

Inflation, exchange rate and efficacy of monetary policy in Nigeria:

The empirical evidence

BigBen Chukwuma Ogbonna, PhD

Department of Economics, Ebonyi State University Abakaliki, Nigeria

Abstract

This paper analyses the post SAP persistence of inflation in Nigeria for the period, 1960-2008 with exchange rate, money supply and trade balance as preferred influential variables. To investigate the effect of policy switch from the period of direct instrument to the period of deregulation occasioned by SAP of 1986, we proceed to bifurcate the sample period into two, comprising the period of direct instruments of monetary policy, 1960–1985 and the period of indirect instruments of monetary policy, 1986–2008. Estimates from a vector auto regression model (VAR) of key macroeconomic variables demonstrate the weak link between money supply and inflation in the both time horizons, which suggests that the hypothesis that money supply is not an effective policy instrument for management of inflationary developments cannot be rejected for Nigeria. The results further suggest that in both time horizons, exchange rate has been identified as a singular most promising macroeconomic fundamental for both internal and external sectors adjustments. However, the deregulation of the domestic economy as occasioned by SAP has significantly diluted the efficacy of exchange rate as a monetary policy instrument for the management of Nigeria's aggregate money stock and trade balance developments. These notwithstanding, the Central Bank of Nigeria can continue to play a stabilizing role in the economy through the continuation of prudent monetary policies and frequent interventions in exchange rate management to smooth out shocks.

Keywords: Monetary policy; Exchange rate; Inflation; Money Growth; Nigeria

Introduction

It will be recalled that the major objective of Nigeria's monetary policy is the maintenance of macroeconomic and price stability. Using this yardstick, the outcome of monetary policy in Nigeria has been generally mixed. By definition, price stability in Nigeria refers to the achievement of a single-digit inflation rate on an annual basis. Indeed, this objective has not been achieved on a sustained basis. For example, in 1995 the rate of inflation was 72.8 per cent while the target of single digit inflation was achieved in only three (3) years out of six (6), between 1995 and 2000. In fact, the single digit inflation rate that materialized was attributable to a favorable agricultural harvest, as the weight of food accounts for 70 per cent in the computation of Nigeria's

consumer price index (Nnana, 2001). Generally, both fiscal and monetary policies seek at achieving relative macroeconomic stability. Based on countries' experience on the role of monetary policy in controlling economics instability, this study examines the efficacy of monetary policy in controlling inflation rate and exchange rate instability. The success of monetary policy depends on the operating economic environment, the institutional framework adopted, and the choice and mix of the instruments used (Folawewo and Osinubi, 2006). In Nigeria, the design and implementation of monetary policy is the responsibility of the Central Bank of Nigeria (CBN). The mandates of the CBN as specified in the CBN Act of 1958 include: Issuing of legal tender currency, maintaining external reserves to safeguard the international value of the currency, Promoting monetary stability and a sound financial system, acting as banker and financial adviser to the Federal Government. However, the current monetary policy framework focuses on the maintenance of price stability while the promotion of growth and employment are the secondary goals of monetary policy.

Monetary and exchange rate policies in Nigeria

The main objectives of exchange rate policy in Nigeria are to preserve the value of the domestic currency, maintain a favorable external reserves position and ensure external balance without compromising the need for internal balance and the overall goal of macroeconomic stability. Like many developing countries, Nigeria is engaged in a structural adjustment programme (SAP): a set of economic reform measures designed to achieve recovery and growth. The availability of foreign aid is often linked to progress in a nation's SAP. Nigeria embarked on SAP in 1986, emphasizing domestic production over expensive imports, and a lesser dependence on oil revenues. The government was also committed to reducing expenditures and to stop wasteful spending and the country's external debt obligations were rescheduled insofar as possible. A balanced budget was sought, and foreign capital investment was pursued (Ogugua, 1994).

Exchange Rate Management in Nigeria

Foreign Exchange Management before, 1986

Before 1986, importers and exporters of non-oil commodities were required to get appropriate licenses from the Federal Ministry of Commerce before they could participate in the foreign exchange market. Generally, import procedures followed the international standard of opening of letters of credit (L/Cs) and subsequent confirmation by correspondent banks abroad. The use of Form 'M' was introduced in 1979 when the Comprehensive Import Supervision Scheme (CISS) was put in place to guard against sharp import practices. The authorization of foreign exchange disbursement was a shared responsibility between the Federal Ministry of Finance and the Central Bank of

Nigeria. The Federal Ministry of Finance had responsibility for public sector applications, while the Bank allocated foreign exchange in respect of private sector applications. More emphasis was laid on export promotion to reduce pressure on the external sector. The government introduced a number of incentives to boost non-oil exports. These included arrangements for setting up export free zones, concessions to exporters to retain 25 per cent of their export proceeds, the liberalization of export and import licensing procedures and the provision for the establishment of an export credit guarantee and insurance scheme. Exchange control was discarded on September 26, 1986 in order to evolve an exchange rate mechanism that would better reflect the underlining macroeconomic realities.

Foreign Exchange Management since, 1986

The Second-tier Foreign Exchange Market (SFEM) came into being on September 26, 1986 when the determination of the Naira exchange rate was made to reflect market forces. The modalities for the management of the Foreign Exchange Market have changed substantially since the introduction of SFEM, in line with the principles of the Structural Adjustment Programme (SAP) which emphasizes the market-oriented approach to exchange rate determination. Within the basic framework of market determination of the Naira exchange rate, various methods were applied and some adjustments carried out to fine-tune the system. A transitory dual exchange rate system (first and second-tier) was adopted in September, 1986. On 2nd July 1987, the first and second-tier markets were merged into an enlarged Foreign Exchange Market (FEM). Various pricing methods, such as marginal, weighted average and Dutch system, were adopted. With the introduction of the SFEM, the Federal Ministry of Finance had its powers of foreign exchange allocation transferred to the CBN, but it retained approving powers on public sector transactions. The constant fine-tuning of the market culminated in the complete floating of the naira on March 5, 1992 when the system of pre-determined quotas was discontinued. The pressure on the foreign exchange market remained unabated; which resulted in the policy reversal in 1994. The reversal of policy in 1995 to that of "guided deregulation" necessitated the institution of the Autonomous Foreign Exchange Market (AFEM). Apart from the institution of an appropriate mechanism for exchange rate determination, other measures increasingly applied in managing Nigeria's foreign exchange resources included demand management and supply side policies. The CBN and the government have actively fostered the development of institutions such as the Nigerian Export Promotion Council (NEPC) and the Nigerian Export-Import Bank (NEXIM) in the drive to earn more foreign exchange. The AFEM metamorphosed into a daily, two-way quote Inter-Bank Foreign Exchange Market (IFEM) on October 25, 1999. The IFEM is expected to broaden and deepen the foreign exchange market on daily basis and discourage speculative tendencies.

Fruition of the monetary policy framework in Nigeria

Generally, central bankers and economists are less divided in their perceptions of the objectives of monetary policy than in their views about what role the central bank should play in accomplishing these objectives. Consistent with its legal mandates, the objectives of monetary policy of the Central Bank of Nigeria (CBN) since its inception have been the following: Achievement of domestic price and exchange rate stability, maintenance of a healthy balance of payments position, development of a sound financial system, promotion of rapid and sustainable rate of economic growth and development. Against this background, this sub section focuses on the evolution of Nigeria's monetary policy in the pre and post SAP periods. Accordingly, it discusses the various regimes and the justification for adopting them, and appraises their relative successes and failures.

From 1970, the economy witnessed a major structural change that affected the conduct of monetary policy. Oil dominated the export basket, constituting 57.6 per cent of total export in 1970 and over 96 per cent from 1980, while non-oil exports (mostly agriculture) declined rapidly from 42.4 per cent in 1970 to 16.9 per cent in 1973. As a result of the increased revenue accruing to government from oil, the imbalance in the balance of payments and low external reserves became things of the past. Indeed, Nigeria's external reserves rose rapidly by over 1 000 per cent in 1975 from about N100 million in the late sixties to approximately N3.4 billion in 1975. The need to finance post-war developments also led to a considerable growth in public expenditure, thus intensifying inflationary pressures. Under the circumstances, the monetary authorities adopted a new monetary policy framework. This development marked the beginning of monetary targeting in Nigeria, which involved the use of market (indirect) and non-market (direct) instruments. Consequently, the major focus of monetary policy was predicated on controlling the monetary aggregates, a policy stance which was largely based on the belief that inflation is essentially a monetary phenomenon (Nnana, 2001). The major objective of monetary policy during this period was to promote rapid and sustainable economic growth. Consequently, the monetary authority imposed quantitative interest rate and credit ceilings on the deposit money of banks, and prescribed sectoral credit allocation to the various sectors of the economy. Overall, the "preferred" sectors, such as agriculture, manufacturing and construction, were singled out for the most favoured treatment, in terms of generous credit allocation and a below-market lending rate. The most important instrument of monetary control the CBN relied upon was the setting of targets for aggregate credit to the domestic economy and the prescription of low interest rates. With these instruments, the monetary authority hoped to direct the flow of loanable funds with a view to promoting rapid development through the provision of finance to the preferred sectors of the economy. The level and structure of interest rates were administratively

determined by the CBN. Both deposit and lending rates were fixed in order to achieve by fiat, the social optimum in resource allocation, promote the orderly growth of the financial market, contain inflation and lessen the burden of internal debt servicing on the government. In implementing the policy, the sectors were classified into three categories: (1) "preferred" (agriculture, manufacturing, and residential housing); "less preferred" (imports and general commerce); and (3) "others". This classification enabled the monetary authorities to direct financial resources at concessionary rates to sectors considered as priority areas. These rates were typically below the CBN-determined minimum rediscount rate (MRR) which itself was low and not determined by market forces. Few studies have been made in Nigeria on the correlation between monetary policy decisions and trade balance dynamics through the exchange rate reaction. Also, It would be interesting to investigate if the exchange rate channel operates in Nigeria and how the efficacy of this channel has changed with the introduction of SAP in Nigeria. In effect, we set out to examine systematically, using time-series econometric techniques, the connections between several key economic variables, and the effect that the policy shift from direct to indirect monetary control in recent years as occasioned by the Structural Adjustment Programme of 1986 has had on these relations.

Model Specification and Estimation Procedure.

There are a number of ways in which monetary policy can affect the real economy. Four channels that operate in market economies are through: interest; credit ceilings; exchange rate; and inflation expectations (Muco, et al, 2004). This list is far from being exhaustive, but in the case of Nigeria, transmission effects through such other channels as equity prices, remittances or housing market are less relevant, at least for now. In particular, following Clarida (2001), we analyze how the policy coefficients in a reduced form VAR model may be interpreted. The immediate assessment of the dynamic relationship between inflation and the explanatory variables is done by using impulse response Functions and supported by variance decomposition. In this study, we will use reduced form of VAR model with inflation rate as the explained variable, and exchange rate, money growth and trade balance as explanatory variables. Few studies have been made in Nigeria on the correlation between monetary policy decisions and trade balance dynamics through the exchange rate reaction. It is also interesting to test whether the exchange rate channel operates in Nigeria and how the effectiveness of this channel has changed with the introduction of indirect monetary instruments. To answer these questions, we estimate a vector auto regression (VAR) model in its reduced form among the following variables: money growth, inflation rate, exchange rate and the trade balance. The reduced form of the model expressing the relationship between the dependent and independent variables is:

$$\text{LINF RATE} = \beta_0 + \beta_1 \text{LEX RATE} + \beta_2 \text{LM2G} + \beta_3 \text{LTB} + \varepsilon \dots\dots\dots (1)$$

Where: INF RATE = inflation rate, EX RATE = exchange rate, M2G = money growth, TB = trade balance, $\beta_0 \dots \beta_3$ = explanatory powers of the variables, ε = the stochastic error term and all expressed in logarithm (L) for usual statistical reasons.

The Estimation Procedure

VARs are a flexible approach to summarizing the interactions among macroeconomic variables without imposing unrealistic exogeneity assumptions. However, they should be seen as a descriptive device only, and their explanatory power is limited, especially when the time series are rather short. The estimation period is 1960 through 2008, for which we use annual data for all the employed variables. To investigate the effect of policy switch from the period of direct instrument to the period of deregulation occasioned by the introduction of IMF/World Bank sponsored Structural Adjustment Programme of 1986, we proceed to bifurcate the sample period into two, comprising the period of direct instruments of monetary policy, 1960 – 1985 and the period of indirect instruments of monetary policy, 1986 – 2008. The first three variables money growth, inflation and exchange rate are included in order to examine whether the exchange rate channel explains inflationary developments in Nigeria. However, since trade balance is largely a function of exchange rate developments, we include also the trade balance in the VAR analysis throughout the period. Money growth also affects exchange rate and both money growth and exchange rate are expected to affect the rate of inflation.

To stem the problem of spurious regression, it is important that the time series properties of the data set employed in estimation of equation 1 is ascertained. It might seem reasonable to test for the presence of a unit root in the series using the most general of the models as:

$$Y_t = a_0 + \gamma Y_{t-1} + a_2 t + \sum \beta_j Y_{t-j} + \varepsilon_t \dots\dots\dots (2)$$

where y is the series; t is (trend factor); a is the constant term, ε_t is the stochastic error term. The Augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) unit root tests are employed to test the integration level of the variables (Dickey and Fuller, 1981; Phillips and Perron, 1988). The data set indicates integration property of the order 1(1). We proceeded to estimate the VAR model to derive the impulse response function among the employed variables and finally, the Variance Decomposition analysis.

Empirical Evidence.

Tests for Unit Root

It has been shown that a statistical problem arises when an underlying VAR model, comprises nonstationary variables. In that case, the cyclical component of the variables implied by FEVD, i.e. the forecast errors become nonstationary when the forecast horizon approaches infinity. Therefore, forecast error variance decomposition leads merely to spurious conclusions after a certain forecast horizon (Seymen, 2008).

Therefore, prior to estimating the VAR model, the time series properties of the variables need to be verified. The stationary properties of the employed variables are tested using the Augmented Dickey-Fuller, *ADF* (Dickey-Fuller, 1977) and Phillip-Peron test methodology. The Augmented Dickey-Fuller test is frequently and widely used because of its ability to take into consideration the autocorrelation adjustments, though it has the lapses of arbitrary choice of the proper order of autocorrelation. It is with this in mind that we further employ the Phillip-Peron (1988) method which is robust to any form of autocorrelation (Song, 1997). The results of *ADF* and *PP* not presented here but can be made available on request, show that in all cases, the variables become stationary at least in their first difference. This suggests that the employed variables are quiet suitable for purpose intended.

Impulse Response Function

Charts 1 and 2 show the derived impulse response functions of the four variables: money growth, inflation, exchange rate and trade balance. Separate impulse response functions were derived for the period of direct instruments of monetary policy and indirect instruments of monetary policy respectively. For each variable, the figures illustrate the response of that variable to its own innovation and to each of the remaining variables. We first investigate the association between shocks to money growth and subsequent inflation dynamics. For the pre SAP period of direct instruments of monetary policy (1960-1985) it is clear from the impulse response function presented in chart 1 below:

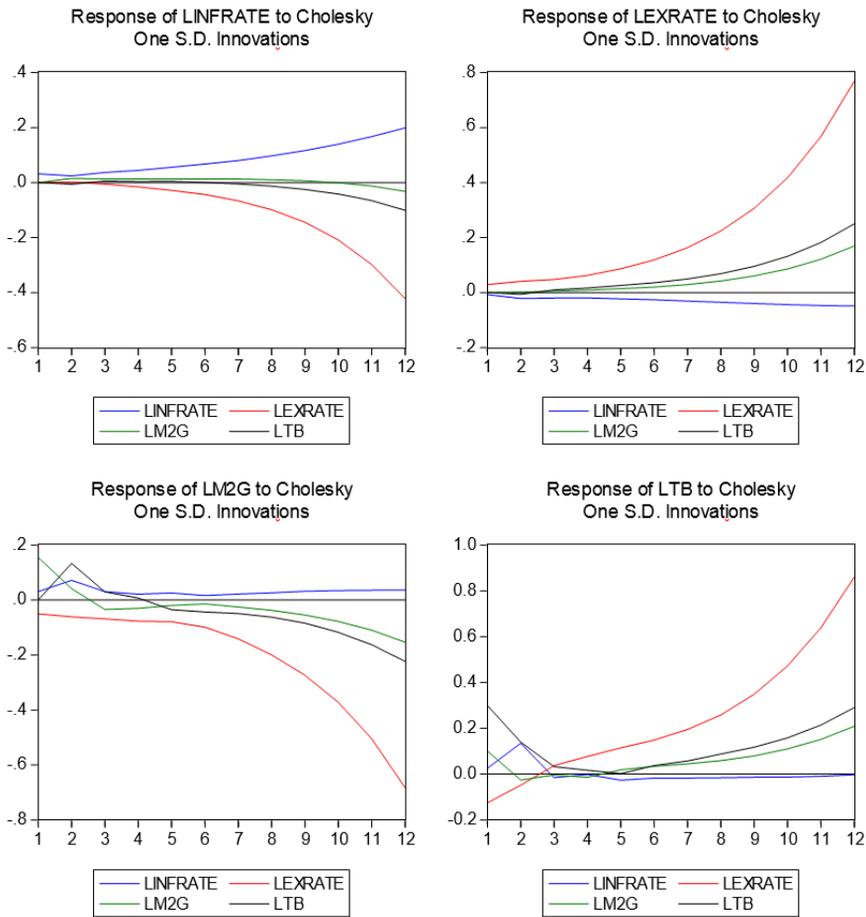


Chart 1: VAR analysis for the period of direct instruments of monetary policy (1960-1985)

that shocks to money supply do not appear to be related to inflation. Contrary to expectation, the effect of an exchange rate shock on inflation is negative and persistent through periods 2 to 12. This is consistent with the findings of Ahmed (2003) for Argentina, Brazil, Chile, Colombia and Mexico employing panel data for the period 1983-1999.

The results further show that the effect of trade balance on inflation slips to negative after period five and remain consistent to period 12. This suggests that increase in trade balance on the long run will impact positively on the real sector of the economy to dampen inflation rate in Nigeria. The overall assessment of the response of both inflation rate and trade balance to money growth for the 12 periods suggests that money balance is not a promising policy instrument for inflation and trade balance adjustments in Nigeria. The response of trade balance to exchange rate dynamics

contrary to expectation reflected negative relationship for the first 2 period before assuming the expected positive sign and showing consistent growth from about 4 percent in period 3 to about 52 percent in period 12. This result indicates evidence of J-Curve effect and suggests exchange rate as the most promising policy instrument for Nigeria's trade balance adjustments.

The results of the impulse response function are complemented by the variance decomposition analysis presented in Table 1 below:

	Periods	LINFRATE	LEXRATE	LM2G	LTB	
LINFRATE	1	100.00	0.00	0.00	0.00	
	5	80.88	10.80	7.30	1.02	
	8	60.38	36.50	2.46	0.66	
	10	41.76	55.62	0.81	1.81	
	12	25.92	70.13	0.48	3.47	
LEXRATE	1	5.73	94.27	0.00	0.00	
	5	9.71	83.18	0.52	5.51	
	8	3.84	85.97	2.60	7.59	
	10	1.92	86.51	3.28	8.29	
	12	0.87	86.42	3.87	8.83	
LM2G	1	3.30	9.60	89.11	0.00	
	5	9.98	29.51	35.51	25.00	
	8	6.75	57.85	18.89	17.50	
	10	2.80	75.39	9.73	12.08	
	12	1.11	82.69	6.07	10.13	
LTB	1	0.54	13.71	8.77	76.98	
	5	10.95	21.38	6.40	61.26	
	8	6.33	50.53	5.54	37.60	
	10	2.89	69.95	5.00	22.16	
	12	1.02	79.97	4.95	14.06	

Table 1: Variance Decomposition (VAR 1960-1985)

Source: Authors. Calculations using eview version 6.0 econometric package and data from IFS on-line, 2009.

For each variable at different time horizons the variance decomposition analysis shows the percentage of forecast error variance caused by shocks to that variable and by shocks to other variables (Muco, et al.2004).

The table shows the variance decomposition for periods 1, 5, 8, 10 and 12. The third block of rows in Table 1 shows that most of the forecast error variance in inflation is explained by exchange rate (70.13%) after 12 periods, while Shocks to its self explain

only 25.92 percent of the forecast error variance. This indicates that exchange rate play a significant role in determining inflationary expectations in Nigeria. Money growth and trade balance explain only up to 0.48% and 3.47% of forecast error variance in inflation respectively, suggesting that movements in inflation can neither be explained by broad money stock dynamics nor trade balance during this period.

The last block of rows in Table 1 shows that most of the forecast error variance in the trade balance is explained by shocks to exchange rate (nearly 70 per cent at a 12-period horizon). Its own shocks explain up to 14.06 per cent and shocks to broad money stock and inflation rate explain up to 4.95% and 1.02% of forecast error variance in trade balance respectively. This suggests that the effect of money growth on trade balance is inconsequential.

During the period of indirect instruments of monetary policy, the impulse response functions in Chart 2 below show correlation between money growth and changes on consumer price index just from period 3 to period 5 after which their movements were in opposite directions, for example from period 6 through to period 12, money growth was robust while inflation rate responded negatively to that scenario. This undermines the efficacy of monetary aggregate as an instrument for the control of inflationary pressure in Nigeria. The positive effect of the exchange rate is also evident, peaking after period 2 and keeping a rising profile all through to period 12 suggesting that depreciation of the domestic currency increases consumer price index. In effect, exchange rate channel perhaps is still the most promising route for explaining inflationary developments in Nigeria. In this era of Structural Adjustment Programme (SAP), trade balance, in contrast to the findings in the period of direct instrument of monetary policy, responds negatively to increase in exchange rate (depreciation). This is quiet normal for an import based economy like Nigeria with the Average Manufacturing Capacity Utilization (AMCU) dropping from about 76.6 percent in 1975 to 52.78 percent by 2005. However, the meager positive effect of money growth in exchange rate evident during the period of direct instrument, exhibited strong negative correlation after the introduction of SAP in Nigeria. This analysis suggests that the explanatory power of monetary variables has been increased by the shift to indirect instruments. Again, the way shock to one variable affect subsequent developments in other variables under consideration becomes clearer with a variance decomposition analysis.

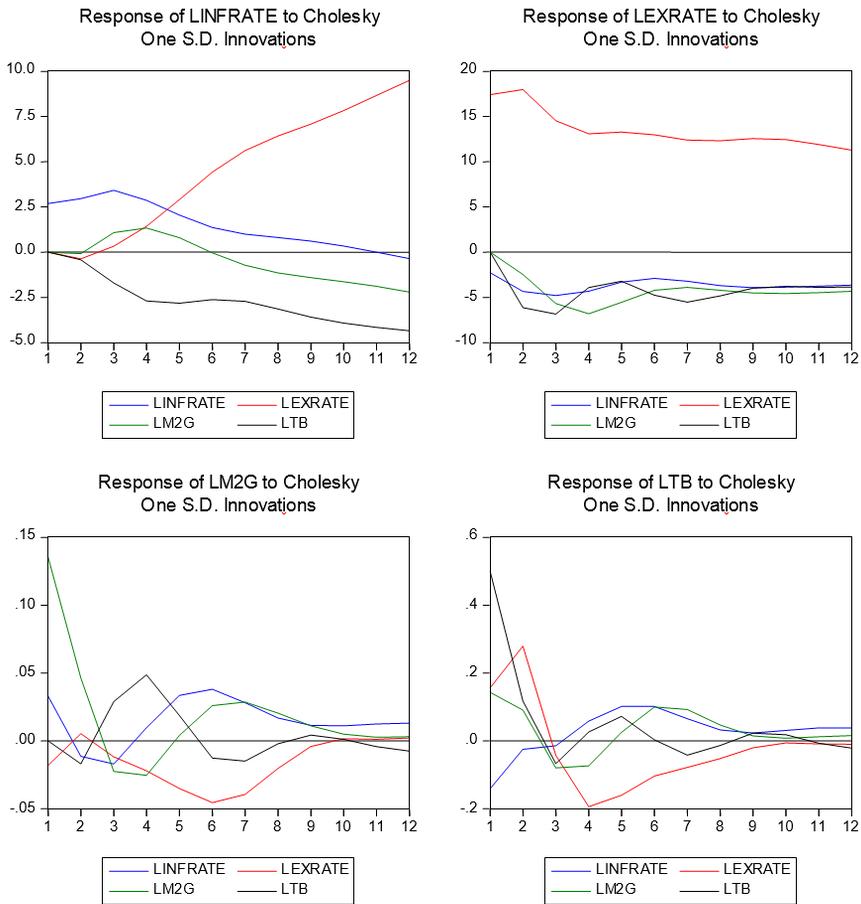


Chart 2: VAR analysis for the period of direct instruments of monetary policy (1986-2008)

Variance Decomposition

	Periods	LINFRATE	LEXRATE	LM2G	LTB	
LINFRATE	1	100.00	0.00	0.00	0.00	
	5	55.13	14.72	4.93	25.21	
	8	22.42	52.94	2.80	21.84	
	10	13.00	63.15	2.98	20.86	
	12	8.06	69.08	3.39	19.47	
LEXRATE	1	1.67	98.33	0.00	0.00	
	5	5.17	79.64	7.78	7.41	
	8	5.17	78.18	7.85	8.81	
	10	5.52	77.72	8.19	8.57	
	12	5.77	77.20	8.50	8.52	
LM2G	1	5.46	1.65	92.90	0.00	
	5	8.91	7.28	71.17	12.64	
	8	13.27	15.97	59.98	10.78	
	10	13.76	15.84	59.68	10.71	
	12	14.43	15.69	59.10	10.79	
LTB	1	6.33	7.79	6.49	79.39	
	5	6.65	32.47	7.95	52.93	
	8	8.67	32.62	10.75	47.96	
	10	8.87	32.53	10.74	47.85	
	12	9.31	32.34	10.73	47.61	

Table 2: Variance Decomposition (VAR 1986-2008)

Source: Authors. calculations using *eview* version 6.0 econometric package and data from IFS on-line, 2009.

Evidence from the variance decomposition for inflation during this period, shows that by 12th period, shocks to money growth now explain just 3.4 percent of the forecast error variance in inflation compared to a mere 0.5 percent during the direct monetary instruments period. This indicates that inflation dynamics are explained to a much greater extent by variations in money supply during post-SAP than pre-SAP periods. Its own innovations still explain just a meager 8.06 percent of the forecast error variance in inflation. However, shocks to exchange rate explain nearly 70 percent and shock to trade balance explain up to about 20 percent of forecast error variance in inflation at a 12th period horizon, indicating that presently, exchange rate and trade balance are the most promising channel for explaining inflationary developments in Nigeria. An interesting exposition of the finding of this VAR analysis is that the variance decomposition for the trade balance verifies its own innovations as the major rout for trade balance dynamics, as this alone explains up to about 48 percent of the forecast

error variance in trade balance. This is in contrast to the direct instrument period when exchange rate was identified as the major channel for trade balance adjustment having alone accounted for about 80 percent of the forecast error variance in trade balance. Abstracting from the results of the analysis, we observe that trade balance own innovations of 48% and shocks to exchange rate of 32% combine to explain about 80 percent of the forecast error variance in trade balance. This indicates that the deregulation of exchange rate market occasioned by the SAP of 1986 has diluted the efficacy of exchange rate as a policy instrument for the management of Nigeria's trade balance by as much as 60 percent. This finding can be justified by the fact that Nigeria has neither the capacity to effectively take advantage of the depreciation of the domestic currency through increase in the production of tradable goods nor increase in the production of non tradable import substitutes to effectively augment expected drop in import demands in response to price increases. We also tested the robustness of our results with respect to changes in ordering of the variables used and found that the ordering of variables is not the crucial determinant of our results, since changes in the ordering of the variables give us similar results in terms of impulse response functions.

Conclusion

There are three main conclusions from this analysis of monetary policy in Nigeria. First, in both time horizons, exchange rate has been identified as a singular most promising macroeconomic fundamental for both internal and external sectors adjustments. For instance, with recourse to the impulse response functions and variance decomposition analysis for the period 1960 – 1985, shocks to exchange rate explained over 70 percent of consumer price index dynamics, over 86 percent of its own innovation, about 83 percent of forecast error variance in money supply and 80 percent of trade balance adjustments. In the same vein, during the period of deregulation occasioned by SAP, 1986 – 2008, shocks to the same exchange rate accounts for still about 70 percent of inflationary developments and over 77 percent of its own innovations, but in contrast, explains only about 16 percent and over 32 percent of movements in M2 growth and trade balance respectively. Second, that the deregulation of the domestic economy as occasioned by the structural adjustment programme has significantly diluted the efficacy of exchange rate as a monetary policy instrument for the management of Nigeria's aggregate money balance and trade balance developments by about 82 percent and 60 percent respectively. Third, in the both time frames, the results of the analysis indicates that the hypothesis that money supply is not an effective policy instrument for management of inflationary developments cannot be rejected for Nigeria. This abstracts from the grossly underdeveloped financial system, persistently characterized by gross instability and monumental corruption. Finally, the results

suggest that for Nigeria, system of exchange rate control is more efficient and effective than floating exchange rate regime for trade balance adjustment and management of inflationary developments. This finding can be justified by the fact that Nigeria has neither the capacity to effectively take advantage of the depreciation of the domestic currency through increase in the production of tradable goods nor increase in the production of non tradable import substitutes to effectively augment expected drop in import demands in response to price increases, as evidenced by Nigeria's average manufacturing capacity utilization (AMCU) dropping from 76.6 percent in 1975 to 52.78 percent by 2005. The Nigerian economy has moved over the last 25 years from almost complete controlled to relative open economy, and is therefore more and more dependent on developments beyond its borders. However, the Central Bank of Nigeria can continue to play a stabilizing role in the economy through the continuation of prudent monetary policies and frequent exchange rate management to smooth out shocks.

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