses secondary data, obtained from International Financial Statistics (IFS), World Bank, Financial Services Authority, and The Central Bank.

### **Hypotheses**

The transmission mechanism of monetary policy channel interest rates in Indonesia is more effective and efficient in achieving the ultimate goal of monetary policy.

### **Operational Definition**

#### **Dependent Variable**

Inflation

Inflation is an increase in staple goods which has increased continuously. Inflation is also a continuous process of declining the value of a currency. So that inflation is used to see the level of change and is considered to occur if the price increase process continues and affects each other. Inflation is not about the high and low prices of certain products. It can be said that inflation is a process to see price changes that tend to be high, which influence each other between goods.

#### **Independent Variables**

##### **Loan Interest Rates.**

The loan interest rate is a certain price that must be paid by the customer (interest) to the lender of the Fund (bank) for the loan he has given. (Ismail: 2010). Loan interest rates are given from the fund owner institution (Bank) to customers, both individuals, groups or industries or companies that are carried out directly or indirectly within the period determined by the lenders of the funds. The customer becomes aware of the time period set by the bank in returning his loan.

**Real Interest Rate**

Interest rates that have undergone a correction due to inflation and are defined as nominal interest rates minus the inflation rate. (Novianto: 2011). The real interest rate is the interest rate calculated by reducing the inflation rate to the nominal interest rate that has been set both in the real interest rate, which becomes the determining factor in comparing the effective income of different investments, by adding the current value to the predicted inflation rate in future.

**Deposit Interest Rate.**

Deposits Interest Rate are banking product services that can be in the form of savings services that are able to offer fixed interest rates in accordance with applicable regulations. The greater the capital that enters the bank and the time it is disbursed, the greater the interest the customer gets. If, the customer will withdraw the deposit interest rate not according to the agreement, the customer will get a penalty. These deposit rates tend to be safer and relatively stable than stocks and bonds.

**Analysis Method**

**Analysis of Multiple Linear Regression**

This study uses multiple linear regression methods, to see the influence between Real Interest Rates, Deposit Interest Rates, Loan Interest Rates on inflation in Indonesia. How big the independent variables are able to influence the dependent variable is calculated using the regression line equation as follows:

$$\begin{aligned}
 INF &= \alpha_1 + a_{1i} \sum_{i=1}^k SBD_{t-k} + a_{1i} \sum_{i=1}^k SBP_{t-k} + a_{1i} \sum_{i=1}^k SBR_{t-k} + a_{1i} \sum_{i=1}^k INF_{t-k} + \epsilon_1 \\
 SBD &= \alpha_2 + a_{2i} \sum_{i=1}^k SBD_{t-k} + a_{2i} \sum_{i=1}^k SBP_{t-k} + a_{2i} \sum_{i=1}^k SBR_{t-k} + a_{2i} \sum_{i=1}^k INF_{t-k} + \epsilon_2 \\
 SBP &= \alpha_3 + a_{3i} \sum_{i=1}^k SBD_{t-k} + a_{3i} \sum_{i=1}^k SBP_{t-k} + a_{3i} \sum_{i=1}^k SBR_{t-k} + a_{3i} \sum_{i=1}^k INF_{t-k} + \epsilon_3 \\
 SBR &= \alpha_4 + a_{4i} \sum_{i=1}^k SBD_{t-k} + a_{4i} \sum_{i=1}^k SBP_{t-k} + a_{4i} \sum_{i=1}^k SBR_{t-k} + a_{4i} \sum_{i=1}^k INF_{t-k} + \epsilon_4
 \end{aligned}$$

Ket;

INF : Inflation                      SBD : Deposite Interest rate  
SBR : Real Interest Rate      SBP : Loan Interest Rate

**RESULTS**

**Data Stationarity Test**

Channels MTKM	Output Stationarity Test
Channels Interest Rate	1 <sup>st</sup> Difference

Based on the Stationary Data Test Results, that the interest rate path is in the test First Difference.

**Lag Optimum Test**

Jalur MTKM	Output Lag Optimum Test
Channels Interest Rate	First Lag

Based on the Lag Optimum test, the interest rate is located at the First Lag.

**Cointegration Test**

Channels Interest Rate	Eigenvalue	Trace Statistik	0,1 Critical Value	Prob. **
Hypothesized No. Of CE(s)				
None *	0.874140	114.2062	69.81889	0.0000
At most 1 *	0.675480	56.17379	47.85613	0.0068

So this research can apply Vector Autoregression (VAR) after ensuring stationary in the same degree. But in this study found that the variables observed experienced stationary levels at first difference, this indicates that all variables in the system sifat integrated of order One.

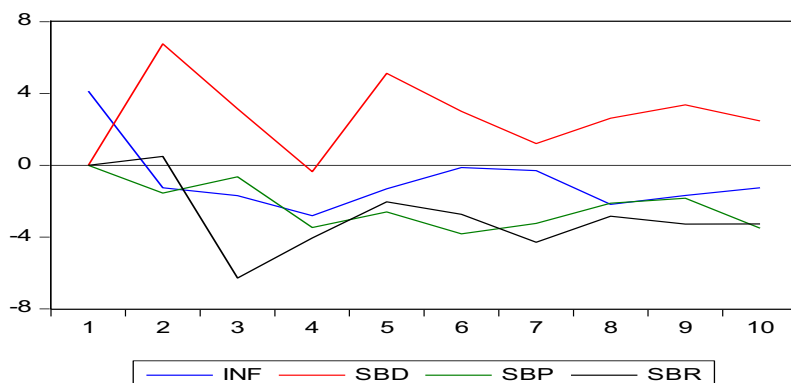
**Hasil Estimasi VECM**

Jangka Pendek					
INF	SBP	SBR	NT	EKS/IMP	PK
-1.379656	0.058852	-0.635648	55.69865	-0.010822	0.386238
-2.12047*	0.18605	-1.34208	0.24029*	-1.39835	0.84681
Jangka Panjang					
SBP	SBR	NT	EKS/IMP	PK	
-2.731679	0.999351	-0.002088	40.74178	0.262948	
-51.4543*	14.2214*	-29.4053*	14.6588*	8.99136*	

Based on the results of the VECM above through the Interest Rate path, it can be done to find out the short and long term relationships between variables. In the short term, there is an error correction in INF of -1.808361, SBD of -0.152575, SBP of 0.112525, SBR of 0.218560 with significantly only inflation, meaning that in each period the error is corrected by INF of -1.808361%, SBD is -0.152575% , SBP is 0.112525%, SBR of 0.218560% is used to reach the balance point in the short and long term.

While for the long term in the Interest Rate Monetary Policy Transmission Mechanism with the variables INF, SBD, SBP, SBR can be influenced by the overall variables both SBD of 6.86901%, SBP of -5.66673%, and SBR of 2.707788 significantly.

**Hasil Impulse Response Inpulse (IRF)**  
Response of INF to Cholesky  
One S.D. Innovations



Based on the results of the Impulse Function Response (IRF) on the Interest Rate line, it shows that if there is a shock / change in SBD, SBP, SBR and inflation it will give shock that can be generated by SBD which is responded positively with the highest value of 6.8 in the second period, so in the event of an increase in SBD, it will gradually affect the Amount of Interest on Banking Deposits that can get banks from the Central Bank as creditors, assuming that funds that can be obtained by banks can increase with more interest entering banks through customer deposits, with a return fixed interest with a definite tenor of time, so it can have a large effect on changes in inflation. while the response given by SBP was responded negatively with the highest value of -4.3 in the period VII and SBR also responded negatively with the highest value of -6.3 in the third period. So, it can affect the amount of money circulating in the community which is most likely influenced by the amount of interest rates. In the interest rate path, it is considered capable of explaining the current inflation conditions in Indonesia. Because all variables respond at the beginning of the period even though some have a positive and negative response to inflation.

**Hasil Variance Decomposition (VD)**

Period	S.E.	INF	SBD	SBP	SBR
1	4.125392	100.0000	0.000000	0.000000	0.000000
2	8.187387	27.75525	68.28714	3.590997	0.366611
3	10.94326	17.92512	46.51154	2.355695	33.20764
4	12.50046	18.81096	35.72836	9.515195	35.94549
5	13.96879	15.94591	42.04407	11.08831	30.92171
6	15.04395	13.75506	40.24434	16.02896	29.97164
7	16.02500	12.15865	36.03133	18.22053	33.58949
8	16.76291	12.80303	35.37835	18.24718	33.57143
9	17.58651	12.55429	35.79413	17.67107	33.98052
10	18.43587	11.88590	34.35871	19.69561	34.05977

Based on the results of the VD test above overall inflation can be explained by the SBR variable with a value of 34.05977%, SBP with a value of 19.69561%, SBD with a value of 34.35871%, and INF itself with a value of 11.88590%.

**CONCLUSION**

Based on the results of the above analysis, that the effective interest rate pathway is used in the The Transmission Mechanism of Monetary Policy in Indonesia, with inflation as the sole target of monetary policy. The Central Bank still uses interest rates as a tool to control the money supply in the community so that inflation remains stable as with what has been set.

## REFERENCE

- Aditya Novianto, 2011. Analisis Pengaruhi Nilai Tukar (Kurs) Dolar Amerika Serikat/Rupiah (Us \$/RP), tingkat Suku Bunga SBI, Inflasi, dan Jumlah Uang Beredar (M2), terhadap Indeks Harga Saham Gabungan (IHSG) di Bursa Efek Indonesia (BEI) Periode 1999. 1 – 2010. 6, Semarang, Universitas Diponegoro.
- Aleem, Abdul. 2010. Transmission Mechanism of Monetary Policy in India. *Journal of Asian Economic*, Vol. 21, Pages, 186 – 197.
- Bagus D,W,K. 2013. Evaluating Monetary Transmission Mechanism in Indonesia Through Exchange rate Channels. *Journal Ekonomi dan Studi Pembangunan*. Vol. 14, hlm. 91 – 100.
- The Central Bank. 2018. Outlook Ekonomi Indonesia 2008 – 2017. The Central Bank.
- BPS, "Badan Pusat Statistik", 2018
- Eichengreen, B., Park, D., & Shin, K. 2011. *When fast Growing Economic Slow Down: International Evidence and Implications for China*, National Bureau of Economic Research, Working Paper 16919.
- Fisher, Irving. 1911. *The Purchasing Power of Money*, 2<sup>nd</sup> edition, 1926, reprinted by Augustus helley, New York, 1963
- Ghozali, Imam. 2005. Aplikasi Analisis Multivariate dengan SPSS. Semarang. Badan Penerbit UNDIP.
- Goeltom, Miranda S. 2008. *The Transmission Mechanism of Monetary Policy in Indonesia*. Bank for International Settlement (BIS) Papres No. 35 Switzerland.
- Gujarati, Damodar. 2003. *Ekonometrika Dasar*, Erlangga, Jakarta.
- IFS, "International Financial Statistik", 2018.
- IMF, "International Monetary Fund", 2018.
- Ismail. 2010. Manajemen Perbankan. Edisi Pertama, Jakarta: Kencana.
- Iswardono. 1997. Uang dan Bank. Edisi 4. Yogyakarta: BPFE
- Mankiew, Gregory N. 2006. *Principles of Economic*. Pengantar ekonmi makro. Edisi ketiga. Alih bahasa Criswan sungkono. Salemba Empat: Jakarta
- Mayo, Regina. 2014. "Efektivitas jalur kredit dalam Mekanisme Transmisi Kebijakan Moneter di Indonesia". *Journal Keuangan dan Perbankan*. Vol. 18, hlm. 152 – 160.
- Mishkin, Frederic S. 2009. *Ekonomi Uang, Perbankan, dan Pasar Keuangan* Buku 2 edisi 8. Salemba empat: Jakarta
- Nisa R, Hayati B, and Yusuf Edy, A. 2017. Effectiveness of The Transmission Mechanism of Monetary Policy in Indonesia. *Journal Ekonomi dan Kebijakan*. Vol, 1, Pages, 189 – 206.
- Nopirin. 1992. *Ekonomi Moneter*. Buku 2, Yogyakarta: BPFE
- Norman, Loayza & Klaus Schmidt – Hebbel. 2012. *Monetary Policy Functions and Transmission Mechanism*, on Overview. Central Bank of Chile.
- Pohan, Aulia. 2008. *Ekonomi Moneter*. Buku II, edisi I. Cetakan ke – 10. BPFE UGM: Yogyakarta
- Rahmawati, Januar D, W. 2013. Pengaruh Kompetensi dan Independensi terhadap kualitas audit. *Jurnal ilmiah mahasiswa ekonomi Fakultas Ekonomi dan Bisnis Universitas Brawijaya*. Vol. 1, No. 1, Semester ganjil 2012/2013.
- Wulandari. 2012. Do Credit Channel Play Important Role in Monetary Transmission Mechanism in Indonesia? *A Procedia – Social and Behavioral Sciences*. No. 65, Pages. 557 – 563.
- Scott Andrew, David Miles. 2005. *Macroeconomics Understanding the Wealth of Nations*. John Wiley & Sons, Ltd, the Atrium, South Gate Chichester. West Sussex, Po 19. England.
- Taylor, John B. 1995. "The Monetary Transmission Mechanism : An-empirical Framework " *Journal of Economic Perspectives, American Economic Association*, Vol. 9 (4), Pages 11 – 26, Fall.
- Warjiyo, Perry. 2004. Mekanisme Transmisi Kebijakan Moneter di Indonesia seri Kebanksentralan No. 11, Pusat Pendidikan dan Studi Kebanksentralan (PPSK) The Central Bank, Jakarta.

<sup>1</sup>Setyoadi Pambudi, S.E.  
Economic Department  
Brawijaya University, Malang, Indonesia  
Email: setyoadi@pambudi@yahoo.com

<sup>2</sup>Prof. Munawar Ismail, S.E., DEA., P.hD  
Economic Department  
Brawijaya University, Malang, Indonesia

<sup>3</sup>David Kaluge, S.E., MS., Mec-Dev., P.hD  
Economic Department  
Brawijaya University, Malang, Indonesia