British Journal of Economics, Management & Trade
9(3): 1-11, 2015, Article no.BJEMT.15293
ISSN: 2278-098X

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Impact of Inflation Rate on the Economic Growth in Nigeria

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Authors' contributions

This work was carried out in collaboration between these authors. Author OEA designed the study, wrote the introductory part of the paper, and the literature review. Author AOF designed the theoretical framework of this paper upon we designed the model for the paper, and author IMS designed the variables that formed the model for the study, tested the formulated model by using the RGDP as the dependent variable and INFL, MS, MCAPS, TS as the independent variables. To run the econometric analysis, Eview 7.2 statistical windows was employed, which enabled us to draw summary, and recommendations from the result findings. The authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJEMT/2015/15293
Editor(s):
(1) Levi Perez, Department of Economics, University of Oviedo, Spain.
(2) John M. Polimeni, Associate Professor of Economics, Albany College of Pharmacy & Health Sciences, New York, USA.
Reviewers:
(1) Anonymous, Poznań University of Economics, Poland.
(2) Anonymous, University of Uyo, Nigeria.
(3) Anonymous, Norwegian School of Economics, Norway.
Complete Peer review History: http://sciencedomain.org/review-history/10341

Original Research Article

Received 18th November 2014
Accepted 6th January 2015
Published 26th July 2015

ABSTRACT

The study examined the impact of inflation rate on the economic growth in Nigeria. The study explored secondary data for the period of 1960 to 2012 and used E-view 7.2 statistical window in processing and analyzing the time series data. The empirical result of the test showed that for the periods, 1960-2012, there was no co-integrating relationship between Inflation and economic growth for Nigeria data. Furthermore, we examined the causality relationship that exists between the two variables by employing the Pairwise-Granger causality at two lag periods. The paper however recommended that the government should ensure that policy measure (or monetary or fiscal) to control inflation rate has to be put place-through the efforts of Central Bank of Nigeria, maintain inflation rate at single-digit level, high premium of control on money supply since it has a significant link with inflation in the economy-such as Nigeria, should formulate and implement policy

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on inflation rate since it inversely affects market capitalization in Nigeria, and create atmosphere that encourages the general public to save that part of cash that is not consumed immediately or idle cash, saving leads to capital accumulation or rather capital formation will be low. This will discourage potential investors to invest since no source of investible funds.

Keywords: Inflation; economic growth; granger causality.

1. INTRODUCTION

Inflation has been a major concern to government and business investors in the developed and emerging (or developing) countries of the world. This inflation would have been ignored if not for the fact that it has some cost associated with it—that has been of greater concern to the governments, as such it has become a prime issue in policy discussions; [1,2]. The economists had unanimously agreed that inflation could be: (i) Cost push; (ii) Demand pull or sectoral; (iii) Structural [3].

Some economists on the one hand had argued vigorously that inflation is desired in the growth of an economy (Structurists)—in other words, inflation is not total mess; that in some ways it is desirable in an economic growth. While on the other, others (as Monetarists) had a view that inflation is a draconian to an economy, in other words, it is not desirable to an economic growth [4].

From the first paragraph, it was discovered that inflation may result from rise in price of costs of production, excess cash in circulation, the money available could only chase few goods and services; increase in wages and salaries; and rigidities (or structural) in the economy. The economists of our time—such as: Classical; neo-classical; Keynesians; neo-Keynesians; Monetarists, etc. had brought forth several ways or methods, which inflation could be curtailed [5].

Having asserted the above affirmations, the government has a challenge of getting this inflation either single digit or eliminated absolutely. The policies mainly used by government to control inflation are: Monetary Policy; Fiscal Policy; Income Policy; Structural Policy; etc [1,2]. Inflation is one of the basic macroeconomics objectives which has been a cankerworm eaten deeply in the growth fabric of most economy of the world, most especially the developing countries—such as Nigeria.

Inflation has rendered the Nigerian economy impotent, in other words, inflation being what is known for has caused on tolled hardship on the citizenries of Nigeria. In an economy that wishes for macroeconomic growth and stability should maintain single digit inflation. The paradigm of inflation in Nigeria does not shift; in the sense that the present inflation rate in Nigeria is 8.1%. Obviously, 8.1% in an economy has an inverse relationship with economic growth. In Nigeria for example, inflation has resulted to poverty, unemployment, uneven distribution of wealth, redundancy of natural resources and capacity non fully utilized. Over 95% of Nigerian population is faced with abject poverty and/or unemployment, etc [5,6].

This got worsened with the recent inflation trend (or decline in the prices of crude oil resulting from Shale Oil production by America) in Nigeria, [7] has made a stringent movement towards the current inflation situation, Nigeria's Monetary Policy Committee headed by the Central Bank Governor, has resolved to devalue the Nigerian currency (.i.e., Naira-#) against American Currency (.i.e., Dollar-$). NMPC has devalued Nigeria naira to #168 against American currency 1$. This has resulted to a debate or discourse among economists, financial analysts, business analysts, etc. Some said the impact of devaluation will heighten inflation astronomically, inversely causes more hardship on the citizenries. While, others are of the opinion that devaluation will make the bills of import be reduced and/or encouraged exports. Remember that import is an exogenous variable while export is an endogenous variable. Increase in imports result to drain in the economy while increase in exports result to more available funds for development. Similarly, devaluation policy was adopted in 1986 during Structural Adjustment Programme (SAP) though the policy could not achieve its objective because Nigerian economy is monoeconomy (.i.e., depending on the crude oil) and others advocated for budget deficits. The government should definitely sky up expenditure and/or sky down the expected revenue. In so doing, it will enable the government to borrow and/or pump on capital (mega) projects—such as: building industries; road and rail constructions; etc. and/or also create jobs for the

teeming graduands from tertiary institutions in Nigeria, which will reduce the economic fisticuffs. Besides, the followers of these discussants recommend the diversifying of the economy though it is a welcome development, but it has cobweb effect. Meaning it may take two to three years for the impact of diversification being felt [8].

To cushion this impact of the downtrodden in Nigerian economy, some economists averred that fiscal and monetary measures would have been the best option in curtailing this menace, not just devaluation of currency. Government should go for either budget surplus or decrease in aggregate expenditure (or demand) or increase in taxes, this enables the government to reduce expenditure in the economy. On the other hand, central bank of Nigeria uses her statutory or vetoed power to control inflation either through open market operations, or high bank rate, or cash reserve ratio. Whichever direction, she needs the economy to face, she increases or decreases the weapons [6].

In this paper, we shall know whether these policies have actually interplay in the control or regulation of inflation in Nigeria per se.

2. REVIEW OF RELATED LITERATURE

The control of inflation has not been left in the hands of private individuals. Classicists, Keynesians and Monetarists proffered various solutions to the control of inflation. None could adequately give a solution to inflation. From these different schools of thoughts, different researchers had emerged [5]. Numerous literatures or studies are available regarding inflation and its impacts on the economy. These studies repeatedly confirmed that inflation had a significant inverse or direct impact on economic growth, at least at sufficiently high levels of inflation.

Regarding the impact of inflation, [9] found negative associations between inflation and growth in pooled cross-section, time series regressions for a large set of countries. He argued that inflation impedes the efficient allocation of resources by obscuring the signaling role of relative price changes, the most important guide to efficient economic decision-making.

Considering inflation from the aspect of money, [10] tested the relationship between money, inflation and output by employing cointegration and Granger-causality test analysis. The findings revealed no existence of a cointegrating vector in the series used. Money supply was seen to Granger cause both output and inflation. The result suggests that monetary stability can contribute towards price stability in Nigerian economy since the variation in price level is mainly caused by money supply and also conclude that inflation in Nigeria is to an extent a monetary phenomenon. They find empirical support in context of the money-price-output hypothesis for Nigerian economy. M_2 appears to have a strong causal effect on the real output as well as prices. Using Okun‟s law “each percentage point of cyclical unemployment is associated with a loss equal to 2% of full-employment output; if full-employment output is $10 trillion, each percentage point of unemployment sustained for one year costs $200 billion”. [11] critically analyzed the dynamic and simultaneous interrelationship between inflation and its determinants in Nigeria between 1970 and 2007. The time series variables properties were examined using the Augmented Dickey Fuller (ADF) unit root test and the result reveals that inflation rate, growth rate of real output and money supply, and real share of Fiscal deficit are stationary at levels, while other incorporated variables in the empirical analysis- real share of Import, Exchange rate and Interest rate-are stationary at first difference. The long-run and shortrun mechanism of interaction between inflation and its determinants were examined using the Augmented Engle-Granger (AEG) cointegration test and Error Correction Mechanism (ECM) model respectively. On the basis of their findings, this study intends to adopt and modified their econometric model.

Examining the inflation from the perspective of price, [12], as cited in Williams and Adedeji, (2004) examined price dynamics in the Dominican Republic by exploring the joint effects of distortions in the money and traded-goods markets on inflation, holding other potential influences constant. The study captured the remarkable macroeconomic stability and growth for period 1991 to 2002. Using a parsimonious and empirically stable error-correction model, the paper found that the major determinants of inflation were changes in monetary aggregates, real output, foreign inflation, and the exchange rate. However, there was an incomplete pass-through of depreciation from the exchange rate to inflation. The authors established a long-run relationship in the money and traded-goods markets, observing that inflation was influenced only by disequilibrium in the money market.

[13] examined the impact of inflation on economic growth in Nigeria, the nature of the relationship existing between the focus variables-economic growth (proxied by real Gross Domestic Product, GDP) and inflation rate was explored. The Augmented Dickey Fuller (ADF) and Philip-Perron (PP) tests were used to test for the stationarity of the variables while the granger causality test was employed to ascertain the direction of influence between inflation and economic growth in Nigeria. The results show that there exists a statistically significant positive relationship between inflation and economic growth in Nigeria. However, there is no leading variable in the relation between inflation and economic growth in Nigeria. And hence we conclude that the effect is contemporaneous.

[14] empirically explored the relationship between inflation and economic growth in Bangladesh, using annual data set on real GDP and CPI for the period of 1980 to 2005, and the co-integration and error correction models. The empirical evidence demonstrates that there exists a statistically significant long-run *negative* relationship between inflation and economic growth for the country as indicated by a statistically significant long-run *negative* relationship between CPI and real GDP.

Nigeria as a nation is by no means immune to the menace of inflation. Hence, after an appreciable economic performance in the early 1970s, the Nigerian economy witnessed some anxious moments in the late 1970s to mid 1980s. Severe pressures built up in the economy mainly because of the expansionary fiscal policy of the federal government during these years. This was accompanied by high monetary expansion as the huge government deficit was financed largely by the Central Bank of Nigeria. This was exacerbated by the transfer of government sector deposits to the banks and the resultant increase in their free reserves with adverse consequences on the general price level. The inflationary pressure was further aggravated by high demand for imports of both intermediate inputs and consumer goods due to over valuation of the naira which made imports relatively cheaper than locally manufactured goods. Undoubtedly one of the macroeconomic goals which the government strives to achieve is the maintenance of stable domestic price level. This goal is pursued in order to avoid cost of inflation or deflation and the uncertainty that follows where there is price instability [15]. The relationship between inflation and economic growth remains however a controversial one, both in theory and empirical findings [16]. The issue has generated an enduring debate between structuralists and monetarists. The structuralists believe that inflation is essential for economic growth, whereas the monetarists see inflation as detrimental to economic progress.

[17] examined the relationship between Inflation and economic growth in Nigeria from 1970 to 2005. His study employed cointegration and Granger causality test. He concluded from the empirical results of the findings that causality that runs from inflation to economic growth is an indication of relationship showing that inflation indeed has an inverse impact on economic growth.

Inflation cut across every sector of the economy, [18] examined five-year average data on bank credit extension to the private sector, the volume of bank liabilities outstanding, stock market capitalization and trading volume (all as ratios to GDP), and inflation for a cross-sectional sample over 1960-1995. He further found that the relationship between inflation and financial development is nonlinear. Inflation emanated from excess money in circulation or increase in prices of goods and services or available money chases few goods and services [5,19].

3. THEORETICAL FRAMEWORK

A powerful criticism of the adaptive expectations hypothesis is that it assumes people keep basing their expectations on the values of lagged variables and fail to learn from the past their past errors. When inflation is rising the error between actual and predicted inflation is positive over successive periods, and so is serially correlated. This error is repeated and so is called systematic, yet no attention is paid to it if expectations are adaptive.

If economic agents are rational, they will make full use of all the available information when forming expectations and not just rely on past values of the relevant variable. Expectations which conditioned on all available information are called *rational* expectations. When expectations are formed rationally the errors between actual inflation and expected rate are random and are serially uncorrelated or independent over time. There is no systematic error by definition because any systematic error would reveal that information had not been fully used when the expectations were formed. So the expected or

mean error is zero. If expectations are rational, then

$$\left(\frac{\overline{P}}{P}\right)_t = E\left(\frac{\overline{P}}{P}\right)_t + \varepsilon_t \quad (1)$$

Where ε_t is a serially uncorrelated error term with a zero mean.

When expectations are formed rationally then people use information derived from the model which they think explains how the economy behaves. This means that if inflation is due to monetary expansion, then information about the current movements in the money supply will be important in conditioning expectations. For instance, if the rate of inflation is determined by

$$\left(\frac{\overline{P}}{P}\right)_t = \rho\left(\frac{\overline{M}}{M}\right)_t + \varepsilon_t \quad (2)$$

Where $\left(\overline{M}/M\right)$ is the rate of growth of the money stock, then

$$E\left(\frac{\overline{P}}{P}\right)_t = \rho\left(\frac{\overline{M}}{M}\right)_t \quad (3)$$

Substituting both equation 2 and 3 to give thus:

$$f(U_t) \cong \rho\left[\left(\frac{\overline{M}}{M}\right)_t \cong \left(\frac{\overline{M}}{M}\right)_t\right] + \varepsilon_t \quad (4)$$

The application of rational expectations therefore leads to the conclusion that there is not even a short run trade-off between inflation and unemployment. The short-run Phillips curve shifts up to PC_1 instantly. Equation 4 shows that unemployment is affected only by random errors, .i.e., by unpredictable events. The government can only secure a short-run decrease in employment if it makes surprise increases in the money supply.

Although the instantaneous rate of rational expectations adjustment derived from the full information application of rational expectations may seem unrealistic, its basis, that people will make use of all the available information when forming expectations and not make correctable errors, is quite sound [20].

4. MODEL SPECIFICATION

The model of this paper is hinged on the model of [17], which enables us to examine the impact of inflation on the growth of the Nigerian Economy.

RGDP = f(INFL, MS, INTR, MCAP, TS)
…… (5)

Where:

RGDP = Real Gross Domestic Product is proxied for economic growth
INFL = Inflation Rate
MS = Money Supply.
MCAPs = Market Capitalizations
TS = Total Saving

The model is transformed into log-linear form.

Which is expressed as:

$$LogRGDP = \beta_0+\beta_1 logINFL+\beta_2 logMS+ \beta_3 logINTR+\beta_4 logMCAPs+\beta_5 logTS+\mu \ldots\ldots (6)$$

The a priori expectations are as follows:

$\beta_0 > 0$, $\beta_1 > 0$, $\beta_2 < 1$, $\beta_3 > 0$, $\beta_4 > 0$, $\beta_5 > 0$.

Where:

β_0= Intercept, β_1 = Coefficient of Inflation, β_2 = Coefficient of money supply, β_3 = Coefficient of interest rate, β_4 = Coefficient of market Capitalization, β_5 = Coefficient of total saving, and μ = white noise error term.

The contribution of this study to knowledge is in terms of the estimation techniques employed and the data used which is extended to 2012. An attempt will be made to empirically investigate the relationship between the impact of inflation on the growth of the Nigerian Economy for the period 1960 – 2012 regression analysis. The equation was estimated using a variety of analytical tools, including group unit root tests, co-integration tests, Granger Causality Analysis and Error Correction Model (ECM). The results are discussed below. The data used for the study covers the period 1960 and 2012. The study employed secondary data which are derived from various issues of, [21,22].

4.1 Model Summary

Table 1 shows the summary of the Group unit root test using summary test (.i.e. Levin, Lin &

Chu t*; Im, Breitung t-stat, Pesaran and Shin W-stat; ADF-Fisher Chi-square; PP-Fisher Chi-square) with the lag length selection based on SIC: 0 to 1 of the variables used for the empirical study. The group unit root test shows that; Real Gross Domestic Product (RGDP); Inflation rate (INFL); Interest rate (INTR); Market Capitalization (MCAP); Money Supply (MS) and Total Saving (TS) were stationary at level at 5 percent level of significance respectively.

The top of the output indicates the type of test, exogenous variables and test equation options. If we were instead estimating a Group unit test, a list of the series used in the test would also be depicted. The lower part of the summary output gives the main test results, organized both by null hypothesis as well as the maintained hypothesis concerning the type of the unit root process.

All of the results indicate the presence of a unit root, as the LLC, IPS, and both Fisher tests fail to reject the null of a unit root at level. While all of the results indicate the absence of a unit root, as LLC, IPS and both Fisher test accept the null of a unit root.

4.2 Cointegration Test Results

Co-integration test is carried out in order to determine the long-run relationship between the dependent and independent variables when one or all of the variables is/are non-stationary at level which means they have number of stochastic trends in asymptotic distribution. Co-integration tests are conducted by using the reduced procedure developed by [23]. They noted that a linear combination of two or more 1(1) series may be stationary, or 1(0), on which case we say the series are cointegrated. Such linear combination defines a cointegrating equation with cointegrating vector of weights characterizing the long-run relationship between the variables. The [23] test results are divided into three distinct sections. *First* portion as shown in Table 2 displays the test specification and settings, along with the test values and corresponding *p*-values. *Second (*or the middle) section of the output displays the estimated coefficients, standard error, t-statistics, and p-value for the constant, even though they are not strictly speaking valid or intermediate results used in constructing the test statistic that may be of interest. The summary statistics portion is relatively familiar but does require a bit comment [24]. Most entries are self-explanatory, though a few deserve a bit of discussion-such as RHO S.E. and Residual Variance are the (possibly) d.f. corrected coefficient standard error of the regression. The long-run residual variance is the estimate of the long-run variance is the estimate of the long-run of the residual based on the estimated parametric model. The number of stochastic trends entry reports the value used to obtain the *p*-value [25].

[23] procedure is used to determine the linear combination of two or more series and/or to identify a long-run relationship. The cointegration tests include Real Gross Domestic Product (RGDP); Inflation (INFL), interest rate (INTR), Market Capitalization (MCAP), Money Supply (MS), and Total Saving (TS). Which includes Automatic lag specification (lag = 0 based on Schwarz Info Criterion, maxlag = 6).

4.3 Pairwise Granger Causality Test

Pairwise Granger Causality test between real gross domestic product proxied as economic growth, inflation rate, interest rate, Market Capitalization, Money Supply, and Total Saving are examined in Table 3. The Pairwise Granger causality tests were inconclusive at 5% level of significance. The results alternated between bi-directional, no causality and uni-directional, depending on the lag length allowed. The outcome in respect one two-lag length is presented in Table 3. The Table reveals that we cannot reject the hypothesis that TS Granger causes MCAP, but we do reject the hypothesis that MCAP does not Granger cause TS. We can reject the hypothesis that MS does not Granger cause MCAP, but we do not reject the hypothesis that MCAP does not Granger cause MS. We can reject the hypothesis that TS does not Granger cause MS, but we do not reject the hypothesis that MS does not Granger cause TS. Therefore it appears that Granger causality runs one-way from MS to MCAP, TS to MCAP, TS to MS and not the other way.

4.4 Orthonormal Loadings Biplot

The component scores are displayed as circles and the variables loadings and displayed from the origin with variable labels. The Biplot clearly shows us that the first component has positive loadings for all the six variables (.i.e., general inflation interpretations). Second, component has positive loadings for interest rate and negative loadings for MCAP, MS and TS. If MS does well

relative to MCAP and TS, the second specific component will be positive, and vice versa.

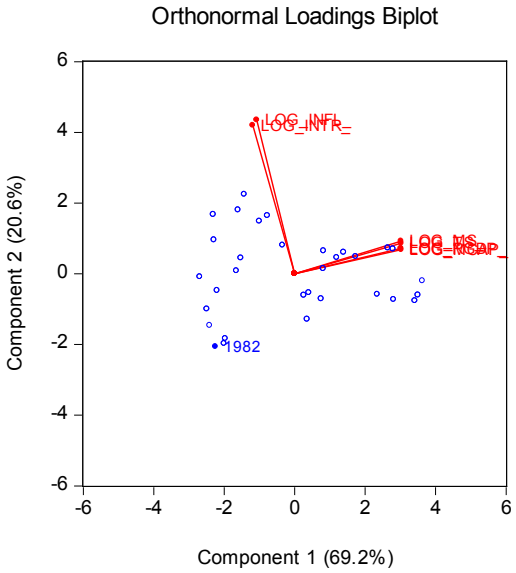

Diagram 1. Orthonormal loadings biplot

A boxplot, also known as a box and whisker diagram, summarizes the distribution of set of data by displaying the centering and spread of the data using few primary elements (McGill, Tukey, & Larsen, 1978).

Boxplots are often drawn so that the widths of the boxes are uniform. Alternatively, the box widths can be varied as a measure of the sample size for each box, with widths drawn proportional to N, or proportional to the square root of N.

In diagram 2, the range of value for the the RGDP, MS, TS & MCAPs is almost similar but the latter (.i.e. INFL & INTR) has lower values in general.

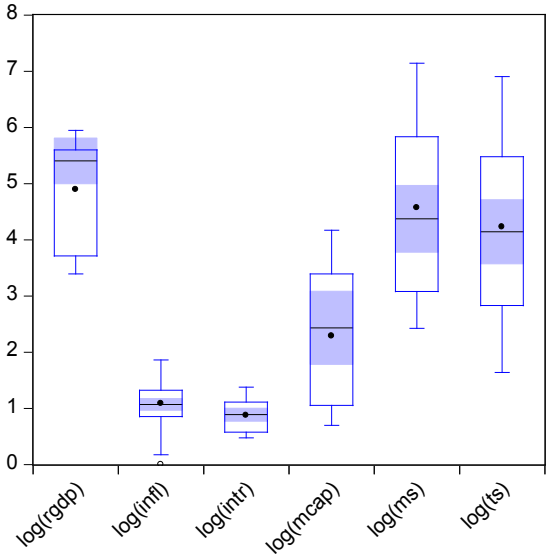

Diagram 2. Boxplot graph

The lower values are for the economic growth, which also have a narrower range. None of the four values show an extreme value of growth.

Table 1. Group unit root test group unit root test on D(Inflation)

Group unit root test: Summary
Series: LOG_RGDP_, LOG_INFL_, LOG_INTR_, LOG_MCAP_, LOG_MS_, LOG_TS_
Date: 01/11/14 Time: 21:56
Sample: 1960 2012
Exogenous variables: Individual effects, individual linear trends
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0 to 3
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-1.90279	0.0285	6	280
Breitung t-stat	0.18477	0.5733	6	274
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.08133	0.0187	6	280
ADF - Fisher Chi-square	27.5184	0.0065	6	280
PP - Fisher Chi-square	23.6189	0.0229	6	285

*** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality*

Table 2. Engle-granger cointegration test

Date: 01/11/14 Time: 22:01
Series: LOG_RGDP_ LOG_INFL_ LOG_INTR_ LOG_MCAP_ LOG_MS_ LOG_TS_
Sample (adjusted): 1981 2012
Included observations: 32 after adjustments
Null hypothesis: Series are not cointegrated
Cointegrating equation deterministics: C @TREND
Automatic lags specification based on Schwarz criterion (maxlag=6)

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
LOG_RGDP_	-3.912810	0.5080	-33.29081	0.0253
LOG_INFL_	-5.001712	0.1437	-50.24806	0.0000
LOG_INTR_	-3.681401	0.6079	-19.71765	0.5777
LOG_MCAP_	-2.972120	0.8722	-14.17036	0.8771
LOG_MS_	-3.032077	0.8555	-13.30602	0.9072
LOG_TS_	-3.283860	0.7720	-15.57267	0.8166

*MacKinnon (1996) p-values

Warning: p-values may not be accurate for fewer than 35 observations.

Intermediate Results

	LOG_RGDP_	LOG_INFL_	LOG_INTR_	LOG_MCAP_	LOG_MS_	LOG_TS_
Rho – 1	-0.574710	-1.052021	-0.636053	-0.457108	-0.429227	-0.502344
Rho S.E.	0.146879	0.210332	0.172775	0.153799	0.141562	0.152974
Residual variance	0.000308	0.063639	0.011643	0.011049	0.001200	0.002054
Long-run residual variance	0.001147	0.161314	0.011643	0.011049	0.001200	0.002054
Number of lags	1	1	0	0	0	0
Number of observations	30	30	31	31	31	31
Number of stochastic trends**	6	6	6	6	6	6

***Number of stochastic trends in asymptotic distribution*

Table 3. Pairwise granger causality tests

Pairwise granger causality tests			
Date: 01/11/14 Time: 22:07			
Sample: 1960 2012			
Lags: 2			
Null Hypothesis	**Obs**	**F-Statistic**	**Prob.**
LOG_INFL_ does not Granger Cause LOG_RGDP_	44	0.19604	0.8228
LOG_RGDP_ does not Granger Cause LOG_INFL_		0.98392	0.3829
LOG_INTR_ does not Granger Cause LOG_RGDP_	50	0.03644	0.9642
LOG_RGDP_ does not Granger Cause LOG_INTR_		1.23708	0.2999
LOG_MCAP_ does not Granger Cause LOG_RGDP_	30	0.46179	0.6354
LOG_RGDP_ does not Granger Cause LOG_MCAP_		0.79781	0.4614
LOG_MS_ does not Granger Cause LOG_RGDP_	51	0.51881	0.5987
LOG_RGDP_ does not Granger Cause LOG_MS_		0.11542	0.8913
LOG_TS_ does not Granger Cause LOG_RGDP_	51	0.92438	0.4040
LOG_RGDP_ does not Granger Cause LOG_TS_		0.13551	0.8736
LOG_INTR_ does not Granger Cause LOG_INFL_	44	2.26964	0.1168
LOG_INFL_ does not Granger Cause LOG_INTR_		2.35276	0.1085
LOG_MCAP_ does not Granger Cause LOG_INFL_	30	2.84971	0.0768
LOG_INFL_ does not Granger Cause LOG_MCAP_		0.90728	0.4165
LOG_MS_ does not Granger Cause LOG_INFL_	44	0.98564	0.3823
LOG_INFL_ does not Granger Cause LOG_MS_		1.78475	0.1813
LOG_TS_ does not Granger Cause LOG_INFL_	44	1.93425	0.1581
LOG_INFL_ does not Granger Cause LOG_TS_		1.96637	0.1536
LOG_MCAP_ does not Granger Cause LOG_INTR_	30	2.19431	0.1324
LOG_INTR_ does not Granger Cause LOG_MCAP_		2.01791	0.1540
LOG_MS_ does not Granger Cause LOG_INTR_	50	0.17976	0.8361
LOG_INTR_ does not Granger Cause LOG_MS_		0.70496	0.4995
LOG_TS_ does not Granger Cause LOG_INTR_	50	1.35405	0.2685
LOG_INTR_ does not Granger Cause LOG_TS_		1.07548	0.3497
LOG_MS_ does not Granger Cause LOG_MCAP_	30	5.48634	0.0106
LOG_MCAP_ does not Granger Cause LOG_MS_		1.12957	0.3391
LOG_TS_ does not Granger Cause LOG_MCAP_	30	2.61464	0.0931
LOG_MCAP_ does not Granger Cause LOG_TS_		4.16184	0.0275
LOG_TS_ does not Granger Cause LOG_MS_	51	8.66085	0.0006
LOG_MS_ does not Granger Cause LOG_TS_		2.36828	0.1050

5. SUMMARY

The paper empirically examines the impact of the inflation on the growth of Nigerian economy, using annual time series data from 1960 to 2012. The model developed by [17] was used for the study. The paper employs stochastic characteristics of each time series data by testing their stationarity using Group unit root tests, including Cointegration tests and Pairwise Granger Causality Test.

The null hypothesis being that there is presence of a Group unit root (.i.e. Levin, Lin & Chu t*; Im, Pesaran and Shin W-stat; ADF-Fisher Chi-square; PP-Fisher Chi-square) except Breitung t-stat was accepted at levels implying that the variables were found stationary at 5% level of significance.

We used co-integration technique by [23] approach in assessing the co-integrating properties of variables, especially in a multivariate context. The result of the test showed that for the periods, 1960-2012, there was no co-integrating relationship between Inflation and economic growth for Nigeria data. Thus, all the variables have both short and long run relationship with each other as revealed by Cointegration tests. Besides the non-existence of cointegration existing between economic growth and INTR, MCAP, MS and TS, further effort was made to check the causality relationship that exist between the four variables by employing the Pairwise -Granger causality at two lag periods as could be seen in Table 3. The results showed the same at different lags.

The first test was conducted using lag two (2) and in the result unidirectional causality was seen running from MS to MCAP, MCAP to TS, TS to MS.

It should be borne in mind that the study did not consider if the relationship between inflation and growth was negative or positive; however, various studies as reviewed in the literature has come out with the result that high inflation is and has never been favourable to economic growth. Hence it will be good to maintain the fact that the causality does not run from INFL to RGDP and RGDP to INFL is an indication of insignificant relationship showing that Inflation indeed has an inverse impact on growth.

6. CONCLUSION

The result of the econometrics on the Balance of payments: Nigerian Experience, the paper discovered that RGDP causes no effect on INFL, MS, MCAPS, TS. This is an indication of insignificant relationship showing that INFL indeed has an inverse impact on economic growth of Nigeria.

7. RECOMMENDATIONS

From the econometric study of the impact of inflation on the growth of the Nigerian Economy from 1960-2012, the following recommendations are stated below:

- Government should ensure that policy measure (or monetary or fiscal) to control inflation rate has to be put in place-through the efforts of central Bank of Nigeria.
- Government should ensure that inflation rate is maintained at single-digit level.
- Government should place a high premium of control on money supply since it has a significant link with inflation in the economy-such as Nigeria.
- Government should in sincerity control inflation rate since it inversely affects interest rate in Nigeria. If the amount charge on investible loans is high, it will manifest negatively on the growth.
- Government should formulate and implement policy on inflation rate since it negatively affects market capitalization in Nigeria. However, Capital market is a market whereby surplus unit saves their surplus and/or lends to deficit unit that needs the money for utilization.
- Government should create atmosphere that encourages the general public to save that part of cash that is not consumed immediately or idle cash. Inflation dissuades savings in other words inflation has an inverse relationship with savings, without saving-no capital accumulation or rather capital formation will be low. This will discourage potential investors to invest since no source of investible funds.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
http://sciencedomain.org/review-history/10341