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INFLATION AND ECONOMIC GROWTH IN NIGERIA (2009-2018)

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Abstract

The study was conducted on inflation and economic growth in Nigeria from 2009 to 2018 using annual data obtained from Central Bank of Nigeria statistical Bulletin. Ordinary Least Square (OLS) logged multiple regression was utilized to analyse the data with gross domestic product (GDP) as the dependent variable and inflation (INF) as independent variable. From the results, it was revealed that inflation has negative and significant effect on economic growth in Nigeria meaning that increase in inflation will reduce economic growth in Nigeria. The study therefore recommends that government should try and maintain low and stable inflation rate and that money supply and exchange rate should equally be kept to minimum level.

Keywords: Inflation, Economic growth, Gross domestic product, Money supply and exchange rate.

Introduction

Economic growth is in a limited sense, an increase of the national income per capita, and it involves the analysis, especially in quantitative terms, of this process, with a focus on the functional relations between the endogenous variables; in a wider sense, it involves the increase of the gross domestic product (GDP), gross national product (GNP) and national income (NI), therefore of the national wealth, including the production capacity, expressed in both absolute and relative size, per capita, encompassing also the structural modifications of economy (Haller, 2012). The Central objective of macroeconomic policies is to foster economic growth and to keep inflation on a low level.

There is a high-level consensus among many economists, central bankers, policy makers and practitioners that one of the fundamental objectives of macroeconomic policies in both the develop and developing economies is to sustain high economic growth together with low, one-digit inflation. This is because a high level of inflation disrupts the smooth functioning of a market economy (Krugman, 1995 as cited by Chimobi, 2017). There are various schools of thought on inflation, but there is a consensus among economists that inflation is a continuous rise in the prices. It could be defined as a continuing rise in prices as measured by an index such as the consumer price index (CPI) or by the implicit price deflator for Gross National Product (GNP). Inflation is frequently described as a state where "too much money is chasing too few goods". When there is inflation, the currency losses purchasing power (Chude & Chude, 2016).

During inflationary periods, opportunity cost of holding money is increased causing inefficient use of real resources in transactions. Therefore, inflation weakens the purchasing power of money and sinks the standard of living of the citizenry (Gbadebo & Mohammed, 2015). In the macroeconomic literature, the relationship between inflation and its effects on attaining the desired level of sustainable growth and development has engrossed the attention of several professionals over a number of decades. The two most prominent school of thoughts with divergent views on this research domain are the Structuralist and Monetarist. The structuralist are of the opinion that inflation is not a counter-productive in the attainment of economic growth, while the monetarist debated that inflation is growth-retarding in realizing any meaningful growth and sustainable development. Other scholarly contributors established no any relationship between the subject matter, as they remain neutral and unbiased (Idris & Bakar, 2017).

It is for the discussion above this study investigates inflation and economic growth in Nigeria.

2.0 Literature Review

2.1 Conceptual Framework

2.1.1 Concept of Inflation

Inflation occurs when price of goods and services rises. When a price increase is sustained and exceeds a predetermined threshold, it is referred to as inflation. For example, an increase in the money supply would quickly lead to an increase in the price level. There are different kinds of inflation namely, demand-pull inflation, cost-push inflation to mention but few.

2.1.2 Economic Growth

Economic growth is defined as "the process whereby the real per capita income of a country increases over a long period of time (Echekoba, Kanayo & Ifeoma, 2015). Economic growth is measured by the increase in the amount of goods and services produced in a country. A

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growing economy produces more goods and services in each successive time period. Thus, growth occurs when an economy's productive capacity increases which in turn, is used to produce more goods and services. A growing economy is a changing economy.

The four (4) of the most important determinants of growth of total output are as follows:

Growth in the labour force such as occurs when the population grows or participation rate rises. Investment in human capital such as formal education and on the job experience. Investment in physical capital such as factories, machines, transportation and communications facilities. Technological change brought about by innovation that introduces new products, new ways of producing existing products and new forms of business organization.

The current inflation in Nigeria is a direct result of the policies of the Nigerian government to stimulate fast rate of economic growth. These policies – monetary and fiscal policies contribute towards growth by helping to maintain stability of prices. So, monetary and fiscal policies should be such as to encourage investment and control economic fluctuations in order to promote growth (Echekoba, Kanayo & Ifeoma, 2015).

2.2 Theoretical Framework

2.2.1 Structuralist Theory

One of the prominent supporters of the positive relationship between inflation and economic growth is the structuralist view. This school of thought advocates that a moderate degree of inflation is reasonable for efficient economic mobilization. This is based on the assumption that an increase in prices as a result of inflation reduces the real wages and tends to increase the profits when wages lag behind. With this situation income is transferred from economic units that have a lower propensity to save to those units that have a lower propensity to save to those units with high propensity. The government thus, can raise resources for development because people are forced to save (Enejoh & Tsauni, 2017).

2.2.2 Monetarist Theory

Monetarist are of the view that inflation is detrimental to economic growth of a nation. They posit that inflation needs to be reduced and kept to the barest and should not rise above a single digit. This is the view of the monetarists and the Keynesians who assert that inflation has serious contagious effects as it discourages domestic production and creates a favourable atmosphere for foreign goods to compete with the domestic market, encourages deficit balance in the international payment transaction, uncertainly in the profitability of future investment projects, redistributes income in a haphazard way, reduction in purchasing power of money, which results in frequent agitations by a trade union to increase workers' salaries, interacts with the tax system to distort the decision between lenders and borrowers and above

all places a huge toll on individuals with fixed income or fixed interest rate on assets (Chude & Chude, 2015).

2.2.3 Demand-Pull Inflation

Also known as excess demand inflation. Occurs when aggregate demand for goods and services is rising or exceeds the available supply of goods in an economy. When the supply of goods is less the prices begin to rise in response to a situation often described as "too much money chasing too few goods".

2.2.4 Cost-Push Inflation

It is also known as "supply shock inflation". It is the increase in the cost of production for goods and services due to wage increase. It is caused due to rise in money wages more rapidly than productivity of labour. Cost push inflation is also caused by profit-push inflation, as oligopolistic and monopolistic firms raise the price of their products to offset the rise in labour production costs so as to earn higher profit. It is caused by a drop in aggregate supply (potential output).

2.3 Empirical Review

Bawa and Abdullahi (2012) assessed the effect of inflation on economic growth as well as determined the threshold level of inflation in Nigeria using quarterly time series data for the period 1981 to 2009. Two-staged Least Square (2SLS) and threshold regression model are employed, and the study found that a threshold inflation level of 13 percent (13%) for the Nigerian economy is satisfactory. In addition, there exist a negative and significant relationship between inflation and growth for inflation rates below and above the threshold level respectively.

Olu and Idih (2015) investigated the impact of inflation on economic growth in Nigeria over the period of 32 years spanning from 1980 to 2011 by utilizing OLS multiple regression techniques. The outcome from the estimation shows that inflation and interest rate are inversely related to economic growth within the review period. Furthermore, exchange rate also established a negative relationship with the economic growth in Nigeria.

Olubodun (2015) investigates the possible relationship between inflation and output growth in the Nigerian economy covering a ten-year period 2002 to 2012. The study adopts OLS estimation techniques and found that a negative and significant influence of inflation exists on economic growth. This implies that CPI and GDP have an inverse relationship, hence a lower CPI will lead to an increase in GDP and vice versa.

Eze and Nweke (2017) ascertained the extent inflation affect Nigeria's economic growth for a period 1980 to 2015. Cointegration approach, vector error correction model (VECM) and Granger causality test were employed in the analysis. The VECM results demonstrated that inflation affect Nigeria's economic growth negatively and insignificantly.

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Enejoh and Tsauni (2017) examined how inflation rate affects the country's economy using ARDL techniques and Granger causality during 47 years (1970-2016). The result indicates that inflation rate and exchange rate have a positive impact on economic growth, while the lagged value of exchange rate indicates a negative relationship with the growth of the economy.

Anidiobu, Okolie and Oleka (2018) ascertained the effect of inflation on the economic growth of Nigeria using descriptive and ordinary least squares on the data for the period 1986 to 2015. The result indicates that inflation rate depicts an insignificant positive relationship, exchange rate shows a significant positive relationship, while there is a negative insignificant relationship between interest rate and growth of Nigeria economy.

Kasidi and Mwakaremela (2015) analyzed the influence of inflation on the economic growth for the period 1990-2011 in Tanzania using correlation and co-integration techniques, and state that no strong relationship exists between inflation rate and the growth of the economy.

3.0 Methodology

The main objective of this study is to evaluate impact of inflation on economic growth in Nigeria. To achieve this objective, research design adopted in this study is *ex post facto*. This is because the event has already taken place. The annual time series data were collected from secondary source from 2009 to 2018. The data were collected from the Central Bank of Nigeria statistical bulletin of various years.

3.1 Data Presentation and Analysis

In view of the nature of this research study, quantitative method was employed in this study. The study employed the Ordinary Least Square (OLS) method as the estimation technique. With the aid of E-view software, the model was estimated using annual data from 2009 to 2018.

3.2 Model Specification

Our model traces impact of inflation on economic growth in Nigeria over time. Gross domestic product will be the dependent variable while inflation will be independent variable.

This study specifies a functional relationship between inflation trend and economic growth in Nigeria. The model is specified as:

$$Y = \beta_0 + \beta_{xi} + \mu$$

Where:

Y= Economic growth (dependent variable)

X= Inflation trend (independent variable)

β_0= Constant term (intercept)

β = Coefficient of inflation

μ = Error term (stochastic term)

Representing the equations with the variables of the construct, the equation below is formulated

$GDP_t = \beta_0 + \beta_1 INF_t + \mu_t$

4.0 Data Presentation and Analysis

The data used in the analysis include gross domestic product and inflation rate. In the analysis of the model, Gross Domestic Product (GDP) served as dependent variable while inflation rate served as the independent or explanatory variable. The table below presents the data from the period 2009 to 2018.

Table One

Year	Current Basic Prices (₦1Billion)	LOGGDP	Inflation Rate
2009	44,285.56	4.646262	13.93
2010	54,612.26	4.73729	11.80
2011	62,980.40	4.799205	10.28
2012	71,713.94	4.856662	11.98
2013	80,092.56	4.903592	7.957
2014	89,043.62	4.949802	7.978
2015	94,144.96	4.973997	9.560
2016	101,489.49	5.006421	18.55
2017	113,711.63	5.055805	19.26
2018	127,762.55	5.106404	19.98

Source: Researchers Computattion from CBN Statistical Bulletin (various years)

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The Ordinary Least Square (OLS) logged multiple regression is presented in table two below:

Table Two: Ordinary Least Square Regression showing effect of Inflation on GDP

Variable	Coefficient	t-statistic	Prob
C	-7.356127	-2.172549	0.0186
GDP (-1)	0.391898	3.116702	0.0038
INF	-0.069939	2.104358	0.0430
Observation	10		

Source: Researchers' computation using E-view

Discussion of the Result

From the result above: it can be seen that inflation has a negative impact on economic growth in Nigeria from 2009 to 2018. The coefficient of inflation is negative and statistically

significant. This means that increase in inflation will reduce gross domestic product i.e a 1% increase in inflation will reduce gross domestic product by 7%.

5.0 Conclusion and Recommendations

5.1 Conclusion

This study investigates impact of inflation on economic growth in Nigeria from 2009 to 2018. Based on the empirical analysis made after the data have been collected and presented in a logical sequence with the use of Ordinary Least Square (OLS), the research concluded that inflation has negative and significant effect on economic growth in Nigeria. This finding agrees with the findings of Echekoba, Kanayo and Ifeoma (2015) and disagrees with the finding of Aniodiobu, Okolie and Oleka (2018) that inflation has significant impact on economic growth.

5.2 Recommendations

Based on the research findings the following recommendations are made:

1. Because inflation has negative impacts on economic growth in Nigeria, government should try and maintain low and stable rate of inflation.
2. Since inflation is always associated with expansionary monetary policy, monetary authority in Nigeria should embark on a policy that will reduce money supply.
3. Exchange rate is another factor causing high rate of inflation in Nigeria. Monetary authority in Nigeria should embark on a policy that will maintain stable exchange rate.

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