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Monetary Policy and Inflation Control in Nigeria

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Abstract
This paper examines the effectiveness *monetary policy* as an anti-inflationary measure in Nigeria. in order to explore the relationship between *inflation* and monetary impulses, the cointegration and error correction methods approach were employed on quarterly time series data spanning from 1980Q1 to 2012Q4. The unit roots test shows that all the variables are differenced stationary. The *cointegration* test indicates a long-run relationship between inflation and the vector of regressors employed. The estimated result reveals that for the period covered, interest rate, exchange rate, money supply and oil-price are the major causes of inflation in Nigeria. It was also observed that although in the short-run increased in income encourages inflation, proper utilization of the growth would reduce inflation. The Money supply variable shows a significant positive impact on inflation both in short and long runs. This means that Nigerian inflationary situation is driven by monetary impulses. As such, anti-inflationary monetary policy measures, backed-up by some necessary fiscal policies are incumbent for structural and economic stabilization.
Keywords: Monetary policy, Inflation and Cointegration

1. Introduction

Inflation occurs when there is a general and continuous rise in the prices of goods and services in the economy. A major cost is related to the inefficient utilization of resources because economic agents mistake changes in nominal variables for changes in real variables and act accordingly. During inflationary periods opportunity cost of holding money is increased causing inefficient use of real resources in transactions. Therefore, inflation weakens the purchasing power of money and sinks the standard of living of the citizenry.

Policy makers have tried to adopt appropriate policies that can combat inflation and ensure price stability. Generally, the level of money supply and the stock of goods and services are two crucial factors that determine the level of inflation in an economy. When inflation becomes persistent, the duo becomes the primary targets of policies. An excess or shortage in the supply of money could either induce excess aggregate demand resulting in higher inflation rate or induce stagnation thus retarding economic growth and development. While fiscal policy proves helpful in combating inflationary pressure, monetary policy has been the principal tool often employed by the central banks to ensure price stability. While it is not arguable that monetary authority have formulated various policy measures as an attempt to curbing inflationary menace, the effectiveness of policy pursuit to curb inflationary environments is questionable as most economies, particularly developing ones still experience inflationary challenges.

For years, the Nigerian economy faced socio-economic stagnations traceable to inflationary spiral, particularly in the 1970s when inflation increased to a double digit. The analysis of the non-core inflation in the early 1990s reveals inflation rate of 63.6% in late 1994. Headline inflation rose rapidly by 1995 to reach an all-time high of 72.8%, though it decelerated gradually to a single digit in 1997. In the same vein, core inflation, which began a gradual ascent in early 1990, peaked at about 69.0% in the mid-1995 before slowing down in 1997. Since, then inflation remained at single digits between 1998 and 2001. In 2003, macroeconomic stability was restored, following the gains of a comprehensive and consistent economic reform program. The low inflation rate regime did not last for too long with the resurgence of spikes in headline and core-inflation between 2000 and 2001. Headline inflation rate remained at double digits between 2002 and 2005 as it recorded 12.9%, 14%, 15%, and 17.9% in the respective years. However, it decelerated dramatically to 8.24% and 5.38% in 2006 and 2007 before rising astronomically to 11.60% and 12.00% in 2008 and 2009 in that order, although fell marginally to 11.8% and 12.3% in 2010 and 2013 respectively.

In sum, although the workings of economic theory are clear that monetary policy abates inflationary pressure but available empirical studies provide conflicting evidences. This study provides new evidence base on an emerging African country, Nigeria. The investigation is an attempt to known empirically the degree at which monetary policy is effective to controlling inflation in the economy. The study relies on historical quantitative data. The researcher employs quarterly time series data spanning from 1980 to 2012. The paper is organized into five sections. Section two reviews monetary policy and inflation position in Nigeria. Section three focuses on *model specification and estimation procedure* while section four deals on the *empirical results*. Lastly, section five *concludes*.

2. Monetary Policy and Inflation

Since inception, the Central bank of Nigeria (CBN) has implemented two major monetary policy frameworks: exchange rate targeting (1959 - 1973) and monetary targeting (1974 - present). Two broad policy regimes were adopted in the implementation of the above monetary policy frameworks the direct and indirect monetary control regimes. During the direct control regime, the size of the budget deficit to be financed by the banking system determined the credit allocated to the government, while the allocation to the private sector was determined through credit ceiling. The policy instruments in use under the regulated regime were credit ceilings imposed on banks, administratively fixed interest and exchange rates, and stipulation of sectorial credit allocation.

The level and structure of interest rates were administratively determined by the CBN in order to ensure an efficient allocation of resources, promote growth of the preferred sectors, achieve orderly growth of the financial market, subdue inflation, and lessen the burden of servicing government debt obligations. Apart from the adverse effects of the prolonged use of direct instruments on the effectiveness of monetary policy, it also engendered other distortions within the economy. Consequently, it was deemed inappropriate to continue with the use of direct control instruments at a time when the global financial system was undergoing liberalization and deregulation. In an attempt to mitigate the shortcomings of the direct control regimes, the indirect monetary management anchored on the use of market-based instruments of open market operations (OMO), discount rate and reserve requirement was introduced.

The introduction of indirect monetary control in 1993 brought about the lifting of selective credit control on banks that met some specified criteria relating to cash reserve, liquidity ratios, prudential guidelines, capital adequacy ratio and the minimum statutory paid-up capital. Thus, the Bank employed market-based instruments to limit the banks' reserve balances to optimum levels. Consequently, interest rate was deregulated while credit ceilings and sectorial allocation were abolished to foster competition and achieve a sound financial system. However, with the pervasive distress in the banking system, the relative efficiency of market-driven instruments was impaired. This led to the re-introduction of partial regulation with the advent of the stabilization securities which prescribed the quantum of securities held by any particular bank. The reversal to partial-deregulation in 1994 was as a result of the precarious state of the economy when administered interest and exchange rates were re-introduced to dampen inflationary pressures and restore some level of macroeconomic stability.

To stabilize the economy and grow the financial system, other instruments such as mandatory sales of special National Treasury Bills (NTBs) and a requirement of 200% treasury instrument cover for foreign exchange demand at the Autonomous Foreign Exchange Market (AFEM) were introduced. Particularly the switch from the Retail Dutch Auction System (RDAS) to the Wholesale Dutch Auction System (WDAS), and the introduction of special foreign currencies sale and swaps in the monetary policy processes were all employed. Also, the interest rate was deregulated through the proactive adjustments of the minimum rediscount rate (MRR) to signal the direction of interest rate that was consistent with the prevailing liquidity conditions.

In 2002 in order to free monetary policy implementation from the problem of time-inconsistency and minimize policy over-reaction due to shocks, the CBN commenced a two-year medium-term monetary framework. This was in recognition of the fact that monetary policy actions affected the ultimate objectives with substantial lags. The overall framework remained monetary targeting and market-driven while the new technique focused on a medium term horizon as against the erstwhile short term. In 2006, a new monetary policy implementation framework was introduced with the Monetary Policy Rate (MPR) replacing MRR as the nominal anchor. The new system operates an interest rate corridor with the lending and deposit facilities as the upper and lower corridor, respectively, in order to entrench a policy rate that would effectively signal the direction of monetary policy and smoothen the volatility in the money market rates. The MPR was to be the mid-point on which the corridor oscillated. The MPR was initially fixed at 10.0% with a corridor of 3.0% above the MPR for lending facility and 3.0% below the MPR for deposit facility.

The outcomes of monetary policy in Nigeria have been influenced by the general macroeconomic environment particularly the stance of fiscal policy. Over the years, there has been the problem of fiscal dominance which most often hampers the effective implementation of monetary policy, especially prior to 1999. Consequently, monetary targets have been missed in most of the years. However, 2004 witnessed beginning of improvement in government's fiscal profile this complementary role resulted in the achievement of broad money targets in 2004 and 2005. Growth in monetary aggregates was modest in 2006 and 2007 with the broad measure of money supply (M_2) growing by 30.9% compared with 30.6% in 2006. The growth in M_2 was driven by the substantial increase in foreign assets (net) of the banking system and the increase in net domestic credit. Interest rates have been on a downward trend since 2001. Indeed, it has remained fairly stable since 2007 on account of the introduction of a new monetary policy implementation framework in December 2006.

In the post consolidation period, excess liquidity continued to characterize the financial landscape, from increase private inflows. In order to sustain the relative stability in the financial market, the Bank adopted strategies to achieve the objectives of monetary policy. The strategies include: zero tolerance on ways and means

advances, gradual run-down of CBN holding of TBs, aggressive mop-up of liquidity, increased coordination between the Bank and fiscal authorities and occasional foreign exchange swaps. Throughout 2007, the Bank continued its policy of sustaining market-based interest rates and responded only to prevailing market conditions. The interbank and other short-term rates have shown less volatility since the end of 2009.

2.1. Empirical reviews

A large number of empirical studies have been done to estimate the impact of monetary policy on inflationary control. Buiter and Miller (1991) examine the real exchange rate overshooting and the output cost of bringing down inflation. They found out that despite inflation sluggishness, core inflation can be reduced quickly by jumps in the price level induced by jumps in the exchange rate. Chaudhary and Ahmad (1995) assessed the long-run co-integration of inflation and some macroeconomic variables as money supply, and government budget deficit in Pakistan. Based on the monetarist and quality theory approach to inflation and with a unit root test for stationary, they observed that the domestic financing of budget, particularly from the banking system, is inflationary in the long-run. The results provided support for a positive relationship between money supply and inflation

Akcay et al (1996) uses annual Turkish data to analyze the existence of a stable long-run relationship between budget deficits, money growth and inflation, and the results according to them was affirmative. Using the co-integrating vectors found in the study, they concluded that a significant impact of budget deficit on inflation cannot be refuted under the assumption of long-run monetary neutrality. However, when an unrestricted VAR model was utilized on quarterly data corresponding to the post bond financing period, the results were suggestive of a weakened link from the other variables to inflation. Kilindo (1997) attempted an experience of Tanzania's economic relationship between fiscal operations, money supply and inflation. Testing the structural model for the period of 1970-84, the evidenced by the significant coefficients of the structural model and simulation results, shows a strong relationship between fiscal operation, money supply and inflation in Tanzania.

Kibritcioglu (2002) consolidates the earlier work in Akcay et al (1996) by confirming the persistence of inflation in Turkey as a net result of sophisticated dynamic interaction of four group of explanatory factors of demand-side (monetary) shock, supply-side (or real) shocks, adjustment factors, and political processes. This means that an inflationary growth is a result of in-appropriation of various structural and economic factors. Granato and Wong (2002) explore the policy perspective of this concept. They investigate the effects of an aggressive monetary policy on inflation persistence. Aggressive inflation policy includes the willingness to response to deviations from the inflation target. Using an adaptive learning framework under specific condition, their result shows that aggressive anti-inflation policies lower inflation persistence.

Akinboade et al (2004) explain the dynamics of inflation in South Africa and in their model which relates domestics inflation to a largely structural phenomenon in the money market, labour market and foreign exchange market conditions, suggests that there is a positive correlation between labour costs, broad money supply and domestic inflation which in the long-run, rising labour costs contribute significantly to inflation. In their view, an increase in the nominal interest rates, the effect of which is insignificant in the short-run will slightly reduce inflation in the long-run, while an increase in the broad money supply will contribute to domestic inflation in the long-run. Harashima (2005) analyzed a stylized fact that the growth of money and inflation are closely related in the long-run, but that causality may run from inflation to money. He sees the ultimate cause of inflation as an inevitable consequence of heterogeneity in time preference rates between a government and households. This really seems to be a deviation from the conventional views that economic factors influenced inflation.

London (2008) provides empirical evidence on the relationship between money and inflation in Africa. Using both cross-section and time series econometric analysis, shows that although, the simple monetarist inflation model appears to hold when tested in cross- section equations covering several countries and averaged over several years, the same generally not true for individual countries in time series analysis or cross- section studies. London analysis strongly suggests that factors other than the rate of monetary expansion have played an important role in determining short-run inflation trend in Africa, and given the lesser role that are to be assigned to monetary factors over the short-run, the study urges greater flexibility in deploying policy instruments towards inflation target in African countries and caution against the application of rule based on regional result in favour of those derived from country-specific findings.

Adebiyi M. A. (2009) examined the possibility of a stable and predictable relationship to exist between inflation and the monetary policy instruments in Nigeria and Ghana. Using a vector autoregressive models with some financial variables such as money supply, price, nominal exchange rates and interest rates, the result of the model shows that inflation is an inertial phenomenon in Nigeria and Ghana, and money innovations are not strong and statistically important in determining prices when compared with price shocks. That in the short-run, innovations in prices are mostly explained by their own shocks; the monetary policy instruments such as interest rates and exchange rates, have little or no effect on prices. The implication is that policy linkage between

inflation and monetary policy instruments in Nigeria and Ghana is not strong and predictable in the short run.

McCallum and Nelson (2010) considered the relationship existing between monetary aggregates and inflation, and whether there is any substantial reason for modification of policy analysis. After affirming the Friedman's proposition which says that *if* a change in the quantity of (nominal) money were exogenously engineered by the monetary authority, then the long-run effect would be a change in the price level (and other nominal variables) of the same proportion as the money stock, with no change resulting in the value of any real variable, they hold a contrasting view that, the monetarist proposition holds in a model economy if, and only if the model exhibits the property known as long-run "neutrality of money" They therefore challenge the view that has been widely expressed in the literature, both by critics and advocates of the use of money in monetary policy analysis.

Habibullah et al (2011) attempts to determine the long-run relationship between budget deficit and inflation in thirteen Asian developing countries, namely; Indonesia, Malaysia, the Philippines, Myanmar, Singapore, Thailand, India, South Korea, Pakistan, Sri Lanka, Taiwan, Nepal and Bangladesh. Using annual data for the period 1950-1999, the Granger causality within the error-correction model (ECM) framework suggest that all variables involved (budget deficits, money supply and inflation) are integrated of order one. With existence of a long-run relationship between inflation and budget deficits, the study concludes that budget deficits are inflationary in Asian developing countries.

3. Model Specification and Estimation Procedure

In order to analyze the short-run dynamics and long-run relationships between inflation and monetary policy, this study measures the effect of Money supply (MS2), Exchange rate (EXR) Interest rate (INT), Oil price (OIP) and Gross domestic product (GDP) on Inflation rate (INF). The theoretical model to be estimated is:

$$INF = f(MS2, EXR, INT, OIP, GDP) \quad 3.1$$

The Autoregressive Distribution Lag (ARDL) technique is the estimation procedure chosen for this study. This will be used to estimate *the error correction model (ECM)*. Before estimating the ECM, we carried out necessary tests – *both Unit root and Cointegration tests* to justify the applicability of ECM. First, we proceed by determining the underlying properties of the process that generates our time series. That is, to test whether each variable in equation *3.1* is stationary or non-stationary. This investigation is necessary to ensure stability in subsequent econometric modeling. To test for unit roots, we employed the *Dickey Fuller (DF) and Augmented Dickey Fuller (ADF) tests* which use equation *3.2* and *3.3* respectively, to test for the null hypothesis of non stationarity (i.e. presence of unit roots) for the series X_t.

$$\Delta X_t = \beta_0 + \beta_1 X_{t-1} + \mu_t \quad 3.2$$

$$\Delta X_t = \beta_0 + \beta_1 X_{t-1} + \sum_{i=1}^{n} \alpha_i \Delta X_{t-1} + E_t \quad 3.3$$

Where μ_t and $E_t \sim NID(0, \sigma^2)$ and X_t represents each series of MS2, EXR, INT, OIP, GDP and INF in equation 3.1. The t-statistics obtained are compared with the special critical value constructed by Dickey Fuller (1979, 1981) and Engle and Granger (1987, 1990). Next, we proceed to the cointegration test which is based on the unit root test for the residuals generated in the long run static regression of INF. The Dickey Fuller (DF) statistic will also be used to compare the test statistic generated from the following equation:

$$\Delta \mu_t = \alpha_0 + \alpha_1 \mu_{t-1} + V_t \quad 3.4$$

The ECM entails using the residuals generated in the long run static regression of equation 3.1 which was used to test for the unit root to reparametrize the short run dynamic specification. As such, the ECM integrates the short run dynamics with the long run equilibrium without losing the necessary long run information. Here, this study estimates the ECM using the ARDL selected model of equation 3.1. With this, equation *3.1* is re-specified in logarithm form with time subscript as:.

$$LIFL_t = \alpha_0 + \alpha_1 LMS2_t + \alpha_2 LEXR_t + \alpha_3 LINT_t + \alpha_4 LOIP_t + \alpha_5 LGDP_t + E_t \quad 3.5$$

Where *LIFL, LMS2, LEXR, LINT, LOIP,* and *LGDP* are the natural logarithmic form of our different time series, E_t is the stochastic error terms and α_0, α_1, α_2, α_3, α_4 and α_5 are the parameters. For equation 3.5, the corresponding ECM is:

$$\Delta LIFL_t = b_0 + \sum_{i=0}^{n} b_{1i}\Delta LIFL_{t-i} + \sum_{i=0}^{n} b_{2i}\Delta LMS2_{t-i} + \sum_{i=0}^{n} b_{3i}\Delta LEXR_{t-i} + \sum_{i=0}^{n} b_{4i}LINT_{t-i} + \sum_{i=0}^{n} b_{5i}LOIP_{t-i} + \sum_{i=0}^{n} b_{6i}LGDP_{t-i} + b_7 LIFL_{t-i} + b_8 LMS2_{t-i} + b_9 LEXR_{t-i} + b_{10} LINT_{t-i} + b_{11} LOIP_{t-i} + b_{12} LGDP_{t-i} + b_{13} ECM_{t-i} + E_t \quad 3.6$$

In this equation, we assume a lag length of *t-i for the ECM equation.* This first part of equation 3.6 with b_1, b_2, b_3, b_4, b_5 and b_6 represents the short run dynamics of the model whereas the second part with b_7, b_8, b_9, b_{10}, b_{11}, and b_{12} represents the long run equilibrium relationship. The null hypothesis in the equation is $b_7 = b_8 = b_9 = b_{10} = b_{11} = b_{12} = 0$ which means the non-existence of the equilibrium relationship. Data used are obtained from the annual reports of the CBN, World Development Indicators (WDI) and Economic and Financial Review Publications of CBN.

4. Empirical Results

4.1. Unit Root and Cointegration Tests

Table 4.1: Unit Roots in Levels

Variables	*ADF Test Statistic*	*95% critical value*	*Remarks*
LGDP	-0.8486	-2.9706	Non-stationary
LINF	-1.7026	-2.9706	Non-stationary
LINT	-1.8304	-2.9706	Non-stationary
LOIP	-0.2962	-2.9706	Non-stationary
LMS2	2.3408	-2.9706	Non-stationary
LEXR	-1.7601	-2.9706	Non-stationary

Table 4.2: First Difference Unit Roots

Variables	*ADF Test Statistics*	*95% Critical ADF Value*	*Remark*
DLGDP	-3.2475	-2.975	stationary
DLINF	-6.0266	-2.975	stationary
DLINT	-3.5402	-2.975	stationary
DLOIP	-5.8454	-2.975	stationary
DLMS2	-4.902	-2.975	stationary
DLEXR	-3.4463	-2.975	stationary

The unit root roots result in table *4.1 s*hows that all the variables are differenced stationary. This can be seen from the fact that the ADF test statistics for each of the variable is less than the critical ADF value of the 95% level. This implies that all the series are non-stationary in levels. However, all the variables are stationary in first difference. This leads us to conclude that all the variables are stationary at original level form and are therefore of integrated order of zero denoted conceptually as *I(0)*. By implication, it follows that we can proceed to the second stage of testing for cointegration relationship between LINF and its explanatory variables as given in our equation.

Cointegration among time series variables suggests that series may behave in different way in the short run but that they will converge towards common equilibrium behaviour in the long run. According to Engle and Granger (1987), set of time series are cointegrated when their residual is stationary. The stationarity of residual implies the existence of a long run stable relationship between LINF and the attendant explanatory variables presented in equation 3.1. If cointegration is established in our test, then it follows that a non-spurious long run relationship exists and when this is combined with the ECM whose order are I(0) then consistent estimates of both long run and short run elasticities will be unquestionably obtained unequivocal. The result of the cointegration test is presented in table *4.3*.

Table 4.3: Cointegration Test

	Test Statistics	95% Critical Value	Remark
ADF(1)	-4.4246	-4.2779	Stationary

From the results obtained, the ADF test statistic value of -4.4246 for the residuals is greater than the 95% critical ADF value of -4.2779, indicating the stationarity of the residual value. But since *Engle and Granger (1987)* postulated that most cointegrated series have an error correction representation, therefore the existence of cointegration in our model necessitated the formulation of the ECM from equation 3.4. Next, we present the result of the ECM regression.

4.2. The Error Correction Model and Long Run Estimates

The short-run behavior of the inflation rate in response to temporary changes in the independent variables (shown in table 4) may be observed within an error correction framework. Once there is cointegration, a single equation can be used to estimate both the short run and the long run models by estimating the error correction model of the cointegrated series. The model is used to capture the short run deviations that might occur in estimating the long run cointegrated equation already discussed. The ECM is estimated using the Autoregressive Distribution Lag (ARDL) technique. The best fitting equation was selected using the R-BAR Squared Criterion.

Table 4.4: The Error Correction Representation Model.

Regressor	*Coefficient*	*Standard Error*	*T-Ratio*
LINFR(-1)	0.67397	0.14588	4.6201
DLMS2	0.19088	0.19685	0.96965
DLEXR	-1.3941	0.33675	-4.1398
DLINT	-0.47764	0.72342	-0.66025
DLGDP	2.6202	0.83565	3.1355
DLGDP(-1)	2.6354	0.70194	3.7544
DLOIP	-1.0219	0.28585	-3.575
DINP	-7.5072	3.8269	-1.9617
ECM(-1)	-1.8221	0.20895	-8.7201
R-Squared	0 .89108		
R-Bar Squared	0 .79668		
F-stat. F(9, 19)	13.6349		
S. E. of Regression	0 .37343		
Mean of Dependent Var.	-0.020102		
Residual sum of squares	2.0917		
DW- statistic	2.1150		
S. D. Dependent var.	-3.0241		

In this result, the error correction term appears with statistically significant coefficients with the appropriate negative signs as is required for dynamic stability. This will accord well with the validity of an equilibrium relationship among the variables in the cointegrating equations. The implication of this is that long-run equilibrium can be restored after a short run dynamics or deviation away from its steady state. The coefficient values in all the valuables (except budget deficit/GDP) are significantly influencing inflation in the short-run.

The coefficient value of the lagged public consumption expenditures proves highly significant and this underscores the elasticity of adjustment to the equilibrium state. Furthermore, the significant of all the independent variables on inflation cannot be ignored as the adjusted R-squared of the estimated model shows that about 80% of the variations in inflation is explained by the combined effects of all the determinants while the F-statistic (the overall goodness-of-fit) of 13.64 shows that the overall regressions are significant even at 1% level. Also, the DW statistic value of 2.1150 indicates the absence of strong autocorrelation in the models' analysis. The error correction coefficients of all the variables (except the budget deficit/GDP ratio) significantly indicate the possibility of a speedy adjustment to a short-run equilibrium state. But while GDP growth encourages inflation in the short-run, a reduction in oil-price would cause a dynamic increased in the rate of inflation viewing from the mono- product nature of the Nigerian economic system.

Lastly, the long-run result (table *4.5* below) indicate that about four out of six economic variables are

significantly impacting on the inflation variations which would cause its adjustment to a long-run equilibrium level.

Table 4.5: Estimated Long-Run Coefficients and T-Ratios

Regressors	Coefficient	Standard Error	T-Ratio
LMS2	.65780	.26675	2.4660
LEXR	-.76510	.16558	-4.6206
LINT	.90562	.40002	2.2639
LGDP	-.017885	.32848	-.054447
LOIP	-.56085	.15919	-3.5231
INP	-4.1201	2.0792	-1.9816

The result in table *4.5, s*hows that interest rates, exchange rates, money supply and oil-price have much significant long-run impact on inflation. With a coefficient of about 0.9056 in absolute value, it means 91% of interest rate accounts for a unit change in inflation. This is followed by exchange rate with about 77% from -.7651 coefficient value. Though, with similar significant coefficient value, the T-ratio proves insignificant for MS, while interest rate is poorly rated. The assessment of the a priori signs shows that interest rate, money supply and GDP met the long-run expected signs while oil price and exchange rate resulted contrarily. So that any depreciation of her currency (i.e. high exchange rates) favours the revenue base mostly during a time of increased in global oil-prices. In this case, the discrepancy in the balance of payment would be reduced while the external reserves increases.

5. Conclusion

The thrust of this study is to examine the effectiveness of monetary policy as an anti-inflationary tool in Nigeria. The problems of inflation are undoubtedly surmountable if only the constituted authorities would demonstrate their dexterity in implementations of the necessary policies to curb the menace. Since one of the components that are relatively under the control of the monetary authority in Nigeria is the nominal effective exchange rate, efforts must be made to ensure exchange rate stability in order to stem inflationary tendencies. Also, government must put in place measure that will reduce the impact of fluctuated crude oil prices on domestic inflation. This can be achieved by reducing the dependence of the economy on crude oil exports by diversifying the productive base of the economy to non-oil exports. Government should also stimulate the productive capacity of the economy, especially the agricultural sector to increase aggregate supply of food products so that prices will come down and consequently reduce the rate of inflation.

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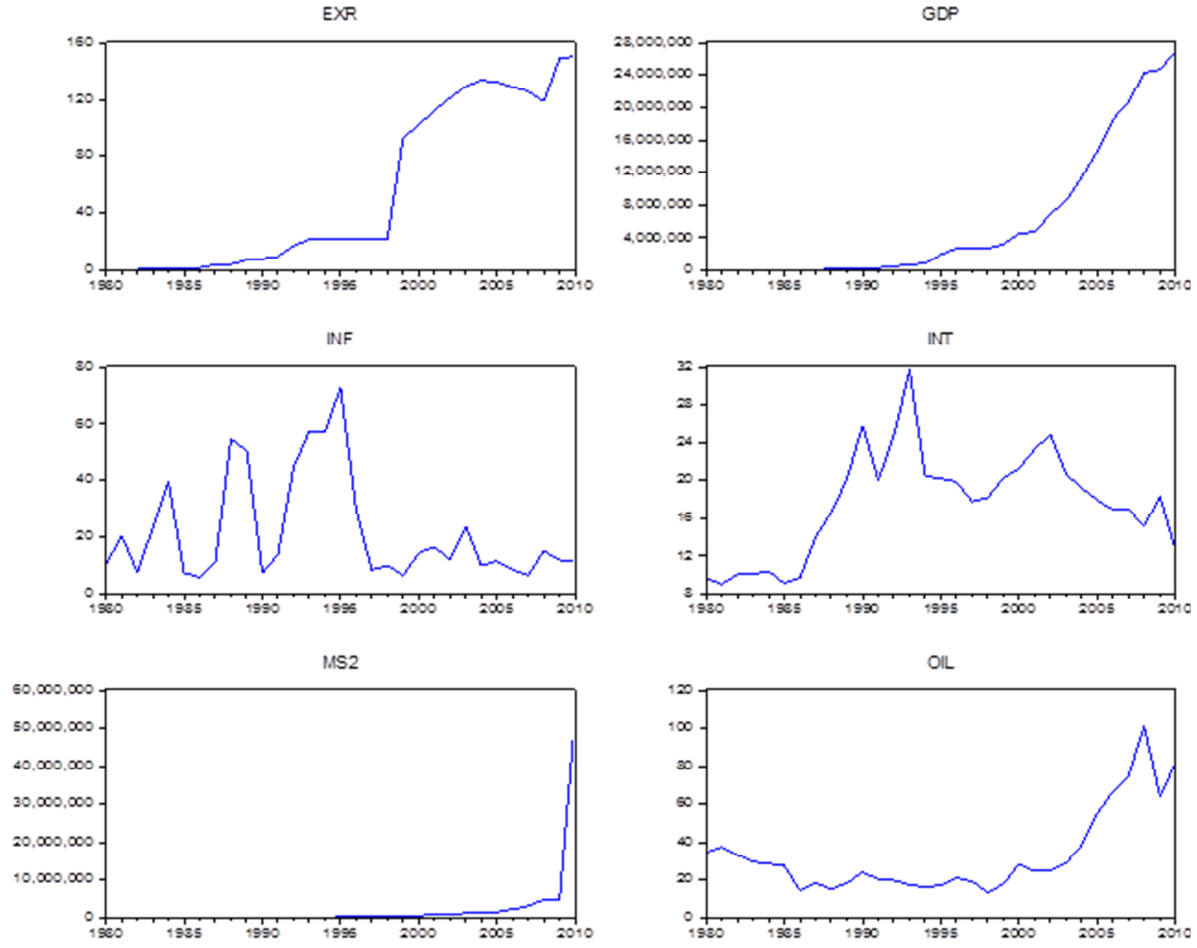
Appendix



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