Impact of Money Supply on Inflation Rate in Nigeria: Evaluating Threshold Effects

Adeniyi Adedoyin
Department of Economics, Lead City University Ibadan, Nigeria

Omolara A. Campbell
Department of Economics, Lead City University, Ibadan, Nigeria
Email: *omolaracampbell@yahoo.com*

Abstract

The effectiveness of monetary policy remains a critical concern in developing economies like Nigeria. In light of the recent surge in inflation and its consequent economic distortions, this study investigates the threshold level at which money supply influences the inflation rate in Nigeria. Employing threshold regression analysis, the findings reveal a specific threshold of 60% money supply growth. When money supply growth exceeds this 60% threshold, it exerts a strong positive and statistically significant effect on inflation. Conversely, below this level, the effect of money supply on inflation, while still positive, is substantially less significant. The study concludes that a non-linear threshold effect exists in the money supply-inflation relationship in Nigeria. Thus, the study recommends that monetary authorities should implement policies to maintain money supply growth prudently below this identified threshold and pursue broader monetary frameworks that ensure macroeconomic stability to anchor economic activities.

Keywords: Inflation, money supply, threshold, monetary policy

1. Introduction

Inflation, defined as the sustained increase in the general price level of goods and services in an economy over time, has been a persistent and significant concern in Nigeria. As the Nigerian economy grapples with the challenges posed by inflation, policymakers are keen to understand the factors driving this phenomenon and devise effective strategies to control it. One crucial factor believed to influence inflation is money supply, which refers to the total amount of money in circulation within an economy (Jinghan, 2011). The relationship between money supply and inflation has been a subject of great interest, and this study aims to explore the impact of money supply on inflation rate in Nigeria while also evaluating threshold effects.

Over the years, Nigeria has faced economic problems stemming from inflation, with significant fluctuations in inflation rates observed during different periods (Adelowokan et al., 2019). The inflationary trends in Nigeria have been characterized by periods of high inflation rates, leading to major financial distortions and adverse effects on the standard of living for the average Nigerian. The country has witnessed economic imbalances, exchange rate fluctuations, and declining purchasing power of the currency, exemplified by the devaluation of the Naira against major foreign currencies (Alqaralleh et al. 2018; Tadese & Melaku, 2019). The persistent inflationary pressures have prompted policymakers to implement various measures to control inflation, including monetary policy interventions (Amiri & Gang, 2018).

Monetary policy, as a critical tool to regulate the value, supply, and cost of money in an economy, plays a vital role in the management of inflation. The Central Bank of Nigeria (CBN) takes measures to manage the supply of money and credit to keep inflation within acceptable limits and ensure smooth economic functioning (Eze & Nweke, 2017). According to Salunkhe & Patnaik (2017) the effectiveness of monetary policy in controlling inflation is a key consideration for policymakers, as inflation can have far-reaching consequences on various aspects of the economy, such as savings, investment, productivity, and balance of payments.

While previous studies have explored the impact of monetary policy on economic activities and inflation rate in Nigeria, only a few have

examined the differential effects of money supply on inflation rate, particularly with respect to potential threshold effects. This study seeks to bridge this gap in the literature by evaluating the thresholds at which money supply affects inflation rate in Nigeria. By identifying these thresholds, policymakers can better understand the magnitude and non-linear dynamics of the relationship between money supply and inflation, enabling them to devise more targeted and effective monetary policy measures to control inflation and stabilize the economy.

The rest of this paper is structured as follows: section two for literature review, section three for methodology, section four is for result and discussion while section five concludes the paper.

2. Literature Review

Inflation, characterized by a sustained increase in the general price level, has both positive and negative effects on the economy. While moderate inflation can facilitate the adjustment of wages and relative prices, high inflation can erode savings, create uncertainty, and reduce the purchasing power of consumers (Abeng et al. 2018; Ndoricimpa, 2017). Additionally, inflation can lead to non-competitiveness in the international market and cause a decline in real wages. The quantity theory of money provides a foundational understanding of how changes in money supply can impact the overall price level in the economy (Tenaw & Demeke, 2020).

Inflation may take different forms such as demand-pull inflation which occurs when aggregate demand exceeds aggregate supply, leading to a general increase in prices. Another form of inflation is cost-push inflation which arises from an increase in the cost of production, such as rising energy and commodity prices Ndoricimpa, 2017; Bawa & Abdullahi, 2021). Understanding the types and pace of inflation is crucial in implementing appropriate policies to manage inflation levels effectively.

To control inflation, governments and central banks use monetary policy as a tool. This policy involves adjusting the money supply and interest rates to influence macroeconomic variables like inflation and unemployment. Key tools of monetary policy include interest rate adjustments, reserve requirements, and open market operations. An

expansionary monetary policy aims to increase the money supply and stimulate economic growth, while a contractionary policy aims to reduce the money supply to control inflation (Tenaw & Demeke, 2020; Desan, 2017).

The quantity theory of money, a fundamental concept in classical economics, serves as the theoretical basis for understanding the relationship between money supply and the general price level. The theory, first explored by David Hume and later developed by Irving Fisher, postulates that there is a direct proportionate relationship between the money supply and price level in an economy (Abeng et al., 2018). This theory forms the foundation for studying the impact of money supply on inflation.

The quantity theory of money proposes the equation MV=PY, where M represents the stock of money in circulation, V is the velocity of money circulation, P denotes the general price level, and Y stands for the total income in the economy. The equation implies that an increase in money supply will lead to a corresponding increase in the price level. Consequently, an expansion in money supply is expected to result in inflationary pressures (Ahamba et al., 2020).

The relationship between money supply and inflation is of particular interest in the Nigerian context. Inflation, as a sustained increase in the general price level, can have significant implications for the economy (Bawa & Abdullahi, 2021). Understanding the quantity theory of money allows policymakers in Nigeria to develop effective monetary policies to control inflation and promote stable economic growth.

A review of empirical literature shows that different studies have explored the relationship that exist between money supply and inflation in Nigeria. While the studies that have examined the threshold of money supply on inflation are scant, a number of studies have examined the effect of money supply on inflation control. Some of the studies that have examined the threshold of monetary policy include the study by Adegboyo, Keji & Fasina (2021) that investigated the efficacy of monetary policy in curbing inflation in Nigeria. In their study, they employed time series data between 1986 and 2015, and the Vector Error Correction Model (VECM) was employed to give empirical content. The study found out that monetary policy is significant in curbing

inflation threshold in Nigeria, however the effect of monetary policy variables is weak in controlling inflation. This is as a result of the large proportion of informal sector which culminates into a high currency outside bank economy that is largely not affected by monetary policy tools. Also, non-popularity of monetary policy tools as a result of financial illiteracy accounts for its ineffectiveness. They also found that Monetary Policy Rate (MPR) is not statistically significant which has also affected its transmission mechanism to commercial banks interest rate. This is because of commercial banks' excess reserves which downplay the efficacy of the MPR in affecting interest rate and money supply.

Meanwhile in Ghana, Ibrahim et al (2020) examined the threshold effect of inflation on economic growth in Ghana between 1965 and 2013, they found that inflation-growth nexus is mediated by the level of broad money supply and while inflation negatively affects overall growth, the result of the study suggests that, inflation significantly inhibits economic growth when the broad money supply exceeds a threshold of 21.57% of GDP at 95% confidence interval, below this threshold, the impact of inflation is benign

In another study by Ikechukwu & Itoro (2016), it was found that Inflationary pressure on the South African economy was lower than that of Nigeria, even when both countries faced high inflation episodes during the early decades of 1990s. They advocated those factors beyond the purview of monetary policy constrained the realization of single digit inflation. They described these factors as including the existence of various and uncontrolled sources of liquidity in the country, government fiscal operation, which includes financing of deficit budget and monetization of deficits, the existence of large informal credit markets, etc. Similar results were found in a study which examined the trend of monetary policy instruments and inflation in Nigeria, evaluated the empirical relationship between monetary policy instruments and inflation in Nigeria, as well as investigated the effectiveness of monetary policy tools in controlling inflation in Nigeria; between 1986 and 2015. The study revealed that monetary policy is significant in curbing inflation threshold in Nigeria. However, the effectiveness of these policy variables is weak in controlling inflation in Nigeria as a

result of large portion of informal sector and non-popularity of monetary policy tools (Okwori & Abu, 2017).

Onwachukwu (2014) studied the use of monetary policy to check inflation in Nigeria using time series data from 1970 to 2010. The method employed OLS to estimate the model parameters. He found that bank rate, deposit with the central bank, liquidity ratio, and broad money supply are statistically significant in explaining changes in inflation. However, exchange rate was found not to account for significant changes in inflation in Nigeria. Further in 2014, other researchers examined the effectiveness of monetary policy in reducing inflation in Nigeria for the period 1970 − 2012, employing the co integration and Error Correction Technique of econometric analysis. From their analysis, the Granger Causality test revealed an un-directional relation between Monetary Policy and inflation. However, the VECM test revealed that inflation, GDP and exchange rate are negatively related and positively related to broad money supply (M2) and domestic credit (Adaramola & Dada, 2020). Imimole & Enoma (2011) examined the impact of exchange rate depreciation on inflation in Nigeria for the period 1986–2008 using Auto Regressive Distributed Lag model. They found that exchange rate depreciation, money supply and real gross domestic product are the main determinants of inflation in Nigeria, and that Naira depreciation is positive, and has significant long-run effect on inflation in Nigeria. This implies that exchange rate depreciation can bring about an increase in inflation rate in Nigeria. The study also found that inflationary rate in Nigeria has a lagged cumulative effect.

According to the study conducted to investigate the role of monetary policy in attaining the objective of price stability in Nigeria, as well as determine the relationship between money supply and the price level in Nigeria; money does not significantly impact on the price level in Nigeria (Itodo, Akadiri & Ekundayo, 2017). Similar result was found in the study which investigated the impact of money supply on inflation in Nigeria and also re-examined the immediate cause of the alarming rate of inflation in Nigeria. Their result showed that money supply does not considerably influence on inflation both in the long-run and short-run. According to them, this may be due to the fact that the country was in recession during the period observed (Amassoma, Onyedikachi & Sunday, 2017). Furthermore, Onyeiwu (2012) examines the impact of

monetary policy on the Nigerian economy. In doing this, the OLS was used to analyse data between 1981 and 2008. The result of the analysis shows that monetary policy presented by money supply exerts a positive impact on GDP growth and Balance of Payment but negative impact on rate of inflation.

3. Methodology

To estimate the threshold at which money supply affect inflation, this study adapts the methodology in the work of Khan and Senhadji (Khan & Senhadji, 2001). Therefore, the estimation model is of the form:

$$inf_t = \alpha_0 + \alpha_1 msg_t + \alpha_2 d_t^{msg^*} msg_t - msg^*] + \alpha_3 int_t + \alpha_4 exr_t + \alpha_5 lr_t + \alpha_6 crr_t + \mu_t \quad (1)$$

where msg^* is the threshold level of money supply $d_t^{msg^*}$ is a dummy variable defined as value one for money supply greater that the threshold level of inflation and zero otherwise. Continuity of the relationship is necessary in order that small changes in the money supply around the threshold level will not yield different impacts on inflation depending on whether money supply is increasing or decreasing. The term $msg_t - msg^*_t$ in equation (1) makes the relationship between inflation described by the equation continuous at the threshold level msg^*. Parameter msg^* has the property that the effect of money supply on inflation is given by α_1 when money supply is less or equal to msg^* and ($\alpha_1 + \alpha_2$) when money supply is higher than msg^*. For estimation, the value of msg^* is given arbitrarily for the estimation, the optimal k is obtained by finding that value which minimizes the residual sum of squares (RSS). Stacking the observations in equation (1) in vectors yields the compact notation:

$$inf_t = X\,\alpha_{msg} + \mu \qquad msg = msg_{1\ldots\ldots} msg^h \quad (2)$$

where $\alpha_{msg} = (\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6)$ is the vector of parameters and X is the corresponding matrix of observations on the explanatory variables. The coefficient vector α is indexed by *msg* to show its' dependence on the threshold level of inflation, the range of which is given by msg_1 *and* msg^h. Given that S_1 *(msg)* is the residual sum of

squares with the threshold level of money supply fixed at *msg*. The optimal threshold level msg^* is chosen so as to minimize $S_1(msg)$.

To identify the threshold value in the equation (2), the OLS estimation technique is employed. The sum of squared errors (S_1) is then computed for all possible values of the threshold variable (money supply), where $S_1(msg)$. In the second step, the threshold parameter is obtained by minimizing S_1. In addition, there is need to test whether the threshold is statistically significant. The null hypothesis is that there is no threshold effect, that is,

$$H_0: \alpha_1 = \alpha_2 \quad (3)$$

The null hypothesis implies that the slope coefficients are equivalent in the two regimes. The likelihood ratio test of the null hypothesis is based on the F-statistic:

$$F1 = (S_0 - S_1(\pi))/ \sigma^2 \quad (4)$$

Where S_0 and S_1 are the sum of squared errors under the null and alternative hypotheses, while σ^2 is the estimate of the regression error variance (σ^2). Given that the threshold value is not identified under the null hypothesis, the asymptotic distribution of F1 is not standard. As a solution, Hansen proposed a bootstrap method to simulate the probability value for the F-statistic (F1). For threshold effect to exist, it is expected that from Equation (4), $\alpha_1 > 0$ and $\alpha_2 < 0$ or otherwise, where $\alpha_1 < 0$ and $\alpha_2 > 0$.

For this study, time series (annual) data spanning from 1986 to 2019 on inflation rate, cash reserve ratio, interest rate, liquidity ratio, exchange rate and money supply were used in the analysis. The data were obtained from the CBN Statistical Bulletin and the World Bank World Development Indicators.

4. Results and Discussion of Findings

Table 1 presents the summary of statistics for the variables of this study by evaluating different statistical measures like the mean, standard deviation, minimum and maximum values. The skewness, kurtosis and Jarque-bera values are also presented to show the normality of the data. The table showed that the mean value of inflation (inf) is 19.698% with its highest and lowest value at72.83% in 1995 and 5.38% in 2007

respectively. The mean of money supply (ms) is 25.23%, where its highest and lowest value is 87.76 in 2007 and -0.79 IN 2014 respectively. The growth rate of real GDP (yg) grows at an average of 4.380%, which imply that actual economic activities carried out in Nigeria within 1986 to 2019 grew at an average rate of 4.380%. In addition, the average value of exchange rate, government expenditure, and liquidity ratio are N107.88, 39.398%, and 46.78% respectively within 1986 and 2019.

Table 1: Descriptive statistics

	GE	INF	EXR	INT	LR	MS	YG
Mean	39.39	19.69	107.88	2.46	46.79	25.23	4.38
Maximum	572.50	72.83	306.92	18.18	81.42	87.76	15.32
Minimum	-16.31	5.38	1.76	-31.45	26.39	-0.79	-2.03
Std. Dev.	100.93	18.06	91.68	10.24	12.17	18.59	3.87
Skewness	4.57	1.66	0.67	-1.16	0.91	1.29	0.49
Kurtosis	24.38	4.38	2.75	4.91	4.10	5.23	3.38
Jarque-Bera	765.68	18.28	2.65	12.75	6.42	16.52	1.58
Probability	0.00	0.000	0.26	0.00	0.04	0.00	0.45
Observations	34	34	34	34	34	34	34

Source: Authors' Computation

Furthermore, the standard deviation reports the rate at which the variables deviated from their individual mean values. The variable with the highest deviation rate from its mean value is government expenditure (GE) with 100.934 while the lowest deviation is GDP growth rate with standard deviation at (3.879). Also, skewness which measures asymmetry of the distribution of the series around its mean. The skewness of a normal distribution is zero. Positive skewness implies that the distribution has a long right tail and negative skewness implies that the distribution has a long-left tail. The variables presented in the table above are all positively skewed with the exception of interest rate (INT) which shows a long-left tail distribution which a negative skewness of -1.155.

The task of finding the precise value of money supply threshold and its effect on inflation involve estimating equation 2 and computing the residual sum of squares (RSS) for threshold level of money supply

ranging from msg_1 to msg^h. The optimal threshold level is the one that minimizes the sequence of RSS (that is, the msg* with the lowest RSS). The search for the optimal threshold effect is conducted for money supply $msg_1 = 20$ and $msg^h = 85$ where all observations lie within the bounds of money supply level. This exercise yielded 6 linear regressions of equation 2. These results are presented in the Table 2.

Table 2: Threshold model estimation results

msg*	Variable	Coefficient	Std. Error	t-Statistics	Probability	RSS
20	INT	-1.3037	0.2391	-5.4510	0	3319.152
	LR	-0.3006	0.1919	-1.5660	0.1294	
	MS	0.0507	0.1541	0.3294	0.7444	
	YG	-0.3707	0.5755	-0.6432	0.5258	
	GE	-0.0181	0.0220	-0.8535	0.4012	
	EXR	-0.0112	0.0284	-0.3940	0.6967	
	D20	-1.9163	6.0936	-0.3144	0.7557	
	C	40.338	8.7510	4.6095	0.0001	
40	INT	-1.3255	0.2337	-5.6719	0	3316.533
	LR	-0.3390	0.1898	-1.7865	0.0857	
	MS	0.0670	0.1814	0.3694	0.7148	
	YG	-0.3440	0.5672	-0.6073	0.5489	
	GE	-0.0204	0.0212	-0.9662	0.3428	
	EXR	-0.0059	0.0280	-0.2115	0.8341	
	D40	-3.1066	8.9866	-0.3456	0.7324	
	C	40.5524	8.6884	4.6674	0.0001	
60	INT	-1.3438	0.2318	-5.7966	0	3234.424
	LR	-0.3979	0.1998	-1.9914	0.057	
	MS	0.1251	0.1655	0.7561	0.4564	
	YG	-0.2831	0.5635	-0.5023	0.6196	
	GE	-0.0190	0.0210	-0.9050	0.3738	
	EXR	0.0004	0.0285	0.0151	0.988	
	D60	-11.2702	12.7402	-0.8846	0.3845	
	C	41.0774	8.5845	4.7850	0.0001	
70	INT	-1.2886	0.2354	-5.4733	-5.4733	3265.221
	LR	-0.3489	0.1845	-1.8906	-1.8905	
	MS	0.0916	0.1519	0.6032	0.6032	
	YG	-0.3234	0.5630	-0.5743	-0.5746	
	GE	-0.0206	0.0210	-0.9791	-0.9796	
	EXR	-0.0030	0.0278	-0.1083	-0.1083	
	D70	-11.3015	15.5248	-0.7279	-0.7279	
	C	39.7732	8.7025	4.5702	4.5702	
80	INT	-1.2886	0.2354	-5.4733	0	3265.221
	LR	-0.3489	0.1845	-1.8905	0.0699	
	MS	0.0916	0.1519	0.6032	0.5516	
	YG	-0.3234	0.5630	-0.5743	0.5705	
	GE	-0.0206	0.0210	-0.9791	0.3365	
	EXR	-0.0030	0.0278	-0.1083	0.9145	
	D80	-11.3018	15.5248	-0.7279	0.4731	
	C	39.7732	8.7025	4.5702	0.0001	
85	INT	-1.2883	0.2354	-5.4737	0	3265.221
	LR	-0.3489	0.1845	-1.8905	0.0699	

MS	0.0916	0.1519	0.6032	0.5516
YG	-0.3234	0.5630	-0.5743	0.5705
GE	-0.0206	0.02103	-0.9791	0.3365
EXR	-0.0030	0.0278	-0.1083	0.9145
D85	-11.3015	15.5248	-0.7279	0.4731
C	39.7732	8.7025	4.5702	0.0001

Source: Authors' computation.

Table 2 presents the results of the estimation of non-linear model to search for a precise value for the threshold of money supply that affect inflation. The optimal threshold level is one that minimizes the sequence of RSS, from the table, 60 percent is selected as the money supply threshold level for inflation in Nigeria. The results in the table 2 indicate a positive but insignificant effect of money supply on inflation at all levels of msg*. However, the smaller the residual sum of squares, the better the model fits the data. With 60% having the lowest RSS of 3234.424, if money supply is increased beyond this level, it will lead to inflation.

The estimation of non-linear model to search for a precise value for the threshold of money supply that affect inflation revealed that the optimal threshold level is 60 percent of money supply for Nigeria. The implication of this is that if money supply rises above the threshold level, it will result in inflation. Therefore, the supply of money will be maintained below 60 percent in order to curb the devastating effect of inflation in Nigeria. The results also indicate a positive but insignificant effect of money supply on inflation at all levels of msg*. This imply that below this money supply threshold, inflation is less harmful to the economy whereas, above this threshold, the growth of inflation begins to exhibit its negative impact on the growth of the economy.

The finding of this study is similar to that of a study on examining the threshold effect of inflation on economic growth in Ghana between 1965 and 2013, the study found that inflation-growth nexus is mediated by the level of broad money supply and while inflation negatively affects overall growth, the result of the study suggests that, inflation significantly inhibits economic growth when the broad money supply exceeds a threshold of 21.57% of GDP at 95% confidence interval, below this threshold, the impact of inflation is benign (Musah, et al. 2020). Shitundu & Luvanda (2000) also investigated the threshold

effect of inflation on economic growth in Nigeria between 1981 and 2009 using the threshold regression model. The study estimated a threshold inflation level of 13 per cent for Nigeria. This implies that below the threshold level, inflation has a mild effect on economic activities, while above it, the magnitude of the negative effect of inflation on growth was high.

Another study by Khan & Senhadji (2001) re-examined the issue of the existence and the level of inflation threshold in the relationship between inflation and growth in Nigeria used three different approaches that provide appropriate procedures for estimating the threshold level and inference. One of the approaches provided a threshold point estimate of 9.9 per cent that was not well identified by the data, however, using the same technique, another study identifies a 10.5 per cent inflation threshold as statistically significant to explain the inflation-growth nexus in Nigeria. Also, other scholars' approach suggests a two threshold point model with 11.2 and 12.0 per cent as the appropriate inflation threshold points. These results suggest that the threshold level of inflation above which inflation is inimical to growth is estimated at 10.5 to 12 per cent for Nigeria (Doguwa, 2012; Drukker & Hernandez-Verme, 2005).

5. Conclusion

This study investigated the effectiveness of monetary policy (using monetary policy tools-money supply, interest rate, exchange rate, and liquidity ratio) on inflation control in Nigeria between the period of 1986 and 2019. The objective was to evaluate the thresholds at which money supply affect inflation rate in Nigeria.

The variables under investigation in this study revealed a mix of stationarity at level and first difference. Specifically, INF, GE, INT, MS, and YG are stationary at level (that is I(0)) while EXR and LR are stationary at first difference (that is I(1)). The respective orders of integration are at 1% and 5% level of significance. To achieve the objectives of the study based on the combination of the statistical properties of included variables as mentioned above, the Khan and Senhadji threshold regression model was drawn and with the Ordinary Least Squares technique the threshold level of money supply that affect inflation rate was defined. From the result of the analysis, it was

discovered that the threshold level at which money supply affect inflation rate in Nigeria is 60%. When money supply grows beyond 60% money supply have positive and significant effect on inflation, whereas, below this level, the effect of money supply is less significant though positive on inflation rate in Nigeria.

The study concluded that the threshold at which money supply as a tool of monetary policy affect inflation rate in Nigeria is 60%. As a result, it was recommended that the monetary policy authority in Nigerian for stability and development are to institute policies targeted at controlling the level of money supply reasonably below the threshold level (60%). This is because higher money supply potentially raises inflation rate which distorts the efficient allocation of resources and limit economic growth.

This study had only evaluated the threshold of a monetary policy tool (money supply). It therefore suggests that further studies should be carried out to determine the threshold of other monetary policy tools such as interest rate, exchange rate, monetary policy rate and liquidity ratio in order to determine the extent to which each of these tools can be increased or decreased in the process of controlling inflation without having significant effect on economic growth level of the economy.

References

Abeng, M. O., Itodo, I. A., & Nwafor, N. G. (2018). Money supply and inflation in a growing economy: The Nigerian experience. *West African Journal of Monetary and Economic Integration, 18*(2), 28-46.

Adegboyo, O. S., Keji, S. A., & Fasina, O. T. (2021). The impact of government policies on Nigeria economic growth (case of fiscal, monetary and trade policies). *Future Business Journal, 7*(1), 1-14. https://doi.org/10.1186/s43093-021-00052-1

Adelowokan, A. O., Adesoye, B. A., & Ogunmuyiwa, T. M. (2019). Impact of Open Market Operations and Money Supply on Inflation in Nigeria. *Acta Universitatis Danubius. Œconomica, 15*(5), 68-82.

Ahamba, K. O., Obi, K. O., Durueke, C. N., Onoja, J. E., Okoro, D. C., & Nwuzor, C. V. (2020). Macroeconomic determinants of inflation in Nigeria: An autoregressive distributed lag bounds testing technique. *International Journal of Development Research, 10*(01), 33827-33837.

Alqaralleh, H., Al-Saraireh, A., & Alamro, H. (2018). Interaction between fiscal policy and economic fluctuation: A case study for Jordan. *International Review of Management and Marketing, 8*(6), 107-111.

Amassoma, D., Sunday, K., & Onyedikachi, E. E. (2018). The influence of money supply on inflation in Nigeria. *Journal of Economics and Management, 31*(1), 5-23.

Bawa, S., & Ismaila, A. S. (2021). Threshold effect of inflation on economic growth in Nigeria. *CBN Journal of Applied Statistics, 12*(1), 1-25.

Desan, C. (2014). *Making money: Coin, currency, and the coming of capitalism*. Oxford University Press.

Doguwa, S. I. (2012). Inflation and economic growth in Nigeria: Detecting the threshold level. *CBN Journal of Applied Statistics, 3*(2), 1-25.

Drukker, D., & Hernandez-verme, P. (2005). *Threshold effects in the relationship between inflation and growth: A new panel-data approach* (MPRA Paper No. 38225). Munich Personal RePEc Archive.

Eze, O. M., & Nweke, A. M. (2017). Assessment of the effect of inflation on Nigeria's economic growth: Vector error correction model approach. *IOSR Journal of Economics and Finance, 8*(4), 66-75.

Gholamrezapour Amiri, A., & Gang, Z. (2018). The impact of monetary policy on economic growth in America's economy using a new approach tvp-favar. *Amazonia Investiga, 7*(15), 58-68.

Ikechukwu, A., Itoro, I., & Christiana, N. (2016). The efficacy of Nigeria monetary policy: A comparative analysis. *Scholedge International Journal of Business Policy & Governance, 3*(4), 51-62.

Imimole, B., & Enoma, A. (2011). Exchange rate depreciation and inflation in Nigeria (1986–2008). *Business and Economics Journal, 28*(1), 1-11.

Itodo, I. A., Akadiri, S., & Ekundayo, R. M. (2017). Monetary policy and price stability in Nigeria. *Academic Journal of Economic Studies, 3*(2), 68-75.

Jhingan, M. L. (2022). *The economics of development and planning* (45th ed.). Vrinda Publications.

Khan, M. S., & Senhadji, A. S. (2001). Threshold effects in the relationship between inflation and growth. *IMF Staff Papers, 48*(1), 1-21.

Musah, A., Sare, Y. A., & Ibrahim, M. (2019). Examining the threshold effects of inflation on economic growth in Ghana. *Ghanaian Journal of Economics, 7*(1), 5-23.

Ndoricimpa, A. (2017). *Threshold effects of inflation on economic growth in Africa: Evidence from a dynamic panel threshold regression approach* (Working Paper Series No. 249). African Development Bank.

Okwori, J., Ajegi, S. O., Ochinyabo, S., & Abu, J. (2015). An empirical investigation of Malthusian population theory in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences, 6*(8), 367-375.

Olugbenga Adaramola, A., & Dada, O. (2020). Impact of inflation on economic growth: Evidence from Nigeria. *Investment Management and Financial Innovations, 17*(2), 1–13. https://doi.org/10.21511/imfi.17(2).2020.01

Onwachukwu, C. I. (2014). *Impact of monetary policy on inflation control in Nigeria* (MPRA Paper No. 67087). Munich Personal RePEc Archive.

Onyeiwu, C. (2012). Monetary policy and economic growth of Nigeria. *Journal of Economics and Sustainable Development, 3*(7), 62-70.

Salunkhe, B., & Patnaik, A. (2017). The impact of monetary policy on output and inflation in India: A frequency domain analysis. *Ekonomski Anali, 62*(212), 113–154. https://doi.org/10.2298/eka1712113s

Shitundu, J. L., & Luvanda, E. G. (2000). The effect of inflation on economic growth in Tanzania. *African Journal of Finance and Management, 9*(1), 70-77.

Tadesse, T., & Melaku, T. (2019). Analysis of the relative impact of monetary and fiscal policies on economic growth in Ethiopia, using ARDL approach to co-integration: Which policy is more potent? *Copernican Journal of Finance & Accounting, 8*(2), 87-115. http://dx.doi.org/10.12775/CJFA.2019.009

Tenaw, D., & Demeke, H. (2020). *Inflation threshold effects on growth in Ethiopia: Evidence from food and non-food sectors*. Ethiopian Economics Association.