THE INFLATION – EXPENDITURE RELATION: MACROFINAMETRIC EVIDENCE FROM NIGERIA

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Abstract

It is the objective of this study to investigate the relationships between the various aspects of government expenditure, namely capital and recurrent expenditure, and the macroeconomic variable - inflation based on the Nigerian evidence. The study employed the Generalized Method of Moments method to estimate the short-run relationship while use was made of the Unrestricted Cointegration Rank Tests (Trace and Maximum Eigenvalue) after the order of linear deterministic trend to estimate the long-run relationship. The results indicate that there exist one cointegrating equation and a sustainable long run equilibrium relationship between the inflation and the government expenditure variables. In the short-run, there is a positive and significant relationship between inflation and recurrent government spending. On the other hand, the relationship between inflation and capital expenditure is not statistically significant. Evidently, the result indicates that capital expenditure is not a significant inflation driver in Nigeria, but recurrent expenditure is. Thus the advocated policy action is for the Nigerian government to pursue a policy of increasing capital expenditure relative to recurrent spending. This would increase output and reduce pressure on aggregate prices.

BACKGROUND OF THE STYDY

The economy of Nigeria presents some peculiar dynamics that represent worrisome tendencies. For instance, the growth of public expenditure in the country has been tremendous, if not alarming over the years. On the other hand, the economy cannot be said to have been growing commensurately. If output had been growing as desired, the incidences of run-away inflationary pressures noticeable in certain years would not have occurred, going by the postulations of theory that when goods increase, prices will be forced to experience a downward

trend, and most likely inflation would move at a creeping stable rate. That growth are generally below the desires and expectations of the people only testifies that employment of resources - human, monetary and material - is far below capacity. In the face of these startling realities, can we say that the huge amounts of money which the government claims to pump into the economy produce their desires effect? This is doubtful!

Thus, it is important to make proper analysis of the actual impact of public expenditure on the nominated critical macroeconomic objectives of the country. Granted, some studies had been conducted to determine such relationships, most of them were focused on expenditure-output nexus. Not many of the relevant studies, to the best of the authors' knowledge, covered the effects of government spending on inflation. More so, even the fragmentary studies were based on the experiences of developed countries and at best developing countries of Asia. The experiences of developing countries of Africa are yet to be fully documented. That of Nigeria may be better recognized more in its absence than in its dearth, from the authors' review report. Recognizing this obvious research gap, the author sets out to contribute to the existing body of empirical literature by examining the relationships between the various aspects of government expenditure and the macroeconomic variable - inflation based on the Nigerian evidence. The other variables of economic growth, employment, and balance of payment are not covered in the present study.

SOME THEORETICAL AND EMPIRICAL UNDERPINNINGS OF INFLATION-EXPENDITURE RELATION

Government expenditure refers to the aggregate of a country's public sector spending in all aspects of its activities, which could be for recurrent or capital purposes. Government capital expenditure refers to public spending on investment goods, which implies spending on things that last for a period of time and may include investment in such projects as hospitals, schools, equipment and roads. Government current expenditure refers to government day-to-day spending on recurring items such as salaries and wages, stationeries, and maintenance of facilities, and generally, spending on consumables (i.e., on everyday items that get used up as goods and services are provided). It has been hypothesized that when the government spends too much money relative to the availability of goods and services in the economy, there would be corresponding pressures on prices, which gives rise to inflationary spirals, ceteris paribus. This is predicated on the assumption that more money would be injected into the system that eventually gets into the hands of consumers of both productive inputs and outputs; and most likely gives rise to a situation of excessive demand. There are other causes and types of inflation apart from such government spending, however.

The phenomenon of inflation is generally taken to represent a regime of persistent or sustained increase in the general price level; denoted by the rate at which prices

are increasing which can be measured on a daily, monthly, quarterly or annually bases. A very important measure of inflation is the composite consumer price index (CCPI). When there is too much demand for goods and services in an economy, an inflationary gap is said to occur, with the excess level of demand giving rise todemand-pull inflation. The Keynesian school of thought would suggest a deflationary fiscal policy to combat this condition. This implies manipulating the level of government expenditure and taxation in such a manner that will redound in reducing the level of aggregate demand in the economy - reducing government expenditure, increasing the level of income tax, and increasing VAT and other indirect taxes. The monetarist (a brand of neo-classicals) would advocate the use of deflationary monetary policies such as increasing the level of interest rates.

A combined policy is yet the suggestion of some commentaries in order to deflate the economy. This would necessitate policy managers to deliberately reduce the level of economic activity (the likelihood of imminent excessive demand that generatesdemand-pull inflation) by cutting on government expenditure, increasing taxes or raising interest rates. Generally, the government could use either deflationary fiscal policies or deflationary monetary policies or both to combat inflation. Thus to deflate the economy, use is made of the policies that are aimed at reducing the level of aggregate demand in the economy and therefore slow down the rate of growth of output. They may be necessary because of the sheer existence of rising inflation or significant balance of payments deficit.

On the other hand, a situation of decreasing government expenditure would breed the reverse-side of inflation, otherwise known as deflation. Reduced government spending on such projects as hospitals, schools, equipment, roads, salaries and wages, stationeries, and maintenance of facilities dampens aggregate demand in the economy. A deflationary gap exists in a regime of insufficient demand in the economy to generate full-employment equilibrium**.** Demand management policies, according to the Keynesians, should be used to control the level of demand in the economy. Thus, when shortage of demand occurs, governments should act to they should act in the opposite direction using deflationaryor contractionary policies, as earlier posited. These policy thrusts suggest that governments should be acting in opposite directions with observed trade cycles; a reason that lent credence to these policies being tagged - 'counter-cyclical demand management policies'.

Two major theories appear to stand out in the mass of empirical literature in explaining the inflation - expenditure relation. The one is the Wagner cost over-run argument that posits: as prices of goods (and inputs) increase, the tendency is for government to increase its spending to meet with the demands of providing needed services to its citizens. Projects' cost would rise with inflationary trends. The second 'theory' is the critical limit hypothesis, which as in Ezirim and Muoghalu (2006) and Bhatia (1982), argued that when the share of the government sector activity (represented by its expenditure) exceeds 25 per cent of the total economic activity of the country (say, the gross domestic product), inflation would

be the natural result; and this would be so even when the county is operating under a balanced budget. Thus, when the government's share of the aggregate economic activity reaches the critical limit of 25 per cent, the income earners would the affected by reduced incentives (owing to apparent high tax incidence), and this would jeopardizes their level of productivity. The result is that they would produce less than their capabilities and potentials can support. In turn, this would bring about reduced supply. On the other hand, the demand-effects to the government financing (i.e. expenditure) would become quite strong even when the budget remains balanced. This maladjustment between demand and supply would breed inflationary spirals in the economy as a net result.

Some empirical studies have been advanced in literature which appear to support or even verify the efficacy, or otherwise, of the above positions. For instance, Abbass (2003) studied the effect of inflation on government revenue and expenditure in the Islamic Republic of Iran and found that government budget deficit increased as inflationary condition worsened during the period under consideration. Palokangas' (2003) study focused on inflationary financing of government expenditure, analyzing the role of inflation in economies with endogenous growth and congestion in public services. The results showed that monetary policy maximized economic growth, such that the more inefficient the public sector was, the higher the growth-maximizing inflation rate was. Ezirim and Muoghalu"s (2006) study attempted to explain the size of government expenditure in less developed countries, by investigating the relationship between public expenditure and its determinants and found that inflation was revealed to positively and significantly influence the size of public expenditure. Ezirim and Muoghalu's (2009) results indicate that there exists a long-run equilibrium relationship between inflation and public expenditure.; It was also found that the country's public expenditure grows with inflationary conditions; thus, as prices increase (which includes prices of inputs), the tendency of cost-over-run and inflationary pressures drive the government to increase its expenditures in general terms. This result agrees with Wagner's cost-over-run argument but does not immediately verify Clerk's maladjustment argument in his critical limit hypothesis.

The consistency of results favoring causation flowing from government expenditure to inflation is not however sustained in every study. For example, in Ezirim and Ofurum (2003) the relationship was investigated between public expenditure growth and inflation in two developed countries namely, United Kingdom and United States of America; and in two less developed countries of Africa namely, Kenya and Nigeria. The results indicate that public expenditure growth was seen to significantly and positively affect inflation in Kenya, United Kingdom and United States of America but not in Nigeria. Thus, it does appear that the above result would verify the efficacy of Keynesian's fiscal policy as a veritable tool to combating inflation in the developed countries but not as a conclusive policy for every less developed country. Given this, whereas fiscal policy may be relied upon to effectively check inflation in developed countries, it

may not be totally reliable for a developing country like Nigeria. This submission is however subject to further empirical inquiry- a task which this study aims to fill.

METHODOLOGY

Finametric Techniques and Procedure Employed

Finametric modeling that gave rise to estimable equations is used to examine the relationship between the variables identified in the hypotheses. Descriptive statistical analysis of data was also done before the resulting model was estimated. Estimation Procedure followed a number of vital steps. The first step employed was to check the stationarity status of the variables using the group unit root tests namely Levin, Lin & Chu t, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square test statistics.These are followed by the Unrestricted Cointegration Rank Tests (Trace and Maximum Eigenvalue varieties) after the order of linear deterministic trend, in order to determine the long run effects. The next step in the estimation procedure of the study used the Generalized Method of Moments technique to estimate the short-run effects. The results of these procedures are summarized on Tables 1 through 6 respectively in the section on estimation results. These aided the test of relevant hypotheses. Computations were done using the Eviews and Microfit software.

The Models and Variables

The hypothesized relations can be captured by a number of econometric models. First the empirical literature is awash with the expressed relation between inflation (INF) and total government expenditure (TGE). A priori, inflation is hypothesized to be a positive function of total government expenditure. Thus

$$INF_t = f(TGE_t) \; ; \; f1 > 0 \qquad (1)$$

Total government expenditure (TGE) can be decomposed into capital expenditure (CEX) and recurrent expenditure (REX). Other ways of decomposing total government expenditure would be to consider the structural imperatives such as expenditure on each of the sectors of the economy, but this is not the angle pursued in this study. Following the favored classification of TGE into CEX and REX, the inflation-expenditure relation turns multiple in the functional mathematical form:

$$INF_t = f(CEX_t, REX_t) \; ; \; f1 < 0 \; , \; f2 > 0 \qquad (2)$$

Expression (2) reads: Inflation is hypothesized to be a negative function of capital expenditure and a positive function of recurrent expenditure of government. The expression above can be expressed explicitly in the classical linear regression form as

$$INF_t = \beta o + \beta_1 CEX_t + \beta_2 REX_t + E_t \; ; \; \beta_1 < 0 \; , \; \beta_2 > 0 \qquad (3)$$

Where INF_t is rate of change in composite consumer price index; E_t is the stochastic error term; β_{is} are beta-coefficients; β_0 is the intercept; and other variables are as previously defined. Looking at the above equations, it is easy to see that not all the variables are on the same base. CEX and REX are in level form (raw naira amounts) while INF is in rates of change. In this study, the entire variables shall be casted into rates of growth over the period of the study to achieve a uniform data base. Using, the growth rate of CPI or INF, growth rate of capital expenditure or CEXr, and growth rate of recurrent expenditure or REXr, we re-cast expression (3) as;

$$INF_t = \psi o + \psi_1 CEXr_t + \psi_2 REXr_t + U_t \; ; \quad \psi_1 < 0 \, , \, \psi_2 > 0 \qquad (4)$$

Where U_t is the stochastic error term; ψ_0 is the intercept; and ψ_{is} are the parameters.

It is expected that the use of the uniform rates of change or growth rate will help to reduce or eliminate possible econometric problems. Some economic and financial relations are not usually linear as assumed above. That being the case, our assumption of linearity as in the expressions above may be qualified to accommodate the possibility of non-linear situation. To check this possibility, we re-specify expression (4) in a log-linear form following the Cobb-Douglas transformation procedure to derive

$$LnINF_t = \delta_o + \delta_1 LnCEXr_t + \delta_2 LnREXr_t + V_t \; ; \quad \delta_1 < 0 \, , \, \delta_2 > 0 \qquad (5)$$

Where, $\delta_o = \ln\psi_o$ is the intercept, δ_1, δ_2 are elasticities, and $V_t = \ln U_t$. Equations (4) and (5) are suitable for analysis of the linear and non-linear varieties of the hypothesized relations however after preliminary simulations; only the linear form is used for the purposes of the analysis in this study.

Data Sources

The data for this research relates to measurements over the indicated time period, the research data is described as time series data, that is, the information on variables of a study over various time periods. This time-based data adopted is secondary data since they are obtained from already existing publications, journals, financial statements, which constitutes secondary sources of information. The source of this research data however, is from Central Bank of Nigeria (CBN) publications, namely CBN Economic Reports, Annual Reports and Statement of Accounts, and the CBN Statistical Bulletin for various years.

Some Descriptive Statistical Tools for Preliminary Data Analysis

Descriptive Statistical analyses are used to present the collected data and also to do preliminary analysis of the data. The study utilizes such measures as the mean, median, standard deviations, skewness and kurtosis, and the Jarque-Bera statistic. The last three descriptive tools are defined and expressed below. As in Amuzie

(2011), the skewness is a measure of asymmetry of the distribution of the series around its mean. It is calculated as

$$S = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{y_i - \bar{y}}{\hat{\sigma}}\right)^3$$

The skewness of a symmetric distribution, such as the normal distribution, is zero. Positive skewness means that the distribution has a long right tail and negative skewness implies that the distribution has a long left tail. The Kurtosis measures the peakedness or flatness of the distribution of the series. It is calculated

$$K = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{y_i - \bar{y}}{\hat{\sigma}}\right)^4$$

Also in Amuzie (2011), the kurtosis of the normal distribution is 3. If the kurtosis exceeds 3, the distribution is peaked (leptokurtic) relative to the normal; if the kurtosis is less than 3, the distribution is flat (platykurtic) relative to the normal. Jarque-Bera is a test statistic for testing whether the series is normally distributed. The test statistic measures the difference of the skewness and kurtosis of the series with those from the normal distribution. It is calculated as:

$$\text{Jarque-Bera} = \frac{N}{6}\left(S^2 + \frac{(K-3)^2}{4}\right)$$

Under the null hypothesis of a normal distribution, the Jarque-Bera statistic is distributed with 2 degrees of freedom. The reported Probability is the probability that a Jarque-Bera statistic exceeds (in absolute value) the observed value under the null hypothesis—a small probability value leads to the rejection of the null hypothesis of a normal distribution (Amuzie 2011).

Analyses of Descriptive Statistics of Variables

The data for the post-Sap analysis relates to values for INFr, REXr, and CEXr for the period 1986 to 2011. The source of the data was Statistical Bulletin of the Central Bank of Nigeria. The descriptive statistics of the data distributions are summarized in Table 4.2. The mean value of the INFr, REXr, and CEXr variables are 0.46, 0.33, and 0.31 respectively. The median of the series when the values are ordered from the smallest to the largest are 0.33, 0.38, and 0.15 respectively for INFr, REXr, and CEXr variables. The maximum values of each of the series in the current sample are 2.056 for INFr, 1.046 for REXr, and 0.798 for CEXr. On the other hand, the minimum values of the series in the current sample are -0.34 for INFr, -0.519 for REXr, and 0.053 for CEXr. respectively. The standard deviations which are a measure of dispersion or spread in each of the series are 0.55 for INFr,

0.39 for REXr, and 0.26 for CEXr, .respectively. The variations are moderate for INFr, REXr and CEXr during the post-SAP deregulatory period of 1986 – 2011.

TABLE 1
Summary Descriptive Statistics of Variables

Statistics	INFR	REXR	CEXR
Mean	0.456926	0.325630	0.305000
Median	0.332000	0.375000	0.150000
Maximum	2.056000	1.046000	0.798000
Minimum	-0.342000	-0.519000	0.053000
Std. Dev.	0.551155	0.383345	0.262450
Skewness	1.438392	-0.426153	0.653005
Kurtosis	4.489065	2.624757	1.790467
Jarque-Bera	11.80486	0.975636	3.564709
Probability	0.002733	0.613964	0.168242

The skewness, which is a measure of asymmetry of the distribution of the series around its mean, is seen to be positive for the INFR and the CEXr variables (S = 1.438 for INFr and 0.63 for CEXr), which means that the distributions have long right tails.REX in this period has a negative skewness as opposed to the positive skewness of the other variables, implying that the distribution had a long left tail. The Kurtosis statistic that measures the peakedness or flatness of the distribution of each of the series is calculated at 4.49 for INFr, 2.62 for REXr and 1.79 for CEXr. As a rule, the kurtosis of the normal distribution is 3. If the kurtosis exceeds 3, the distribution is peaked (leptokurtic) relative to the normal; if the kurtosis is less than 3, the distribution is flat (platykurtic) relative to the normal. The INFr variable posted kurtosis of more than 3, hence its distributions can be described as peaked or leptokurtic. On the other hand, the REXr, and CEXr variables are platykurtic showing they are flat relative to normal.

The Jarque-Bera statistic, which is a statistic for testing whether the series is normally distributed; measuring the difference of the skewness and kurtosis of the series with those from the normal distribution; is reported at 11.8 with a probability of 0.002 for INFr. Under the null hypothesis of a normal distribution, the Jarque-Bera statistic is distributed as with 2 degrees of freedom, the reported Probability indicates that we cannot accept the hypothesis of normal distribution at the 5% level significance level for the INFr variable. It is reported as 0.975 with a probability of 0.613 for REXr; and 3.56 with a probability of 0.16 for CEXr variable respectively. Under the null hypothesis of a normal distribution, the Jarque-Bera statistic is distributed with 2 degrees of freedom; and the reported probabilities indicate that we cannot reject the hypothesis of normal distribution at the 5% level significance level for these variables.

ESTIMATION RESULTS AND ANALYSIS

Stationarity Analyses of the INFR, REXR, AND CEXR Variables

The relationships between the inflation variable (INFR) and the public expenditure variables (REXR and CEXR) are estimated starting with the single series unit root test using Philip-Peron test. The results indicate the variables were integrated at I(1).

TABLE 2
Group Unit Root Test
Summary: Series:INFR, REXR, CEXR
Automatic lag length selection based on SIC: 0 to 1
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*	-5.08951	0.0000	3	77
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-6.31584	0.0000	3	77
ADF - Fisher Chi-square	45.2645	0.0000	3	77
PP - Fisher Chi-square	42.6727	0.0000	3	78

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

These are not reported in this paper but can be made available upon request. We further conducted group unit root tests namely Levin, Lin & Chu t, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square test statistics. Table 2 depicts the results of the group unit root tests of the variables: GDPR, REXR, CEXR. As shown, the results of the Levin, Lin & Chu t, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square test statistics indicate the absence of unit roots among the variables. These suggest that they are jointly integrated since the respective probabilities are less than alpha 0.05.and thus we cannot accept the hypotheses of no stationarity in all the cases.

Cointegration Between INFR, REXR, AND CEXR

Being integrated as a group, the analysis was pushed further to ascertain whether the variables are co-integrated or not. Thus, the study employed the Unrestricted Cointegration Rank Tests (Trace and Maximum Eigenvalue) after the order of linear deterministic trend; the results of which are depicted on Table 3 and 4 respectively. From Table 3, it can be seen that the Trace Statistic is computed to be 38.07 while the critical value at alpha 0.05 is 29.8, which indicates a rejection

of the null of no co-integrating equation. Thus the alternate hypothesis of one cointegrating equation is accepted. Equally, the Max-eigenvalue test indicates 1 cointegrating equation at the 0.05 level (statistic = 22.91; critical value = 21.13). These results indicate that there exist a sustainable long run equilibrium relationship between the INFR and the duo of REXR and CEXR.

Relative Long Run Relationships Between INFR, REXR, AND CEXR

Table 5 depicts the long run cointegrating equation showing the nature and magnitude of the observed long run relationships. The equation is normalized for INFR – the dependent variable. The normalized beta coefficient representing the long run relative statistical relationship between the INFR and REXR is shown to be -1.943 and Standard error of 0.417, suggesting a t-statistic of -4.656. This is significant at 5% level. By implication, there exist a statistically significant relationship between the INFR and the REXR variables. The sign implication suggests a negative relationship which disagrees with the *a priori* expectation. On the other hand the normalized beta coefficient representing the long run relative statistical relationship between the INFR and CEXR is calculated to be -0.361 with a standard error of 0.458 (t-statistic = - 0.788). The computed t-statistic is far from being significant at 5% significant level. Thus the relationship between INFR and CEXR is negative and in consonance with the *a priori* expectation. It is, however, not statistically significant at the conventional 5% level.

TABLE 3
Unrestricted Cointegration Rank Test (Trace)

Series: INFR REXR CEXR; Trend assumption: Linear deterministic trend

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.600017	38.06951	29.79707	0.0045
At most 1	0.388767	15.16120	15.49471	0.0561
At most 2	0.107894	2.854262	3.841466	0.0911

Trace test indicates 1 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values

Relative Short Run Relationship between INFR AND REXR AND CEXR

Equally, the study employed the Generalized Method of Moments method to estimate the short-run relationship between INFR and REXR and CEXR. The results are summarized on Table 6. As can be seen, the beta coefficient representing the relationship between INFR and REXR is 0.527, while observed t-

TABLE 4
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Series: INFR REXR CEXR; Trend assumption: Linear deterministic trend

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.600017	22.90830	21.13162	0.0278
At most 1	0.388767	12.30694	14.26460	0.0996
At most 2	0.107894	2.854262	3.841466	0.0911

Max-eigenvalue test indicates 1 cointegratingeqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level; **MacKinnon-Haug-Michelis (1999) p-values

TABLE 5
Normalized Cointegrating Coefficients (Standard Error In Parentheses)

INFR	REXR	CEXR
1.000000	-1.943511	-0.361196
	(0.41671)	(0.45798)

statistic is 2.318 which is significant at 5% level (prob. = 0.032). Given these, we cannot accept a null hypothesis of no significant relationship between INFR and REXR in the short run. More so, the observed relationship is positive, which is in line with a priori expectation. On the other hand, though the relationship between INFR and CEXR is positive, it is not statistically significant at 5% level (Beta = 0.242; t-stat = 0.735; prob = 0.47). Thus, we cannot reject the null hypothesis of no significant relationship between INFR and CEXR in the short run.

Evidently, the result indicates that capital expenditure is not an inflation driver in Nigeria. Theory would suggest the contrary that capital expenditure is inflation-driven through the vehicle of cost over-run. The results in Table 6 indicate a further investigation to be made regarding the causality status of the hypothesized relationships. In a recent study by Eniekezimene (2013) it was determined and underscored that CEXR does not significantly granger-cause INFR. On the other hand, INFR does granger-cause CEXR. This implies that causality flows majorly from INFR to CEXR. Thus, the study could not accept a null hypothesis of no causal relationship between INFR and CEXR. These findings of Eniekezimene (2013) appear to validate the results depicted by the estimation result of this study.

CONCLUDING REMARKS

The study set out to investigate, using simple econometric procedure, examining the relationships between the various aspects of government expenditure, namely capital and recurrent expenditure, and the macroeconomic variable - inflation

TABLE 6

Method: Generalized Method of Moments: Dependent Variable: INFR
Instrument specification: LNINFR LNREXR LNCEXR; Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
REXR	0.527116	0.227365	2.318372	0.0324
CEXR	0.242299	0.329353	0.735683	0.4714

S.E. of regression	0.670803	Sum squared resid	8.099577
Durbin-Watson stat	2.280929	J-statistic	4.610166
Instrument rank	4	Prob(J-statistic)	0.099751

based on the Nigerian evidence. The first step in the estimation checked the stationarity status of the variables using the group unit root tests namely Levin, Lin & Chu t, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square test statistics. The results indicate that, as a group, the variables are jointly integrated since the respective probabilities are less than alpha 0.05.and thus we cannot accept the hypotheses of no stationarity in all the cases. The second step of the analysis was to ascertain whether the variables are co-integrated or not and thus employed the Unrestricted Cointegration Rank Tests (Trace and Maximum Eigenvalue) after the order of linear deterministic trend. The results indicate that there exist one cointegrating equation and a sustainable long run equilibrium relationship between the inflation and the government expenditure variables.

The third step of the study employed the Generalized Method of Moments procedure to estimate the short-run relationship between INFR and REXR and CEXR. From the results, there is a positive and significant relationship between INFR and REXR in the short run, which is in line with a priori expectation. On the other hand, though the relationship between INFR and CEXR is positive, it is not statistically significant at 5% level in the short run. Evidently, the result indicates that capital expenditure is not a significant inflation driver in Nigeria, but REXR is. This agrees with theory since higher levels of recurrent government expenditure give rise to higher capacity and propensity to spend on the part of consuming economic units and this would be inflationary, ceteris paribus. On the other hand,

spending more on capital expenditure would boost production and output, which in turn is not inflationary on its own. Thus the advocated policy action is for the Nigerian government to pursue a policy of increasing capital expenditure relative to recurrent spending. This would increase output and reduce pressure on aggregate prices.

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