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AN ANALYSIS OF THE LINKAGE BETWEEN INFLATION, SAVINGS AND OUTPUT IN NIGERIA

IN NIGERIA

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Abstract

The linkage dynamics of inflation, savings, and output forms the bedrock of this work. This study anchored on three models to explain; the effects of inflation and savings on economic output, how economic growth responds to changes in inflation and savings in Nigeria and the causal relationship between inflation, savings and output. Time series data were collated for the variables selected for the analysis while, Ordinary Least Square (OLS) was used for the first and second objectives, Granger causality method was used for the third. The OLS results for the first and second objectives reveal that saving stimulates output, while a sustained high inflation rate is detrimental to output. On the other hand, domestic savings through a leakage in the short run plays a major role in the long run by providing the needed cheap funds for investment purposes that engender an increase in output and also curb excess cash in circulation that tames high inflation. The causality model for the first objective reveals that real Gross Domestic Product (rGDP) granger causes Gross Domestic Savings (GDS). In other words, households and firms save more in a growing economy and a growing economy is characterized by increasing output which tames inflation. It is therefore recommended that government should adopt monetary policies like low cash reserve requirements, removal of charges on savings accounts, removal of outright border closure and provision of saving facilities to households in rural areas to stimulate savings and help keep inflation low with the attendant economic benefits.

Keywords: Inflation, Savings, Economic Output, Capital formation

1.0 Introduction

Inflation is one of the fundamental macroeconomic variables found in every economy though at different levels of degrees. Inflation is a rise in the average price of goods and services over time (Begg, Fischer, & Dornbusch, 2000). Inflation is also the continuous and sustained rise in the general price level of goods and services in a nation's economy. This depicts a situation where the volume of money chasing the available goods and services in an economy is too much, consequently resulting in a persistent rise in the general price level. From theoretical literature, it

is a generally accepted phenomenon that high inflation in an economy has dire consequences, particularly in the stability of prices of goods and services. During high inflation, unless there is a corresponding rise in income level, savings (the major source of capital accumulation of households and entrepreneurs) would be seriously depleted. For this reason, stakeholders in the economy which include regulatory agencies and policy makers are concerned about the costs and consequences of high inflation.

Begg, et al (2000) posit that inflation does have bad effects, but some of the popular criticisms of inflation are based on spurious reasoning. It requires care to distinguish between the good and bad arguments about why inflation is costly for the economy as a whole. Gokal and Hanif (2004) argue that inflation may also reduce a country's international competitiveness by making its exports relatively more expensive, thus impacting the balance of payments. From the oil boom era of the 1970s in Nigeria, persistent inflationary pressures have exerted overwhelming effects on the economy and various measures ranging from price control, and wage freezes to the implementation of monetary and fiscal policies have been employed by monetary authorities to tackle inflation. Orubu (2009) posits that since the late 1990s, the Central Bank of Nigeria has focused more on monetary policy to combat inflation in Nigeria. Hence the problem persists with its damping effects on savings and economic output.

Globally, inflation is one of the most fundamental macroeconomic variables that transcend the economics of both the developed and developing countries of the world. Owing to its consequences, the concept has attracted the attention of stakeholders in the Nigerian economy and regulatory authorities in particular. To stabilize the prices of goods and services, encourage private savings and arrive at boosting investments in an attempt to improve output in Nigeria, monetary authorities have adopted contractionary inflation targeting policies and programs like regulation of fuel price, increasing cash reserve requirement, bank consolidation, low monetary policy rates, National Economic Empowerment program, etc. These policies and programs have not fully materialized in a period of sustained single-digit inflation rate, high savings rate and sustained economic growth. Nigeria in recent times only had single-digit inflation from 2013 to 2015 according to World Bank National Account Data. Nigeria's year-on-year headline inflation entered into the double-digit range in February 2016 at 11.38 per cent, from the 2015 year-end inflation of 9.55 per cent, it went up to 18.55 per cent by December, 2016. This was significantly above the

recommended threshold of the West African Monetary Zone (WAMZ) convergence inflation rate of 5 per cent. Consequently, the savings rate started to nose-dive during the period, 2015 to 2018 (when the inflation rate started increasing) from a range of 21% to 18% compared to a range of 32% in 2013 (World Bank Trading Economics).

In the latest reports by the CEIC, Nigeria's GDP contracted 3.6% year on year in September 2020. The Gross Domestic Product (GDP) in Nigeria was worth 448.10 Billion US Dollars in 2019, according to official data from the World Bank and projections from Trading Economics. The GDP value of Nigeria represents 0.37% of the world economy. The value of the country's GDP started to decrease from over 550 Billion US Dollars in 2014 to 480 Billion US Dollars in 2015. The GDP figure further went down in 2016 and 2017. It increased in 2018 and 2019 but the increase was nothing compared to the value from which it fell in 2014. The projection for 2020 was a decrease and this was justified by the fact that the Nigerian economy was in recession for a better part of 2020 until the last quarter when the economy grew by 0.11 per cent after a previous contraction of -3.62 per cent. It is very important to note that this is the same period the inflation rate and savings rate started increasing and decreasing respectively.

Furthermore, the continued exchange rate pressures coupled with the depreciation of the Naira against major convertible currencies are expected to pose a potential inflation risk. These factors that trigger inflationary tendencies consequently translate to the depletion of savings and capital formation which generally impede output. Against this background, this study focused on analysing econometrically, the linkages and inter-dependencies among inflation, savings and economic output in Nigeria.

Objectives of the study

- i. To determine the effect of inflation and savings on economic output in Nigeria.
- ii. To investigate how economic growth responds to changes in inflation and savings in Nigeria.
- iii. To examine the causal relationship among inflation, savings and economic output.

2.0 Theoretical Framework

The model for this work is an eclectic one because one particular theory cannot explain the relationship between inflation, savings and economic growth. The model for this work was predicated on the Saving-investment theory and Harrod - Domar model. The major objective of the saving-investment theory is to explain the changes in the price level (an indicator of inflation) or the value of money as it relates to savings, investment (capital formation) and full employment equilibrium. Classical economists believe that equality between savings and investment is brought about by interest rates. The depth of the Saving-investment theory is its ability to explain the disequilibrium between savings and investment which causes fluctuation in price or the value of money by affecting the level of income. If savings and investment are equal, the price level is stable. If the savings exceed the investment, the price level falls and if the investment exceeds savings, the price level increases. Thus the price level is the consequence of a change in income rather than the quantity of money. Harrod - Domar model relates to savings and gives insight into the dynamics of growth. Harrod - Domar suggests that economic growth rates depend on two things; level of savings (higher savings enables higher capital accumulation) and capital-output ratio (efficiency of accumulated capital). Agarwal (2019) clarified that the model shows the importance of saving and investment in a developing economy. The growth of an economy is positively related to its savings ratio and negatively related to the capital-output ratio.

2.1 Empirical Literature Review

Osuala, Osuala and Onyeike (2013) examined the impact of inflation on economic growth in Nigeria utilizing annualized time series data sourced from the Central Bank of Nigeria Statistical Bulletin covering the period 1970 to 2011. Preliminary tests for the stationarity of the variables were ascertained using Augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) techniques. Also, the Granger Causality test was conducted to determine the direction of causality between inflation and economic growth. The findings indicated a statistically significant positive link between inflation and economic growth. On the contrary, the scholars discovered that there was no prominent variable in the relation between inflation and economic growth. In that regard, the authors concluded that the impact was contemporaneous.

Kasidi and Mwakanemela (2013) studied the impact of inflation on economic growth in Tanzania. Annual time-series data for the period 1990-2011 were employed for analysis, correlation

coefficient and co-integration technique established the relationship between inflation and GDP and the coefficient of elasticity was used to measure the degree of responsiveness of change in GDP to changes in general price levels. Findings indicated that inflation had a negative effect on economic growth. The study further established that there was no co-integration (absence of long-run relationship) between inflation and economic growth in Tanzania within the period studied.

Mohammed (2014) examines the causal relationship among savings, investment and economic growth in Bahrain using annual time series data from 1970 – 2011 in a multivariate framework. The result from the ARDL Bounds Testing indicates that there exists co-integration among savings, investment and GDP (as the dependent variable). The study also revealed that labour force and investment have a significant positive effect on the economic growth of Ethiopia, both in the short-run and in the long-run while savings and human capital are statistically significant.

Nwanne (2014) examines the implications of savings and investment on economic growth in Nigeria. Results for ADF and PP unit roots show that all variables are significantly under consideration. The study also revealed that there is a long-run relationship between savings, investment and economic growth in Nigeria. The results of the regression indicate that the change in gross domestic savings movements has a negative and significant effect on the change in economic growth in Nigeria and that the change in gross domestic investment has a positive and significant effect on the change in Nigerian economic growth.

Bakare, Kareem and Oyelekan (2015) assessed the effects of the inflation rate on economic growth in Nigeria using annualized time series data for the period 1986-2014. The secondary data were sourced from the CBN statistical bulletin. The ADF econometric technique was used to determine the stationarity of the services, while the Granger causality test was used to ascertain the causal direction of dependent and independent variables. The study found that the inflation rate is related negatively and significantly to economic growth. The results of unit root suggest that all the variables in the model were stationary at 1%, 5% and 10% critical values with the first difference. The results of Causality suggest that GDP causes inflation and not inflation causing Growth. The results also revealed that inflation had a negative impact on economic growth. It recommended that productive activity should be intensified in the economy to reduce and stabilize the prices of goods and services to promote economic growth.

Jagadeesh (2015) in her paper on the Impact of Savings on Economic Growth; An Empirical Study Based on Botswana uses time series data from 1930 to 2013, sourced from World Bank data and Bank of Botswana. She utilized the unit root test, Auto Regressive Distribution Lag Test (ARDL) and Dynamic Ordinary Least Square (DOLS). The test shows there was a long-run relationship between GDP and GDS (gross domestic savings), GCF (gross capital formation), export inflation and labour force at 5%. The estimation results for the co-integration model pointed out that all the variables have positive influences on gross domestic product except the labour force but it is insignificant. The overall measure of capital formation and savings acts as a major booster of output growth in Botswana. The result supported the Harrod Domar model which proved that the growth rate of income will directly or positively be related to the savings ratio and capital formation.

Edeme & Ifelunimi (2015), using annual time series data from 1980-2013, examined the linkages among savings, inflation and economic growth in Nigeria using the 2-stage least squares (2SLS) method. The study found inflation and real interest to be negatively related to economic growth while the exchange rate has a positive effect on economic growth. Also, economic growth, unemployment and real interest rate negatively affected the inflation rate, while indirect taxes had a positive impact on inflation. The result further shows that economic growth; exchange rate and foreign direct investment engender savings while depreciation rate endangers savings. The study also established threshold level of 8 per cent of the inflationary level was found to be consistent with Nigeria's growth; beyond this point, inflation will endanger growth

Ojiegbe, Duruechi & Makwe (2016), investigated the effect of savings and investment on the economic growth of Nigeria. Secondary data were obtained from the CBN statistical bulletin over the period 1980-2014. The data gathered were analyzed using the ordinary least square method of analyses, the augmented Dickey fuller test, Granger causality test, error correction model and the co-integration test were equally carried out to check the stationarity and the causal direction of the variables and also to check the long-run relationship between the variables of the study. The result of the statistical analysis revealed that there is a long-run relationship between saving, investment and economic growth in Nigeria.

Gashe (2017), in his study on Inter-Play Between Saving, Inflation and Economic Growth in Ethiopia: Linkage and Threshold Analysis, used the 2SLS technique within the framework of the Simultaneous equation model using time series data from 1981 to 2015. The OLS model was also used for estimating the optimum threshold level of inflation rate for economic growth. The relationship between domestic saving and economic growth is one-directional and positive; growth causes saving. Foreign aid and final consumption have been found a positive and significant effect on economic growth. The study has also found a significant and positive bi-directional relationship between economic growth and inflation. Inflation has an adverse effect on domestic savings and inflation is also negatively affected by opines to trade. The findings of OLS estimation suggested that a 12% threshold level of inflation was consistent with the economic growth of Ethiopia; inflation rates below this threshold level do not have any significant impact on economic growth.

Anidiobu, Okolie & Oleka (2018) analyzed inflation and its effect on economic growth in Nigeria using secondary data (on inflation rate, GDP, interest rate and exchange rate) from the National Bureau of Statistics and Central Bank of Nigeria statistical bulletins covering the period 1986 – 2015. OLS method was used for the modelling while Augmented Dickey-fuller (ADF) was used for the stationary tests of the services. The results revealed that inflation related positively and non-significantly with economic growth measured by real GDP in Nigeria within the period.

Olugbenga & Oluwabunmi (2020) in an attempt to examine the influence of inflation on the growth prospects of the Nigerian economy, employed the autoregressive distributed lag on the selected variables, i.e. real gross domestic product (GDP), inflation rate, interest rate, exchange rate, degree of economy's openness, money supply, and government consumption expenditures for the period 1980–2018. The study findings indicate that inflation and real exchange rate exert a significant negative impact on economic growth, while interest rate and money supply indicate a positive and significant impact on economic growth. Other variables in the model depict no influence on the economic growth of Nigeria. The causality result shows the unidirectional relationships between interest rate, exchange rate, government consumption expenditures and gross domestic product. However, inflation and the degree of openness show no causal relationship with gross domestic product. As a result, the study recommends that a more pragmatic effort is needed by the monetary authorities to target inflation vigorously to prevent its adverse effect by ensuring a tolerable rate that would stimulate the economic growth of Nigeria.

Agu & Omolade (2021) examined the impacts of savings and investment on economic growth in Nigeria, using some statistical tests such as ARDL estimating technique, Augmented Dickey-Fuller (ADF) and Bound co-integration test on Nigerian data from 1980 to 2019. The variables employed include; GDP, Savings, Investment, Infrastructure (electricity) and Capital formation. The estimation results show that savings and investment have negative and statistically significant effects both in the short-run and long run on economic growth in Nigeria. These suggest that Nigeria has a grossly low saving culture and may be experiencing deficient demand problems. This result affirms the classical view that both savings and investment equilibrate. Infrastructural facilities (proxy by electricity) have negative and significant effects on economic growth in Nigeria. The implications are that private provision of electricity is usually not cost-effective and seems to have a negative implication on the business's profitability. It is therefore recommended that the focus of development policies in Nigeria should be on the monetary and fiscal policies, as to encourage a high investment and saving culture.

3.0 Methodology and Model Specification

The study focused on investigating the relationship between inflation, savings and economic growth in Nigeria. The study utilised econometric techniques to empirically test the relationships between inflation, savings and economic growth. The models adapted for this study are Odey, Effiong and Nwafor (2017) and Hossain (2012). The model for the study was predicated on the theoretical framework of the savings-investment theory (Income theory) and Harrod-Domar theory of economic growth respectively. Granger causality method, Multiple linear regression using the OLS estimator, stationary test, co-integration and error correction model were estimated to determine the nature of the relationship between inflation, savings and economic growth in Nigeria. These contemporary econometric techniques would allow the researcher to determine the extent of causality, and the levels of integration of each of the variables and also capture the long-run relationship and speed of adjustment. The model represents how economic growth responds to changes in inflation and savings in Nigeria. To achieve the objective we adapt the model by Odey, Effiong & Nwafor (2017) which is a combination of the saving-investment theory and the Harrod- Domar model. The model was modified to include labour force and savings facility for the robustness of the estimate.

The functional form of the model is;

$$RGDP = f(INTR, INFL, LAF, GFCF, SF, GDS) \quad i$$

In econometric form;

$$RGDP = c_0 + c_1 INTR + c_2 INFL + c_3 LAF + c_4 GFCF + c_5 SF + c_6 GDS + U_t \quad ii$$

Where c_0 is the constant term

The **apriori** expectation for equation (vi) is $c_1, c_2 < 0$ and $c_3, c_4, c_5, c_6 > 0$

Where RGDP is Real Gross Domestic Product; INTR is the Interest rate

INFL is Inflation rate; LAF is Labour Force

GFCF is Gross Fixed Capital Formation; SF is Savings Facility

GDS is Gross Domestic Savings; U_t is the error term

The study utilizes the **Ordinary Least Square (OLS)** because it has some desirable statistical properties, which has made it one of the most powerful and popular methods of estimating the parameters of econometric models (Ojameruaye & Oaikhenan, 2004). OLS method yields the best, linear, unbiased estimates (BLUE) of the parameters of the regression model. Some other pre-test techniques will be used to strengthen the results of the estimation results;

The unit root test is used to ascertain the stationarity of a data series. Iyoha (2004) stated that the presence of a unit root implies that the time series under scrutiny is non-stationary while the absence of a unit root means that the stochastic process is stationary.

Currently, the most commonly accepted method of testing for unit roots is by use of the **Augmented Dickey-fuller test**, as it adjusts appropriately for the occurrence of serial correlation (Iyoha, 2004). The ADF tests the presence or absence of unit root. The result of the ADF test is determined by comparing the absolute term of the Mackinnon and ADF test statistic values. When the absolute value of the ADF test statistic is greater than each of the absolute Mackinnon values, the variable is said to be stationary, otherwise the variable is said to be non-stationary. Note that the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests procedures are used

in the integration level and the possible co-integration among the various variables (Dickey and Fuller, 1981, Phillips and Perron, 1988). It is conducted to determine the stationarity and orders of integration of the data. The data were also subjected to a cointegration test. Cointegration makes it possible for us to retrieve the long-run properties of the relationship between variables that had been lost on differencing. In cointegration, therefore, we are interested in two things; finding out if all the variables in a regression model have identical empirical characteristics by examining the order of integration, and finding out if the variables of interest are cointegrated i.e irrespective of the prevailing conditions, variable move together towards the same long-run equilibrium.

ANALYSIS OF RESULT

Before the data analysis, the time series properties of the series such as stationarity and cointegration are investigated and the result is presented in the following subsections.

The stationarity test was conducted using the Augmented Dickey-Fuller (ADF) and Phillip Perron (PP). The two tests were used to test for consistency and if a conflict exists we choose the PP test because it has been made robust to serial correlation by using the Newey – West heteroscedasticity and autocorrelation consistent covariance Matrix estimator. The PP test is also preferable because the user does not have to specify a lag length for the regression.

Decision rule; reject the null hypothesis of no unit root if ADF/PP statistic is greater than ADF/PP critical value, otherwise do not reject.

Augmented Dickey-Fuller Test Result

VARIABLE	ADF STATISTIC	ADF CRITICAL VALUE	LEVEL OF INTEGRATION
RGDP	-3.177684	-3.615588	I(1)
GDS	-7.138195	-3.615588	I(1)
INFL	-3.454901	-3.610453	I(0)
GFCF	-3.869042	-3.615588	I(1)
INT	-5.725587	-3.615588	I(1)
SDR	-3.796907	-3.632900	I(1)

SAF	-4.713980	-3.615588	I(1)
LAF	-4.717162	-3.615588	I(1)

Source: Researcher's compilation from Eviews

Phillip Perron Test Result

VARIABLE	PP STATISTIC	PP CRITICAL VALUE	LEVEL OF INTEGRATION
RGDP	-3.068671	-3.615588	I(1)
GDS	-7.099064	-3.615588	I(1)
INFL	-3.338558	-3.610453	I(0)
GFCF	-3.819547	-3.615588	I(1)
INT	-5.750563	-3.615588	I(1)
SDR	-7.013863	-3.615588	I(1)
SAF	-4.645279	-3.615588	I(1)
LAF	-4.449447	-3.615588	I(1)

Source: Researcher's compilation from Eviews

From tables 4.2 and 4.3, the traditional tests of the ADF and PP indicate that all the variables tend to be stationary at first difference except INFL which tend to be stationary at first level in both tests. The aim of testing for the stationarity properties of the variables in the bounds approach to cointegration I is because the ARDL bounds testing approach becomes applicable only in the presence of I(1) and I(0) variables or a mixture of both. This means that the assumption of the bounds testing approach will collapse in the presence of the I(2) variable. Both the ADF and PP unit roots results presented in tables 4.2 and 4.3 implies that the bounds testing approach is applicable in this study, as all the variables are a mixture of I(1) and I(0).

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No of CE(s)	Eigenvalue	Trace Statistic	Critical Value 0.05	Prob.**
None *	0.754827	173.3008	125.6154	0.0000
At most 1 *	0.622890	119.8808	95.75366	0.0004
At most 2 *	0.588046	82.82250	69.81889	0.0032
At most 3 *	0.460019	49.12244	47.85613	0.0378

At most 4	0.328675	25.70604	29.79707	0.1377
At most 5	0.200035	10.56295	15.49471	0.2399
At most 6	0.053312	2.081854	3.841466	0.1491

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Researcher's computation aided by Eview

Unrestricted Cointegration Rank Test Maximum

Eigenvalue III

Hypothesized				
No. of CE(s)	Eigenvalue	Max-Eigen Statistic	Critical Value 0.05	Prob.**
None *	0.754827	53.42009	46.23142	0.0073
At most 1	0.622890	37.05826	40.07757	0.1053
At most 2	0.588046	33.70006	33.87687	0.0525
At most 3	0.460019	23.41640	27.58434	0.1564
At most 4	0.328675	15.14309	21.13162	0.2790
At most 5	0.200035	8.481098	14.26460	0.3319
At most 6	0.053312	2.081854	3.841466	0.1491

Source: Researcher's computation aided by Eviews

Regression Results

Dependent Variable: LNRGDP; Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.0210	5.5967	1.9692	0.0574
LNINT	0.1101	0.1145	0.9614	0.3433
LNINF	-0.0551	0.0302	-1.8281	0.0766
LNLAF	-5.2388	1.4945	-3.5054	0.0013
LNGFCF	0.9389	0.1545	6.0787	0.0000
LNSAF	0.8759	0.1876	4.6702	0.0000

LNGDS	0.2491	0.1430	1.7421	0.0908
R-squared	0.9961	Mean dependent var		8.7033
Adjusted R-squared	0.9954	S.D. dependent var		2.3943
S.E. of regression	0.1632	Akaike info criterion		-0.6303
Sum squared resid	0.8787	Schwarz criterion		-0.3347
Log-likelihood	19.6059	Hannan-Quinn criteria.		-0.5234
F-statistic	1393.8990	Durbin-Watson stat		0.8982
Prob(F-statistic)	0.0000	Wald F-statistic		780.60 22
Prob(Wald F-statistic)	0.0000			

Source: Researcher’s compilation from Eviews

The table 4.13 shows that the explanatory variables; inflation(INFL), capital formation(GFCF), saving facility(SAF) and gross domestic savings(GDS) conform with apriori expectation except for interest rate(INT) and labour force(LAF). Some of these explanatory variables including INFL, GFCF, SAF, and LAF are statistically significant with a t-statistic of -1.828146, 6.078747, 4.670152 and 3.505435 respectively.

The coefficient of multiple determination (R^2) and adjusted R^2 are high at 0.99607 and 0.995355 per cent respectively. It shows that 99% of total variations in GDP are explained by the explanatory variables. Thus the model has a high goodness of fit. The F-statistic value of 1393.899 is higher than the critical value at the five per cent level, therefore the overall model is statistically significant. The probability of F-statistic is 0 which is also less than 0.05. The Durbin-Watson statistic of 0.898236 shows that there is no autocorrelation in the model.

The Pairwise Granger Causality Test addresses objective three. The Table below shows that the null hypotheses numbered 1,2,3,4 and 6 cannot be rejected. We, therefore, accept the null hypotheses and conclude that no cause-effect relationship exists in the numbered expression. The null hypothesis of causality running from GDP to GDS has a high significant F value and

stands rejected. A feedback relationship exists between economic output and gross domestic savings in Nigeria. On the other hand, changes in economic output critically cause movement in gross domestic savings in Nigeria.

Table 4.14 Pairwise Granger Causality Test

S/ N	Null Hypothesis:	O bs	F- Statistic	Prob.	Decisi on	Causalit y
1	LNGDS does not Granger Cause LNINF	3 8	1.6615 4	0.205 3	Accep t	None
2	LNINF does not Granger Cause LNGDS		2.7743 6	0.077	Accep t	None
3	LNRGDP does not Granger Cause LNINF	3 8	3.1479 0	0.056 1	Accep t	None
4	LNINF does not Granger Cause LNRGDP		1.8111 3	0.179 3	Accep t	None
5	LNRGDP does not Granger Cause LNGDS	3 8	8.1008 4	0.001 4	Reject	feedbac k
6	LNGDS does not Granger Cause LNRGDP		0.5338 8	0.591 3	Accep t	None

Source: Researcher's compilation from Eviews

Discussion of Results / Findings

The descriptive statistics reveal that the variables in the analysis are very strong as they carry positive values. The mean value of Gross Domestic Product(GDP), Gross Domestic Savings (GDS), Gross Fixed Capital Formation (GFCF), Inflation(INFL), Interest rate (INT), Labour Force (LAF), Saving Facility (SAF) and Saving Deposit rate (SDr) are 8.703, 14.6, 14.45, 2.682, 2.826, 3.997, 1.426 and 2.362 respectively.

Table 4.1: DESCRIPTIVE STATISTICS.

DESCRIPTIVE STATISTICS.								
	LNRGDP	LNGFCF	LNINF	LNINT	LNLAF	LNSAF	LNSDR	LNGDS
Mean	8.70334 2	14.4583 1	2.68248 8	2.82644 6	3.99786 9	1.42668 1	2.36241 3	14.60444
Median	8.92785 0	14.7070 0	2.54547 9	2.84736 6	4.00715 1	1.44678 3	2.32234 9	14.93554
Maximum	11.9337 7	17.6039 4	4.28826 5	3.45473 8	4.04480 4	1.85941 8	3.14587 5	17.37886
Minimum	4.97556 1	11.3753 3	1.68268 8	2.18829 6	3.93378 4	0.86289 0	1.73871 0	11.41872
Std. Dev.	2.39431 4	1.92772 9	0.68394 0	0.29193 6	0.02584 0	0.24061 0	0.34007 6	2.004206
Skewness	-0.23524	-0.24797	0.86563 6	-0.60015	-1.07897	-0.11852	0.09919 2	-0.28817
Kurtosis	1.61813 6	1.72035 6	2.92318 3	3.12239 1	3.05496 7	2.67569 2	2.47740 3	1.623119
Jarque-Bera	3.55150 8	3.13908 7	5.00534 5	2.42617 7	7.76626 7	0.26893 7	0.52077 3	3.713295
Probability	0.16935 6	0.20814 0	0.08186 6	0.29727 8	0.02058 6	0.87418 1	0.77075 4	0.156195
Sum	348.133 7	578.332 5	107.299 5	113.057 8	159.914 8	57.0672 2	94.4965 4	584.1775
Sum Sq. Dev.	223.576 9	144.929 5	18.2431 9	3.32383 1	0.02604 1	2.25783 5	4.51042 9	156.6568
Observations	40	40	40	40	40	40	40	40

Apart from the first moment statistics of the series, the results of other statistics are also evident from the table. For instance, Jarque Bera which measures whether the series is normally distributed or not has all the values greater than 0.05. This translates that all the series are normally distributed. The Kurtosis statistics with positive signs concur with the fact that all the variables are normally distributed. The statistics for Skewness also show that INFL, SDR, and GDS are positively skewed, implying that these distributions have long right tails. GDP, GFCF, INT, LAF and SAF are negatively skewed implying that they have short tails.

5.0 Conclusion

The study was undertaken to examine the linkage among inflation, savings and economic output in Nigeria from 1980 to 2020. The OLS result indicates that about 99 per cent of the variations in output (GPD) were captured by the explanatory variables including inflation (INFL), savings (GDS), interest rate(INTR), the labour force(LAF), capital formation (GFCF), saving facility

(SAF). Hence, an increase in inflation has a negative effect on economic output and an increase in capital formation, savings, savings facility and interest rate has a positive effect on economic output. Labour force, against apriori expectations has a negative impact on output which may be a pointer that Nigeria does not have sufficient skilled labour to support growth.

Recommendations

The Central Bank of Nigeria (CBN) should ensure that the reserve requirements of commercial banks are not so high so they can advance more funds as loans to investors to ensure improved output which helps to lower inflation rates and encourage savings. This improved interdependency helps to stabilize the economy in the long run.

The relevant authorities should persuade commercial banks to completely remove charges from savings accounts to encourage more people to save. The multiple charges ranging from SMS alert charges, ATM card maintenance charges, fund transfer charges; etc should be reduced or removed to encourage savings that provide cheap funds transmitted to investors. When investment expands, output increases and high inflation is tamed.

Federal Government should also encourage microfinance banks to establish branches in rural areas to discourage the rural dwellers from saving in their local saving boxes, and to embrace a more secure and reliable means of saving through financial institutions. This will also bridge the gap between saving and investment with enhanced output.

The CBN should also ensure that the value of naira is protected. The deteriorating value of local currencies discourages savings, fuels inflation and impedes output growth. The apex bank should note that no foreign company will invest in an economy where they will lose value when they want to convert and repatriate some profit.

Government should adopt regulated free market policies that keep inflation low so that households and firms do not have to spend what could have been saved on consumables and raw materials respectively. Policies like border closure must be dropped as it leads to inflation. We must encourage the importation of goods (especially raw materials) that we do not have the comparative advantage to produce until we build the capacity for such and restrict the importation of goods we already can produce locally.

Economic activities as regards raw materials, industrial and agricultural inputs and machinery whether local or external must be supported by the government. This may be by removal of import duty or subsidization of local production. This will encourage output in the short run, tame inflation in the long run, provide employment, reduce poverty, and improve demand. If this measure is sustained, it will lead to long-run economic stabilization.

The Governor of the CBN and the monetary policy committee should liaise with the necessary policy operators to ensure there are real interest and inflation rates that will stimulate economic activities and bring about requisite economic growth in Nigeria.

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