



DETERMINANTS OF INFLATION RATE IN INDONESIA

Lilies Setiartiti¹, Yunita Hapsari²



AFFILIATION:

^{1,2}Universitas Muhammadiyah
Yogyakarta, Yogyakarta, Indonesia
Jl. Brawijaya, Geblagan,
Tamantirto, Kasihan, Bantul,
Daerah Istimewa Yogyakarta
55183

*CORRESPONDENCE:

setiartiti.lilies1267@gmail.com

THIS ARTICLE IS AVAILABLE IN:

<http://journal.umy.ac.id/index.php/esp>

DOI:10.18196/jesp.20.1.5016

CITATION:

Setiartiti, L.&Hapsari, Y.(2019).
Determinants of Inflation Rate In
Indonesia.*Jurnal Ekonomi & Studi
Pembangunan*, 20(1), 118-133.

ARTICLE HISTORY

Received:

April 2019

Accepted:

April 2019

Abstract: This study aims to analyze the influence of some independent variables which are believed to have an impact on inflation in Indonesia. Also, as one of the variables that are observed by the Central Bank of Indonesia as a variable that could influence inflation stability in Indonesia based on its volatility. Those independent variables are divided in four categories namely money supply, exchange rate, BI rate as the interest rate, and gross domestic product. The data were obtained from the Indonesian Economic and Financial Statistics (SEKI) of Central Bank of Indonesia and Statistics Indonesia from 2010 to 2017. This study used an Error Correction Model (ECM) to get the equilibrium model and find out the influence of every independent variable on the short-run and long-run. Results show that the money supply has a positive and significant influence towards inflation in the short-run when money supply increased by one point, then inflation increased by 9.68 points. Nevertheless, the money supply has insignificant influence in the long-run equilibrium. The exchange rate and BI rate also have an insignificant effect on inflation neither in the long-run nor short-run. The gross domestic product has an insignificant effect on inflation both in long-run and short-run equilibrium. In a nutshell, this research summarizes the findings that have been conducted and offers some recommendations that could be taken into consideration to improve and strengthen the model's estimation to be more relevant for the future implementation.

Keywords: Inflation; Error Correction Model; Central Bank of Indonesia

JEL Classification: E31, C22, E58

© 2019jesp. all rights reserved

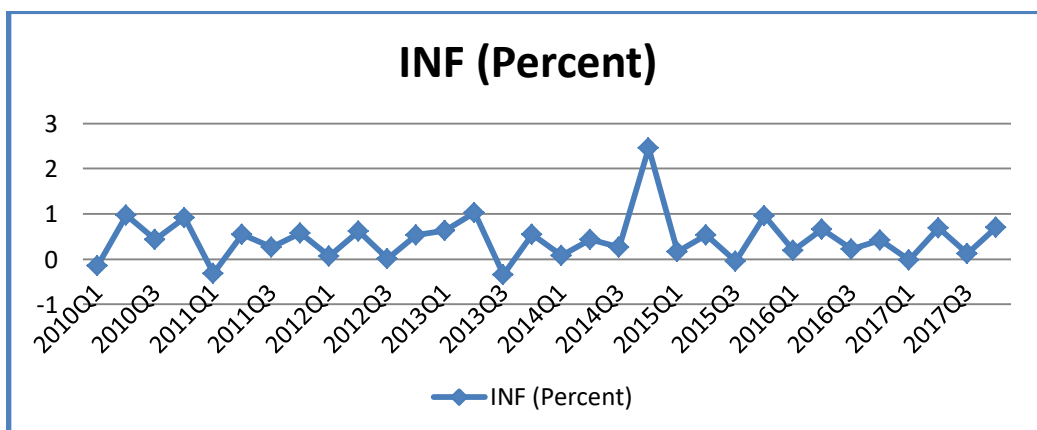
Introduction

This study tries to analyze the influence of some independent variables that are monitored and believed having impact on the inflation stability in Indonesia by the central bank (Bank Indonesia) and the government. It is in attempts to achieve and maintain the stability of rupiah which one of them reflected through inflation as amended in the act No.3 in 2004. Theoretically, inflation is a monetary phenomenon where all the general prices are increasing overtime in the economy.

The increasing price is a common thing. Yet, it could worsen if the price is uncontrollable which leads to a catastrophe on the economy of nations. However, in the matter of controlling inflation, Bank Indonesia can control it from the monetary aspects only. Therefore, the outside of monetary aspects is out of its control (Bank Indonesia, 2004).

Since the implementation of inflation targeting framework (ITF) as a strategy for implementing monetary is explicitly on July 2005, Government together with Bank Indonesia surely have already taken it into their consideration about the important impact of inflation towards economic growth. It is to improve social welfare and the consideration of Indonesia to be able to compete with other countries.

During the period from January 2010 to December 2017 based on the quarterly basis data, the inflation always fluctuates as shown in the graph below. The inflation rate during the first quarter of observation in 2010 began with the number -0.14 percent. The highest rate on the observation periods is in the fourth quarter of 2014 with number 2.4 percent and the lowest number is during the third quarter of 2013 with -0.35 percent rate.



Source : BPS (Statistics Indonesia)

Figure 1. 1 Inflation Volatility Period 2010.I-2017.IV

Inflation volatility is an inevitable phenomenon. It is common but needs to be under control. The achievement of inflation within the target range is a big agenda which currently being carried out by Bank Indonesia, considering the given impact of rocketing inflation is a big deal to the other economic aspects and society. Considering one of the Indonesian characteristics is that having a large number of the population in a group that lives slightly above the poverty line, means that relatively small inflation shocks can push them below the

poverty line, making suffer and delight separated by thin lines. Keeping inflation at a low level is pretty much goal of economic policymakers in Indonesia and around the world.

Basically, the causes of inflation are demand-pull inflation and cost-push inflation. From the Central Bank, they can control it only from monetary aspects such as money supply, exchange rate, interest rate, and gross domestic product. First, taken from the quantity theory, it assumes that the increase in the quantity of money supply is matters and could lead to inflation. Second from Exchange rate aspects, in this global era, international trade cannot be avoided because, in any kind of transactions, the usual used and accepted currency is US dollar. The value of domestic currency on the exchange rate is important because it would affect the international trade that eventually will affect the domestic economy. The depreciation of the domestic currency's value on the exchange rate is often associated with higher inflation or vice versa. Move on to the interest rate, since the implementation of Inflation Targeting Framework in 2005, the central bank declared that interest rate is one of the tools that can influence the inflation volatility. The rise in the interest rate could suppress public and government spending and to reduce the overall demand which ultimately decreases the inflation rate. The important of the gross domestic product towards inflation is taken from the Keynesian theory of consumption where an increase in consumption means an increase in the demand side. However, if the shift of demand is not followed by the aggregate supply, because of the low GDP affects the relatively flat of aggregate supply, it could lead to demand-pull inflation.

Some researchers have been conducting their research and published a journal about the influence of some variables that might affect the volatility of inflation. Some of the variables that they marked to be important towards the volatility of inflation on their research are variables such as the money supply, exchange rates, interest rate, and gross domestic product. Some of them gave significant results and some others did not. For example, (Langi, Masinambow and Siwu, 2014) in their research on *"Analisis Pengaruh Suku Bunga BI, Jumlah Uang Beredar, dan Tingkat Kurs Terhadap Tingkat Inflasi di Indonesia"* explain the error correction model of Engle-Granger results that the changes interest rate is a positive influence and significant towards the changes of inflation. Meanwhile, the changes in money supply and exchange rates are not significantly affecting the rate of inflation in Indonesia even though they have a positive influence.

According to Hossain(2005), historically, Indonesia has experienced 35 percent per annum rise of inflation during OPEC oil shock on the 1973-1974 and the second shock of OPEC oil price on 1979-1980 with 20 percent per annum. Moderately, high Inflation also has been experienced within the range of around 10-12 percent per annum on late-1960 until 1990. On 1997-1999 the Asian currency crisis also known as '*Krismon*' by Indonesian people hit the country's economy with the peak level in 1998 that the Inflation rose about 60 percent. The inflation during 1997-1999 spreads and affects other sectors such as economy, society, and politics.

Research Objectives

- 1) Analyzing the influence of the money supply towards inflation volatility.
- 2) Analyzing the influence of the exchange rate towards inflation volatility.
- 3) Analyzing the influence of BI rate towards inflation volatility.
- 4) Analyzing the influence of the gross domestic product towards inflation volatility.

Literature Review

Research on inflation has been done by many researchers. Some of them are Kalalo, Rostinsulu, and Maramis (2016) who have concluded that the variables of the money supply, exchange rates, BI rate, and the world oil prices as a representative of administered prices simultaneously have a positive effect towards the inflation. However, only the interest rate has a significant effect on the change in inflation. Those joint variables can explain 56,1% of the changes that happen in inflation as showed in the R-squared value, while the other 43,9% is influenced by other variables that are not included in the estimation model. In other hands, Saputra and SBM (2014) who operated an ARCH/GARCH model, revealed that the changes of inflation can be explained by variables such as the money supply, exchange rates, interest rate, and rice prices as the representative of volatile foods. Whereas, the money supply, exchange rates, and rice prices are positive and significantly influence inflation, while the interest rate even though positive it does not significantly influence inflation.

Research conducted by Krisnaldy (2017), which was using Error Correction Model, shows that in short-term the only variable that has a significant influence towards inflation is exchange rate variable with a negative sign of relationship. However, the researcher found out that there is any correction mechanism on inflation, suppose if the inflation rate is on the bellow of equilibrium than the

inflation will be expansive due to the growth of the exchange rate. On the other way around, if the inflation rate is above the equilibrium on long-term, then the inflation will be contractive to reach the equilibrium level. Interesting research also conducted by Odusanya and Atanda (2010) where Nigeria was the object of his research. The research method used was the augmented Engle-Granger co-integration test and error correction mechanism model with the results show that the changes or growth of money supply variable should be continuously monitored since it gives a long-run potential and magnitude of the inflationary pressure on the economy with a positive sign of relationship. The lower interest rate on lending, in this case, is important since the interest rate gives a resultant effect of investment crowd-out on the price level in the economy, or it can also be said that interest rate and inflation has a positive relationship. The growth of gross domestic product has a negative relationship and with a result from the test is significantly affecting the inflation. The exchange rate is found to exert a negative influence on inflation. The government expenditure has to be well managed to prevent over-spending and over-estimating that lead to imbalances in price stability level in the economy.

Different from Aghisna (2017), by multiple linear regression that used in her research model, she has concluded that the fuel and oil price subsidies, exchange rate, and interest rate have a positive and significant influence on the growth of inflation in Indonesia. However, the GDP variable even though has a significant influence, it has a negative relationship towards the growth of inflation in Indonesia. Not much different from the research carried out by Munepapa and Sheefeni (2017), which used an error correction model methods, gave the results that money supply, gross domestic product, lending rate, exchange rate, or in other words all variables excluding imports give significant influence to the inflation in that model. With the relationship that the gross domestic product has a negative relationship, and money supply has a positive relationship towards inflation. Therefore, in their research, it can be concluded that in short-run cases policymakers should focus on other variables considering that imports are not important in explaining short-run inflation.

Siregar and Rajaguru (2005), who used several statistical methods such as ARDL, GARCH, and ARCH gave conclusions based on the working monetary model that the key determinant of inflation during the post-crisis period is the volatility in the exchange rate and rapid growth of base money or money supply. On the other hand, Suprihati (2017) has a conclusion that money supply, interest rate,

exchange rate, and the fuel and oil price variables can explain 69% of Inflation that happened in this model. All of the variables except for money supply (M2) have a significant effect towards Inflation in Indonesia with further explanation that the Interest Rate has a negative influence, the exchange rate has a positive influence, the fuel and oil price has a positive influence towards inflation.

Wulan and Nurfaiza (2014) who analyze the Islamic perspective used a multiple linear regression model, conclude that the interest rate has a negative trend, the money supply has a positive trend, the exchange rate has a positive trend and all of them are significantly influence the inflation. Using multiple linear regression methods, Hartarto (2014) had a conclusion that interest rate has a positive and significant influence on inflation, while money supply even though also has a positive influence it is not significant. On the other hand, gross domestic product and exchange rate variable have a negative relationship towards inflation, but both of them do not significant because every single point that increases in the independent variable is not accompanied by the increase of inflation variable. Finally, Likukela (2007), used an Engle-Granger and error correction model has concluded that the gross domestic product has a negative relationship towards inflation both in short-run and long-run analysis, therefore, she suggests that the government can reduce inflation by increasing the total output especially in the sectors that they have potential growth such as agricultural output.

Research Method

The study model used an econometrics model as describes: How are the independent variables affect inflation rates both in short-run dynamics and long-run equilibrium simultaneously using error correction model (ECM) with denotations of variables as follows:

INF	= Variable of inflation
LOG_M2	= Natural Logarithm of the money supply
ER	= Variable of the exchange rate growth.
BIR	= Variable of BI rate
LOG_GDP	= Natural Logarithm of gross domestics product.

A. The Long-run Estimation Using OLS

The equation below gives a long-run equilibrium. In this estimation, the variables are lagged 1 period to generate Error Correction term.

$$INF = C(1) + C(2)*LOG_M2 + C(3)* ER + C(4)*BIR + C(5)* LOG_GDP + Ut$$

Where:

- C(1) = Constant
- C(2) = Coefficient of the money supply variable
- C(3) = Coefficient of the exchange rate variable
- C(4) = Coefficient of the interest rate variable
- C(5) = Coefficient of the gross domestics product variable
- Ut = Residuals

The Error Correction Term

The error-correction term relates to the fact that last-periods deviation from a long-run equilibrium influences its short-run dynamics. The error correction term is generated from the OLS estimation by making a residual series from estimation above. After getting the error correction term we should test it using Dickey-Fuller to test the stationary of the result of residual.

B. The Error Correction Model Through Short-Run Estimation

If the result of ECT above is stationary on the level, the next steps put the ECT on error correction model through short-run estimation. This model estimates the speed of dependent variable back to the equilibrium point after there are any changes in the variables. The estimation equation uses 1st difference both in the dependent variable and independent variables, exclude ECT as shown below:

$$D(INF) = C(1) + C(2)*D(LOG_M2) + C(3)*D(ER) + C(4)*D(BIR) + C(5)*D(LOG_GDP) + C(6)*ECT(-1) + Ut$$

Where:

- C(1) = Constant
- C(2) = Coefficient of the 1st difference of money supply variable
- C(3) = Coefficient of the 1st difference of exchange rate variable
- C(4) = Coefficient of the 1st difference of interest rate variable
- C(5) = Coefficient of the 1st difference of gross domestics product variable
- C(6) = Coefficient of the error correction term
- Ut = Residuals

Research Finding.

1. Classical Assumption

i. Autocorrelation test

The test result shows that the value of prob. Chi-Square is $0.259 > \alpha = 5\%$ or 0.05 then it can be concluded that the data is free from autocorrelation problem.

Autocorrelation Test Result.

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.09793	Prob. F(2,23)	0.3504
Obs*R-squared	2.7017	Prob. Chi-Square(2)	0.259

ii. Linearity test

Linearity Test Result

Ramsey RESET Test			
Equation: DEQ01			
Specification: D(INF) C D(LOG_M2) D(ER) D(BIR) D(LOG_GDP) ECT(-1)			
Omitted Variables: Squares of fitted values			
	Value	df	Probability
t-statistic	0.616573	24	0.5433
F-statistic	0.380162	(1, 24)	0.5433
Likelihood ratio	0.487195	1	0.4852
F-test summary:			

The probability of F-Statistic's value is greater than the $\alpha = 5$ percent: $0.5433 > 0.05$ means that the model is free from linearity problem.

iii. Multicollinearity test.

Multicollinearity Test Result

	LOG_M2	ER	BIR	LOG_GDP
LOG_M2	0.077400	-0.000807	-0.068175	0.033458
ER	-0.000807	0.000430	-0.007492	-0.000374
BIR	-0.068175	-0.007492	1.060974	-0.036721
LOG_GDP	0.033458	-0.000374	-0.036721	0.014891

The rule of the thumb to pass the multicollinearity test is none of the variables has a greater value than 0.85 towards another variable, it means that the data above is free from multicollinearity problem.

iv. Heteroscedasticity test.

Heteroscedasticity Test Result

Heteroskedasticity Test: White			
F-statistic	1.31462	Prob. F(20,10)	0.3367
Obs*R-squared	22.45827	Prob. Chi-Square(20)	0.3162
Scaled explained SS	52.50718	Prob. Chi-Square(20)	0.0001

The results above show that the Probability of Obs* R-squared is 0.3162 is bigger than 5% means that the Error Correction model is free from heteroscedasticity problem.

1. Statistics Test.

i. T-test

T-test Result

Long-Run Estimation				
Variable	t-Statistic	t-table	Prob.	Significant Effect
		(df:32 , α :0.05)		
C	0.710972	2.042	0.4832	
LOG_M2	0.941464	2.042	0.3548	No
ER	0.609241	2.042	0.5475	No
BIR	0.627521	2.042	0.5356	No
LOG_GDP	-0.824209	2.042	0.4170	No
Short-Run Estimation				
Variable	t-Statistic	t-table	Prob.	Significant Effect
		(df:32 , α :0.05)		
C	-1.314398	2.042	0.2006	
D(LOG_M2)	2.440695	2.042	0.0221	Yes
D(ER)	1.934298	2.042	0.0645	No
D(BIR)	0.360426	2.042	0.7216	No
D(LOG_GDP)	-0.768933	2.042	0.4491	No
ECT(-1)	-6.713224		0.0000	

In long-run estimation, all independent variables, individually, are not significantly affecting the change of inflation (absolute value of t statistic < t-table value). In short-run estimation, only money supply that significantly affecting the inflation (absolute value of t statistic > t-table value).

ii. F-test

F-test Result

Estimation Period	F-Statistic	F-Table α , dfn , dfd	F-Table Value	p-value	Effect is Significant?
Long-Run	0.537341	0.05 , 4 , 32	2.67	0.70951	No
Short-Run	16.05909	0.05 , 5 , 32	2.51	0.00000	Yes

On the long-run, the F-statistic value (0.537341) < the f table value (2.67), means that all the variables, jointly, are not influencing the dependent variable together. On the short-run estimation, the F-statistic > F value. 16.05909 > 2.51 means, through the estimation, all the variables ,jointly together, are influencing the inflation significantly.

iii. R² Interpretation.

R² Interpretation

Estimation Period	R ²
Long-Run	0.073736
Short-Run	0.762573

In the Long-run, the independent variables on the model only can be explained or predict the variance of the dependent variable by 7.3 percent. While for the rest, 92.7 percent is probably affected by other variables outside of this model. In the short-run estimation, the independent variables on the model can explained or predict the variance of the dependent variable by 76 percent.

Result and Discussion

1. Money Supply towards Inflation.

Based on the analysis result, the money supply has a positive influence on inflation, but it is only significantly influenced inflation on the short-run estimation. On the long-run estimation, when money supply increases by 1 point, the inflation will increase 2.016203 points. On the short-run, when the money supply increases by 1 point it would lead the inflation to increase by 9.684989

points. Therefore, we have to keep monitoring the fluctuation of money supply considering the theory of quantity or Fisher theory that says inflation is closely related to the money supply in the short-run.

2. Exchange Rate towards Inflation.

Based on the analysis result, the exchange rate has a positive influence on inflation. From both short-run and long-run estimation, they are not significantly influenced to the inflation. On the long-run estimation, when the exchange rate increases by 1 point the inflation will increase by 3.137222 points. On the short-run, when the exchange rate increases by 1 point it would lead the inflation to spike by 8.319751 points. The effect of exchange rate towards inflation depends on the state of the economy. The faster an economy growth and the closer to full capacity, the diminishing in the domestic currency' value more likely add inflationary pressure. On other hand, sometimes the fall of domestic currency will only cause temporary cost-push inflation.

3. BI Rate towards Inflation.

Based on the analysis result, even though the Bank Indonesia rate has a positive influence on inflation for both long-run and short-run estimation, they do not significantly influence on inflation. On the long-run estimation, when the Bank Indonesia rate increases by 1 point, the inflation will also increase by 0.070701 points. On the short-run, when the Bank Indonesia rate increases by 1 point it would lead the inflation to increase by 0.077308 points with a status of not significantly influence on inflation. It should keep in mind.

The not significance of interest rate influencing inflation in this result study is probably because of the use of variables on this study that is on a quarterly basis. It is quite long to be in the act to correct the inflation dynamics or the time lag problem in monetary policy to adjust the speed that has been increased during great moderation. The not significance also can caused by 'decoupling', a condition when economic pass through complexities even though in the short-term interest rate may encounter significant difficulties performance in monetary policy.

4. Gross Domestic Product towards Inflation.

Based on the analysis result, even though the gross domestic product has a negative influence on inflation both in the long-run and short-run estimation,

they do not significantly influence on inflation. On the long-run estimation, when the gross domestic product increases by 1 point, the inflation will decrease by 4.125952 points. On the short-run, when the gross domestic product increases by 1 point it would lead the inflation to decline by 1.218579 points with a status of not significantly influence on inflation. It should keep in mind.

The negative sign of the gross domestic product influence on inflation indicates that the increase in gross domestic product or total output will decrease the inflation. The total output on agricultural sectors, for instance, could reduce or calm down the inflation rate. On the other hand, looking at the non-significance influence's status of the gross domestic product towards inflation in this study indicates that every increase degree of gross domestic product is not always followed by the increase of inflation rate or the number of gross domestic product does not really matter in controlling the inflation.

Conclusions

- 1) The money supply has no significant influence on the long-run equilibrium but it has a positive and significant influence on inflation in the short-run with the coefficient of 9.684989 points which will increase inflation rate in every one point in the money supply.
- 2) The exchange rate has no significant influence in the long-run and short-run equilibrium towards inflation.
- 3) The BI rate has no significant effect on inflation neither in long-run nor short-run
- 4) The gross domestic product has no significant effect on inflation both in long-run and short-run equilibrium.
- 5) The R-squared in the short-run estimation shows that the model can only explain around 76 percent of the Inflation volatility while the other 24 percent diversity is influenced by other independent variables outside the model.

Recommendation

- 1) The Central Bank and Government should pay attention to the effect of money supply in order to keep the stability of inflation in the short-run.

- 2) For the future researcher, it would be better to consider using the latest data with shorter time lag in purpose to increase the accuracy and efficiency of model estimation to adjust the inflation volatility. Despite the result of this study is not significant but we should to keep monitoring the volatility of exchange rate
- 3) For the future researcher, it would be better to consider using the BI 7-Day (Reverse) Repo Rate in line with the latest Central Bank policies on using it as the interest rate and the reference rate. Even though in this study the result is not significant, we should control and watch the volatility of the interest rate to keep the inflation stability.
- 4) Although the gross domestic's product has no significant influence on inflation in this study, we still should watch the movement of gross domestic's product value to keep the inflation stability.
- 5) For the future researcher who might be interested in Inflation analysis, it is advisable to do thorough study related with the method, data and reconsider adding other variables which might have the other 24 percent of influence to the change of inflation rate in order to improve and strengthen the model's estimation, including adding more related references.

References

- Aghisna, H. (2017) *Analisis Faktor-Faktor Yang Mempengaruhi Inflasi di Indonesia Tahun 2000-2015*. Universitas Islam Indonesia.
- Bank Indonesia (2004) 'Act Of The Republic Of Indonesia', In *Act Of The Republic Of Indonesia*. Available at: https://www.bi.go.id/en/tentang-bi/uu-bi/Documents/UU32004_Engl.pdf.
- Bank Indonesia (2010-2017) *Kurs Tengah Beberapa Nilai Mata Uang, SEKI*. Available at: www.bi.go.id.
- Bank Indonesia (2010-2017) *Produk Domestik Bruto atas Harga KONstan 2010, SEKI*.
- Bank Indonesia (2010-2017) *Suku Bunga Diskonto, Imbalan, SEKI*. Available at: www.bi.go.id.
- Bank Indonesia (2010-2017) *Uang Beredar Dan Faktor yang mempengaruhinya, SEKI*. Available at: www.bi.go.id.
- Basuki, A. T. and Yuliadi, I. (2015) *Electronic data processing SPSS 15 and EVIEWS 7*. First. Yogyakarta: Danisa Media.

- Departemen Kebijakan Ekonomi dan Moneter Bank Indonesia (2013) *Tinjauan Kebijakan Moneter, Ekonomi, Moneter, dan Keuangan*. Jakarta. Available at: https://www.bi.go.id/id/publikasi/kebijakan-moneter/tinjauan/Pages/TKM_1113.aspx.
- Departemen Kebijakan Ekonomi dan Moneter (2015) *Tinjauan Kebijakan Moneter*. Jakarta. Available at: <https://www.bi.go.id/id/publikasi/kebijakan-moneter/tinjauan/Pages/Tinjauan-Kebijakan-Moneter-September-2015.aspx>.
- Devisi Kebijakan Moneter Bank Indonesia (2013) *Laporan Kebijakan Moneter Bank Indonesia tahun 2013*. Jakarta. Available at: www.bi.go.id.
- Direktorat Riset Ekonomi dan Kebijakan Moneter (2012) *Tinjauan Kebijakan Moneter*. Jakarta. Available at: https://www.bi.go.id/id/publikasi/kebijakan-moneter/tinjauan/Pages/tkm_0112.aspx.
- Divisi Kebijakan Moneter Bank Indonesia (2011) *Laporan Kebijakan Moneter Bank Indonesia tahun 2011*. Jakarta. Available at: www.bi.go.id.
- Divisi Kebijakan Moneter Bank Indonesia (2014) *Laporan Kebijakan Moneter Bank Indonesia tahun 2014*. Jakarta. Available at: www.bi.go.id.
- Divisi Statistik Moneter dan Fiskal (2014) *Perkembangan Uang Beredar M2*. Jakarta. Available at: <https://www.bi.go.id>.
- Dornbusch, R. and Fisher, S. (2008) *Exchange Rate and Current Account*. American.
- Hartarto (2014) *Analisis faktor – faktor yang mempengaruhi inflasi di indonesia tahun 2008.1 – 2012.4*. Universitas Muhammadiyah Surakarta.
- Hossain, A. (2005) 'The Sources and Dynamics of Inflation in Indonesia: An ECM Model Estimation for 1952-2002', *Applied Econometrics and International Development*, 5(4), pp. 93–116. Available at: http://ideas.repec.org/a/eea/aeinde/v5y2005i4_6.html.
- Ito, T. (2007) 'The role of exchange rate in inflation targeting', in *Post-Conference Version University of Tokyo*. Tokyo, pp. 1–32.
- Kalalo, H. Y. T., Rostinsulu, T. O. and Maramis, M. T. B. (2016) 'Analisis Faktor-Faktor Yang Mempengaruhi Inflasi di indonesia Periode 2000-2014', *Jurnal Berkala Ilmiah Efisiensi*, 16(1), pp. 706–717.
- Karl E. Case, Ray C. Fair, S. M. O. (2016) *Principles of Macroeconomics*. Thenth Edi. Edited by D. Battista. GEX Publishing Services.
- Krisnaldy (2017) 'Pengaruh Jumlah Uang Beredar, Produk Domestik Bruto, Kurs Dan Tingkat Bunga Terhadap Inflasi Di Indonesia Pendekatan Error

- Corection Model', *Jurnal KREATIF:Pemasaran, Sumberdaya Manusa dan Keuangan.*, 5(1), pp. 18–29.
- Langi, T. M., Masinambow, V. and Siwu, H. (2014) 'Analisis Pengaruh Suku Bunga Bi, Jumlah Uang Beredar, Dan Tingkat Kurs Terhadap Tingkat Inflasi Di Indonesia', *Jurnal Berkala Ilmiah Efisiensi*, 14(2), pp. 44–58. Available at: <https://ejournal.unsrat.ac.id/index.php/jbie/article/view/4184/3713>.
- Likukela, M. (2007) *An Econometrics Analysis Of The Determinants Of Inflation*. University of Nambia.
- M, A. K., Guruh, P. R. W. and R, G. S. (2008) *Penerapan Kebijakan Moneter dalam Kerangka Inflation Targeting di Indonesia*.
- Mankiw, N. G. (2009) *Macroeconomics*. seventh.
- Mishkin, F. S. and Eakins, S. G. (2003) 'The Foreign Exchange Market', in Clinton, D. (ed.) *Financial Markets + Institutions*. Fourth Edi. Boston: Addison-Wesley, p. 311.
- Munepapa, M. and Sheefeni, J. P. S. (2017) 'The Impact of Import on Inflation in Namibia', *European Journal of Business , Economics and Accountancy*, 5(2), pp. 42–51. Available at: WWW.researchgate.net/publication/315722812.
- Murtala *et al.* (2017) 'Fluctuation Analysis Of Rupiah Exchange Rate Of Dollar United States In Indonesia', *European Journal of Agriculture and Forestry Research*, 5(6), pp. 37–50.
- N. Gregory Mankiw (2011) *Principles of Macroeconomics*. third edit. doi: 10.1017/CBO9780511894572.014.
- Odusanya, I. A. and Atanda, A. A. (2010) 'Analysis of inflation and its determinants in Nigeria', *Pakistan Journal of Social Sciences*, 7(2), pp. 97–100. doi: 10.3923/pjssci.2010.97.100.
- Sanica, I. G. *et al.* (2018) 'Effectiveness and Forecasting of Interest Rate Reversal BI 7-Day Repo Rate in Indonesia : Lower Bound on Monetary Policy ?', *Mediterranean Journal of Social Sciences*, 9(1), pp. 171–180. doi: 10.2478/mjss-2018-0016.
- Saputra, K. and SBM, N. (2014) 'Analisis faktor-faktor yang mempengaruhi inflasi di Indonesia', *ejournal-s1.undip.ac.id/index.php/jme*, 3(1), pp. 1–15.
- Siregar, R. Y. and Rajaguru, G. (2005) 'Base Money and Exchange Rate: Sources of Inflation in Indonesia during the Post-1997 Financial Crisis', *Journal of Economic Integration*, 20(1), pp. 185–215. Available at: Www.jstor.org/stable/23000751.
- Statistik, B. P. (2010-2017) *Indeks Harga Konsumen dan Inflasi di Indonesia*, Badan Pusat Statistik. Available at: www.bps.go.id.

- Suprihati (2017) 'Analysis Of Factors Affecting Inflation In Indonesia Period 2008-2016', *Imperial Journal of Interdisciplinary Research (IJIR)*, 3(4), pp. 342–349.
- Utari, G. A. D., S, R. C. and Pambudi, S. (2015) *Inflasi Di Indonesia : Karakteristik dan Pengendaliannya*. 23rd edn, *Inflasi di Indonesia*. 23rd edn. Bank Indonesia Institute.
- Wulan, E. R. and Nurfaiza, S. (2014) 'Analysis of Factors Affecting Inflation in Indonesia: an Islamic Perspective', *International Journal Of Nusantara Islam*, 2(2), pp. 67–80.