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The Impact of Macroeconomic Variables on the Contingent Built-in Inflation: Evidence from Indonesia

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ABSTRACT

This paper examines the relationship between Exchange rates, GDP, and Government expenditure as macroeconomic variables on the Inflation of Indonesia which is quite struggling with increased prices of goods and services as it has been a persistent problem in Indonesia for many years. In 2023, it is so far 5.47% which is above the target set by the central bank of Indonesia of 2-4%. With the data taken from World Bank and IMF, the methodology consists of stationarity check, Cointegration analysis, and Error Correction Model to identify the long-run nexus among variables. The estimation result found that GDP is positively correlated with Inflation, Exchange rate is positively correlated with mild effects on inflation and government expenditure is negatively correlated with Inflation.

Keywords: *Built-in Inflation; ARDL Bounds Cointegration; Error Correction Model; Currency Depreciation*

INTRODUCTION

High Inflation is now a persistent problem in Indonesia for many years. In 2023, it is so far 5.47% which is above the target set by the central bank of Indonesia of 2-4%, there is a complex nature of domestic and external factors that contribute to high inflation such as increased food prices derived from poor harvests due to the matter that this country over the recent years has been hit by several poor harvests which dismantled the normal trend of supply and increased the prices, increased demand as the population of the country is growing rapidly, contributing to the increased food prices which is a major component of the Inflation. Increased fuel prices due to the increased global oil prices because Indonesia is an importer of oil, and meanwhile, the weak currency of Indonesia has made its imports more expensive and the result is inflation (Wimanda, 2023).

Increased government spending in Indonesia over the past few years has led to a high volume of money supply and subsequently caused more inflation. The multidimensionality of factors causing inflation has made it difficult to address all the micro and macroeconomic variables in one study to address the why and how of the current situation of inflation, however, it is necessary to point out a brief about the consequences of this situation, the high inflation has so far caused a reduced purchasing power of consumers and people to have less money to provide for their basic needs which eventually will cause a slowdown in economic growth, subsequently it is increasing poverty and degradation as accumulated savings are spent and middle-class people become poor

and poor become poorer and causes social unrest in the country and9 it will be a major reason of protests and demonstrations which can destabilize the country (Juhro, 2019).

Meanwhile, the government of Indonesia is taking several steps to address the matter of inflation, however, it is too early to decide whether the measures would be beneficial or not, which shows that it is likely seems to be efficient to research the potential causes of Inflation in both micro and macroeconomic level. The measures taken by the government include raising interest rates which would slow down the economy as it is obvious that with high-interest rates corporates and individuals would not take loans and their economic activity will reduce and demand for goods and services would fall and once demand is low prices would go down as well (Srinivasan, 2022). Providing subsidies, the government intends to subsidize some basic goods to decrease the competition which leads to high prices, and lastly improving agricultural production, as the government is looking to invest more for the purpose of increasing the supply of foods as it would lead to reduced prices of foods (Anugrah et al, 2019).

Although the inflation is high over these years for the country, it is contingent that it would get to a situation of built-in where past events persist in the present, this type of inflation is majorly caused by several factors and briefly, it includes, persistent demand-pull inflation which occurs when there is a consistent increase in aggregate demand, high cost-push inflation due to the major supply shock which occurs when a sudden shock happens that disrupts normal trend of prices and pressurizes prices, and lastly and importantly inflationary expectations which occurs that rational and forward-looking consumers expect higher wages to compensate for damages caused by inflation and eventually causes a sustained level of inflation for the country (Sulaiman, 2023)

Theories explaining inflation same as any other macroeconomic variable depend on the potential causes for them, there are four important theories behind inflation, the first important theory is the Keynesian theory developed by the British economist John Maynard Keynes during the time of the great depression during the 1930s, initially, this theory promotes a mixed economy where the private sector and the government could work together for sustainable development. (Keynes,1936) The Keynesian theory provides ideas that mainly focus on the causes and consequences of inflation and asserts the mechanism of how increased aggregate demand at a level of full employment leads to inflation. The theory also depicts that when an economy is spending beyond its potential output, leads the situation to increased inflation. Although this theory has an important role in explaining inflation, it has been criticized by some economists asserting that the theory simply ignores critical other factors like shocks in supply and productivity. (Keynes,1919)

The primary cause of inflation, according to Milton Friedman's monetarist theory of inflation, is an excessive money supply. Friedman attempted to resuscitate the classical monetary theory in a more modified version. (Frisch,1984) The old Quantity Theory of Money, which established that the velocity of money circulation is predictable over time and that small to significant changes in the money supply generate changes in nominal outputs (MV=PQ), has had a significant effect on the present monetary theory of inflation. (Brunner,1976)

Another important theory is the supply-side theory of inflation associated with supply-side economists initially arguing that to stimulate economic growth, the government needs to decrease regulation and taxes. This theory was developed by Robert Mundell and Arthur Laffer in the 1970s, asserting that a decrease in supply causes the normal situation of supply and demand and eventually causes high prices. (Sargent,1981)

Cost-Push theory of Inflation, this theory was developed by Willard Thorp and Richard Quandt in their work "The New Inflation" in 1959. (Perry,2016) The theory explains that when the cost of production increases due to factors such as rent, labor, or raw materials prices hike and the increased prices cause inflation the whole idea of this theory revolves around the increased wage of labor consequently contributing to the inflation, revolving the idea this theory is also called as wage-push inflation theory. (Burton,1972)

Kahssay (2022) in his study of the nexus among budget deficit, national saving, import, GDP growth, and money supply with inflation in Ethiopia, used data from 1975 to 2014 and the Ordinary Least Square method of regression and found the result that GDP is affecting Inflation positively in short and long-run but national savings and money supply were negatively significant with inflation suggesting that if the government could control the quantity of saving and money supply then it would be possible to control the inflation as well.

Adeniyi (2011) used the data from 1986 to 2015 to investigate the impact of oil prices, growth implosion, interest rates, exchange rates, and money supply on the inflation of Nigeria, this study used the Vector Error Correction model while doing tests for stationarity, co-integration, and causality, the study found that for the case of Nigeria, the money supply growth and currency depreciation are the main determinants of inflation in the short and long run and suggested that there should be monetary policies that could both phenomena while fiscal policies

can contribute as well in reducing the fiscal deficit and steering the economy away from severe dependence on oil because the imports bring currency depreciation and it significantly causes inflation.

Anaman (2014), Using data from 1970 to 2012, this study used a cointegration approach with an error correction model to examine the long and short-run relationships between inflation and macroeconomic variables such as money supply, real GDP growth, interest rate spread, and exchange rate. It found that in the case of Ghana, money supply and exchange rate are the main determinants of inflation and advised the government to control the money supply and currency depreciation in order to reduce inflation.

Chani and Shahid (2011) Using data from 1972 to 2010, an Ordinary Least Square analysis and Johansen cointegration assessed the link between Pakistan's GDP growth, budget deficit to GDP ratio, trade openness, money supply growth rate, exchange rate, and inflation. The key drivers of inflation in Pakistan, according to this study's findings, are the GDP growth rate, exchange rate, and money supply. It was recommended that monetary and fiscal policies target these drivers to reduce inflation within Pakistan.

Kumar (2012) in his study the author used quarterly data from 1996 to 2010 to analyze the impact of macro variables of currency depreciation, import, fiscal deficit to GDP ratio, money supply growth rate, and output gap on the Inflation of India, furthermore, the study used a dynamic ECM model and variance decomposition analysis and found that there are positive and significant relations between money supply, exchange rate, output gap, and inflation while fiscal deficit and import prices are not significant to address the Inflation in India.

Nhan (2016) through the method of Vector Autoregression and Granger Causality used data from 2000 to 2015 of Vietnam and tested the basic steps of stationarity, cointegration, causality, and stability condition check of the VAR model, evaluated the relationship between money supply, exchange rate, output gap, global oil prices, and Inflation and found that oil prices are not significantly addressing the inflation and the exchange rate depreciation, money supply and output gap have a positive and significant relationship with inflation

Dupor (2016) provided an article through the St. Louise Federal Reserve of the USA and explained the relationship between government spending and inflation and government spending intrigues a complex impact on Inflation, this article further asserts that one possible way of impact is that government expenditures will increase the cost for production and leads to increased inflation and prices while at the same time with the evaluation of evidence from USA from 1959 to 1979, the study found that there is an ambiguous relationship between government spending and inflation as for the specified period government spending had a negative relationship with inflation which means that by increasing government spending in the particular time the inflation decreased.

Mishkin (1984) explored the causes of sustained inflation or the built-in inflation which happens over time, the paper explained that sustained inflations more often occur when monetary growth is high which basically refers to high money supply growth. Furthermore, the paper explored that monetary growth can be affected by several aspects of monetary and fiscal policies, wage and price controls, and exchange rates however the main determinant will still be the monetary growth for inflation through its impacts by aggregate demand and supply.

Carvalho (2018), this study was designed to address the relationship between economic development and inflation while utilizing a theoretical and empirical analysis, the author used data from 65 countries over the period of 2001 to 2011 and did a panel data analysis to find that the inflation is negatively correlated with human capital, unemployment, and technological development. although the other factors are omittable, but the unemployment variable is closely related to built-in inflation which is asserted that throughout the period of time when inflation grows, and if the persistent labors and employees adapt their salary and demand for increased salary to cope with prices which is indirectly affirming inflation and it becomes built-in inflation. Demand for salary bump up was either accepted which ended to built-in inflation or it was rejected which intrigued unemployment.

Prasetya (2017) evaluated the impact of fiscal deficit and other macro variables on the Inflation of Indonesia through the quarterly data from 2000 to 2015, the study used Vector Error Correction Model to find the long-run relationship and adjustments for the short-run. Furthermore, the study found that there are many variables that affect inflation in the case of Indonesia such as oil prices, foreign debt, national debt, exchange rates, and fiscal deficit that positively affect inflation, and over the long run they contribute to volatile inflation rates in the country. However, what the paper lacked was the built-in inflation situation since over the long run nation do the adaptation and adjustment to inflation as well which has to be addressed as well. The paper further suggested that the government should come up with a robust monetary and fiscal policy that could control the effect of the addressed variables on inflation.

METHODS

The data of this study is obtained from the IMF, World Bank, and Central Bank of Indonesia which constructs a time series analysis from 1970 to 2021, the reason behind choosing this time frame is that only a long period of time can establish the reason behind claiming the contingency of Built-in inflation in a country with given prerequisites of the phenomenon and secondly the spiked up inflation of Indonesia is causing distress that needs to be addressed through researches. This study is entirely focused on the macroeconomic variables that impact inflation and it is intended to omit the microeconomic economic variables that do affect inflation, therefore the dependent variable is inflation rates during those years, and the independent variables are government expenditure as a percentage of GDP, Exchange rates based on the theory of weak rupiah and currency devaluation mentioned in the theoretical framework, and GDP growth rate.

The methodology of study constructs going with this procedure of:

- Unit root tests of Augmented Dickey-Fuller and Philips Perron
- Identifying the Optimal Lag Length to be selected
- Autoregressive distributed Lag model Bounds Cointegration Test to identify whether cointegration or long-run relationship exists or there is only short-run relationship to evaluate based on the criteria that if the F-stat is bigger than critical values for all the upper bounds I(1) then cointegration exist and an ECM regression shall be done to estimate the long-run relationship, otherwise an ARDL model for short-run estimation will be provided.
- Estimating Error Correction Model for long-run estimation and interpretation of results.

Unit Root tests of Variables

Unit root test is essential to determine the order of Integration of data which would make it possible to determine the optimal analysis model with the given time series dimension for the data. For this purpose, the Augmented Dickey-Fuller test and Philips-Perron tests of stationarity are performed to see if the variance, covariance, and mean for the variables are constant so that it would enable establishing a relation between them which is based on this regression equation of,

$$\Delta y_t=\beta_0+\beta_1 t+\beta_2 y_{(t-1)}+\sum\alpha_1 \Delta y_{t-i)}+\varepsilon_t \quad (1)$$

where Y is the series with t as time, Δ is the difference operator, β_0, β_1, β_2, and $\alpha 1$ are the coefficients that are estimated, and is the error term. For the ADF and PP tests which are meant to be tests of nonstationary the null hypothesis is that series are not stationary which gets to be rejected once the value of the t-stat is lower than critical values at 1%, 5%, and 10% with p-value lower than 0.05 significance level.

The ARDL Bounds Cointegration test

The ARDL Bounds cointegration is critical to understand the possibility of having a long-run equilibrium among variables and requires estimation of unrestricted error correction general equation as:

$$\Delta y_t = \beta_0 + \sum_{i=1}^{p}\beta_i \Delta y_{t-i} + \sum_{j=0}^{q}\gamma_j \Delta x_{t-j} + \phi_1 y_{t-1} + \phi_2 x_{t-1} + e_t \quad (2)$$

Bounds cointegration check based on equation (2) with criteria that H0 is that there is no cointegration and if F-stat > critical value for upper bound I(1), we conclude that there is cointegration and long-run relationship exists, but if F-stat < critical value for the lower bounds I(0), then there is no cointegration and a short-run model of ARDL will be estimated. If cointegration is found, then equation (3) will be applied for the long-run relationship and unrestricted error correction equation. If cointegration is not found, then equation(4) will be applied to the short-run relationship.

$$\Delta CGD_t = \beta_0 + \sum_{i=1}^{p}\beta_i \Delta CGD_{t-i} + \sum_{j=0}^{q}\gamma_j \Delta Ex_{t-j} + \sum_{j=0}^{r}\gamma_j \Delta LGDP_{t-j} + \vartheta z_{t-1} + \varepsilon_t \quad \text{- ECM} \quad (3)$$

RESULT AND DISCUSSION

Order of Integration

To determine the order of integration for the data, the PP (Show in Table 1) and ADF (Show in Table 2) tests are performed and the result presented in the table below shows that, firstly the ADF shows, that Inflation is stationary at level with or without constant and trend and the GDP growth rate as well, while exchange rate and government expenditure are not stationary at the level and it is needed to make a difference of the series to determine the stationarity at first difference, so after differencing it is proved to be stationary at first difference for both exchange rate and government expenditure, therefore according to both results we have the mixture of the order of integration for the data as two of them Inflation and GDP growth rate are stationary at level I(0) and exchange rate and government expenditure are I(1). This mixture of integration requires testing whether they are cointegrated for long-run relationships as explained before which is the Bound Cointegration and it will lead to the Error Correction Model estimation.

Table 1. Unit Root Test Table (PP)

	At Level	**INF**	**LGEXP**	**GRATE**	**EXCHRATE**
With Constant	t-Statistic	-5.3529	-1.7591	-4.9912	0.0392
	Prob.	0.0000	0.3962	0.0001	0.9576
		***	n0	***	n0
With Constant & Trend	t-Statistic	-5.8809	-2.4841	-5.2507	-2.7136
	Prob.	0.0001	0.3344	0.0004	0.2358
		***	n0	***	n0
Without Constant & Trend	t-Statistic	-3.1605	2.7133	-2.2098	1.4979
	Prob.	0.0021	0.9980	0.0274	0.9653
		***	n0	**	n0
	At First Difference	**d(INF)**	**d(LGEXP)**	**d(GRATE)**	**d(EXCHRATE)**
With Constant	t-Statistic	-24.2538	-6.4859	-23.1423	-8.5033
	Prob.	0.0001	0.0000	0.0001	0.0000
		***	***	***	***
With Constant & Trend	t-Statistic	-27.6829	-6.5543	-22.4234	-8.4529
	Prob.	0.0001	0.0000	0.0001	0.0000
		***	***	***	***
Without Constant & Trend	t-Statistic	-25.1648	-5.7978	-20.5773	-7.9116
	Prob.	0.0000	0.0000	0.0000	0.0000
		***	***	***	***

Table 2. Unit Root Test Table(ADF)

	At Level	**INF**	**LGEXP**	**GRATE**	**EXCHRATE**
With Constant	t-Statistic	-5.3577	-1.7861	-4.9912	-0.2232
	Prob.	0.0000	0.3831	0.0001	0.9285
		***	n0	***	n0
With Constant & Trend	t-Statistic	-5.9246	-2.3873	-5.2826	-2.7726
	Prob.	0.0000	0.3816	0.0004	0.2138
		***	n0	***	n0
Without Constant & Trend	t-Statistic	-2.2347	2.9627	-2.3713	1.0760
	Prob.	0.0259	0.9990	0.0185	0.9244
		**	n0	**	n0
	At First Difference	**d(INF)**	**d(LGEXP)**	**d(GRATE)**	**d(EXCHRATE)**
With Constant	t-Statistic	-10.5707	-6.4705	-7.8724	-8.4023
	Prob.	0.0000	0.0000	0.0000	0.0000
		***	***	***	***

With Constant & Trend	t-Statistic	-10.4823	-6.5430	-7.7871	-8.4260
	Prob.	0.0000	0.0000	0.0000	0.0000
		***	***	***	***
Without Constant & Trend	t-Statistic	-10.6817	-5.6308	-7.9431	-7.9407
	Prob.	0.0000	0.0000	0.0000	0.0000
		***	***	***	***

Notes: (*)Significant at 10%; (**)Significant at 5%; (***) Significant at 1%. and (no) Not Significant

After Identifying the order of integration, it is necessary to determine the optimal lag to be used for the ARDL estimation and ECM estimation which is shown to be in the Figure 1 to be as first lag according to the SBIC, FPE, and Hannan-Quinn criteria.

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Lag-order selection criteria

Sample: 1974 thru 2021                                  Number of obs = 48
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Lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-806.302				5.4e+09	33.7626	33.8215	33.9185
1	-622.887	366.83	16	0.000	5.1e+06*	26.787	27.0816*	27.5666*
2	-606.873	32.028*	16	0.010	5.1e+06	26.7864*	27.3167	28.1898
3	-595.033	23.681	16	0.097	6.3e+06	26.9597	27.7258	28.9868
4	-586.514	17.037	16	0.383	9.3e+06	27.2714	28.2732	29.9223

```
* optimal lag
Endogenous: inf loggovexp gdpgrate exchrate
 Exogenous: _cons
```

Figure 1. Optimum Lag Length Selection

ARDL Bounds Cointegration Tests

The results of this test which developed by Pesaran et.al (1995), it is shown in Figure 2 the F-stat is 9.297 which is bigger than the critical values in the upper bounds I(1) and the H0 is that there is no cointegration, therefore to conclude simply it means that we have to reject the H0 and believe that cointegration exists and the long-run relationship does exist which shall be corrected by Error Correction Term which modifies the long-run behavior.

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Pesaran/Shin/Smith (2001) ARDL Bounds Test
H0: no levels relationship            F =  9.297
                                      t = -5.449

Critical Values (0.1-0.01), F-statistic, Case 3
```

	[I_0] L_1	[I_1] L_1	[I_0] L_05	[I_1] L_05	[I_0] L_025	[I_1] L_025	[I_0] L_01	[I_1] L_01
k_3	2.72	3.77	3.23	4.35	3.69	4.89	4.29	5.61

```
accept if F < critical value for I(0) regressors
reject if F > critical value for I(1) regressors

Critical Values (0.1-0.01), t-statistic, Case 3
```

	[I_0] L_1	[I_1] L_1	[I_0] L_05	[I_1] L_05	[I_0] L_025	[I_1] L_025	[I_0] L_01	[I_1] L_01
k_3	-2.57	-3.46	-2.86	-3.78	-3.13	-4.05	-3.43	-4.37

```
accept if t > critical value for I(0) regressors
reject if t < critical value for I(1) regressors

k: # of non-deterministic regressors in long-run relationship
Critical values from Pesaran/Shin/Smith (2001)
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Figure 2. ARDL Bounds Cointegration

Error Correction Model Estimation

With the cointegration found, it is possible to estimate the error correction model, and the results provided below show in Table 3 that the speed of adjustment toward long-run equilibrium for the inflation is -0.804 toward its long-run equilibrium value, the exchange rate has a positive and significant relationship and a one unit change in exchange rate causes 0.0098 point increase in inflation, the GDP has also a positive and significant relationship with inflation and one unit change in GDP causes 49.5 percent change in Inflation which shows the importance of GDP and complexity of the relationship between them as it can be positive and negative but through the study in hand it is shown that the relationship is positive and significant, and lastly, the government expenditure is shown to have a negative relationship with Inflation as one point change government expenditure causes the inflation to decrease 22.37 percent. Therefore, these short-run coefficients showcase the changes in Inflation, and in the long run with the speed of adjustment, the long-run equilibrium value of inflation will be provided.

Table 3. ECM regression (short-run coefficients for long-run adjustments)

ARDL Error Correction Regression
Dependent Variable: D(INF)
Selected Model: ARDL(1, 1, 1, 1)
Case 2: Restricted Constant and No Trend
Sample: 1970 2021
Included observations: 51

ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EXCHRATE)	0.009833	0.001193	8.240550	0.0000
D(LGDP)	49.54912	10.78299	4.595118	0.0000
D(LGEXP)	-22.37187	8.878398	-2.519810	0.0155
CointEq(-1)*	-0.804129	0.097368	-8.258671	0.0000
R-squared	0.781526	Mean dependent var		-0.161525
Adjusted R-squared	0.767581	S.D. dependent var		15.40031
S.E. of regression	7.424469	Akaike info criterion		6.922624
Sum squared resid	2590.769	Schwarz criterion		7.074140
Log likelihood	-172.5269	Hannan-Quinn criter.		6.980523
Durbin-Watson stat	1.919507			

*** p-value incompatible with t-Bounds distribution.**

F-Bounds Test		Null Hypothesis: No levels of relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	12.48018	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

CONCLUSION

The error correction model estimation found that there is a positive and significant relationship between exchange rate and Inflation, acknowledging the theory of Monetarists that excessive supply of money causes weak currency and In turn leads to a higher volume of inflation which is the current case of Indonesia as the exchange rate is as such that one dollar is equal to 15 thousand Indonesia rupiah, secondly the study found that GDP has positive and significant relationship with Inflation which refers to the multifaceted and complex nature of this relationship that GDP increases can cause positive and also negative effect on Inflation which means it can increase inflation or decrease depending on the situation and we found in this study that increase in GDP of Indonesia causes increase in inflation in the short-run which is for the long-run is adjusted but in the short run it is shown to be increasing the inflation due to the fact that when economy is growing , the aggregate demand goes up as well and when demand is hiked then it is obvious that with insufficient supply it will lead to Inflation. Thirdly, the result found that there is a negative relationship between government expenditure, meaning that an increase in government spending causes a decrease in Inflation which is consistent with this study by the St. Louis federal reserve of the United States of America which asserts that there is a tenuous relationship between so it highly

depends on the nature and conditions of the country upon which the relationship can be determined.

Based on the findings of the results these policies can address the high inflation in Indonesia, firstly, fiscal policies that reduce government spending, because in the short run government spending according to the result decreases inflation but according to the long-run ARDL model of the variables it increases the inflation. Secondly, monetary policies by increasing interest rates slow down economic growth and aggregate demand which causes decreased inflation. Thirdly, increasing productivity specifically on the agriculture side increases the supply of goods and services which causes decreased inflation. And lastly, the exchange rate policies should be such that it could appreciate currency so when imports happen it will not be expensive, and inflation will decrease.

REFERENCES

Adeniyi, O. 2011. "Macroeconomics determinants of Inflation in Nigeria." *International Journal of Business and Social Science* https://ijbssnet.com/journals/vol._2_No.15.

Anaman, K. 2014. "Macroeconomics determinants of Inflation in Ghana." *International Journal of Academic Research in Business and Social* Sciences https://doi.org/10.6007/IJARBSS/v4-i7/1008.

Anurag, D. F., Ismaya, B. I., & Pratama, R. 2019. "The determinants of Inflation: The case of Indonesia." *The Determinants of Inflation in Asia, the SEACEN Centre* 127-160.

Bank, The World. 2022. "Indonesia Economic Prospects." https://www.worldbank.org/en/country/indonesia/indonesia-economic-prospects.

Brunner, K. 1976. "The monetarist controversy." Federal Reserve Bank of Boston.

Burton, J. 1972. *Wage Inflation.* Palgrave Macmillan.

Carvalho, A. 2018. "Economic development and inflation." *International Review of Applied Economics* https://doi.org/10.1080/02.2017.1351531.

Chani, M. & Shahim, M. 20111. "Macroeconomic determinants of Inflation in Pakistan." *Journal of Applied Finance and Banking* 239-254.

Cus, N., Nihan, N. 2016. "Macroeconomic determinants of Inflation in Vietnam." *Journal of Economics and development studies* 4(2), 1-13.

Dupor, B. 2016. "How does government spending affect Inflation?" St. Louis Federal Reserve, May 10.

Friedman, M. 1969. *The optimum quantity of money.* Aldine publishing company.

Frisch, H. 1984. *theories of inflation.* Cambridge university press.

Indonesia, Central Bank of. 2022. "Inflation Target." https://bi.go.id/inflasi.

Juhro, S.M., & IYKE, B. N. 2019. "Forecasting Indonesian Inflation within an Inflation-targeting framework: do large-scale models pay off?" *Bulletin of Monetary Economics and Banking* https://doi.org/10.21098/nemp.v22i4.1235.

Kahssay, T. 2022. "Determinants of Inflation in Ethiopia." *Research in development* https://doi.org/10.11648/j.rd.20230401.13.

Kapoor, S., Kumar, S. 2012. "Macroeconomic determinants of Inflation in India." *Journal of Applied Business and Economics* 84-96.

Keynes, j. M. 1936. *The general theory of employment, interest, and money.* Palgrave Macmillan.

Keynes, J.M. 1919. *Inflation and economic consequences of peace.* Palgrave Macmillan.

Laffer, A. 2018. *Trumponomics: Inside America's first plan to revive our economy.* All points books.

Laidler, D. 1981. *Monetarist Perspectives.* Harvard university press.

Mishkin, F. 1984. "The causes of inflation." *National Bureau of Economics Research* https://doi.org/10.3386/w1453.

Perry, G. 2016. *Cost-push inflation.* The New Palgrave Dictionary of Economics, Palgrave Macmillan.

Prasetaya, R. 2017. "Fiscal deficit and the impact of macroeconomic variables on inflation in Indonesia." *International Journal of Economics and Financial Issues* 7(2), 1-8.

Publishing, Britannica Educational. 2010. *Inflation: economics in action.* Britannica Publishing.

Sargent, T. 1981. "some unpleasant monetarist arithmetic." *Federal reserve bank of Minneapolis quarterly review* 5(3), 1-17.

Srinivasan, K. 2022. *Asia's Economies face weakening growth and rising inflation pressures.* https://www.imf.org/en/blogs/articles/blog-07282022-apd-asias.

Wimanda, R. E. 2023. "Financial Stability in the Indonesian Monetary Policy Framework ." *Cogent Economics & Finance* (Reuters) https://doi.org/10.1080/23322039.2023.2174637.