



## THE IMPACT OF MONETARY AND FISCAL POLICIES ON THE NAIRA EXCHANGE RATE BETWEEN 1990 AND 2009

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### ABSTRACT

*This study examines the effect of Monetary and Fiscal Policies on the Naira exchange rate between 1990 and 2009. This is because in recent times, there have been series of debate on the appropriate exchange rate for the Naira and the parameters for determining its exchange rate. What is more, the exchange rate has been declining steadily and the impact of the depreciation ranges from high cost of input into manufacturing process that results in high prices of finished goods. For the purpose of empirical analysis, Naira exchange rate was selected as the dependent variable while the Money Supply (MS), Foreign Exchange Rate (FOREX), Government Expenditure (Govt Exp), Gross Domestic Product (GDP) and Inflation Rate (INFC) were identified as the independent variables. The multiple regression analysis showed that each of the independent variables impacted either positively (+) or negative (-) when measured against the exchange rate and there was a high correlation co-efficient of 0.80 between the dependent and the identified independent variables. In view of the findings, it was recommended that government should proffer an enabling environment/or a good policy mix of instruments and the method of changing policies before the result of the first ones are realized should be discouraged.*

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### INTRODUCTION

Economic watchers have always wondered whether the exchange rate should be determined by a fiat or be the forces of demand and supply for foreign exchange or by a combination of the two methods.

No nation ever lives in isolation of others. Every nation must relate with each other economically, socially, politically, etc. To do this effectively every country must come to acceptable terms with each other. The common denomination upon which the world builds or rests its activities is money. Hence, there is need for countries to determine the appropriate exchange rate for its currency, either by policy of the Government or through market forces of demand and supply.

One of the greatest obstacles facing policy makers the world over is the choice of appropriate policy instruments capable of achieving the desired macro-economic stability. It is obvious that developing countries like Nigeria have macro-economic instability as one of their great problems and serious effort must be made in determining the appropriate policy mix to achieve macro-economic stability. Accordingly it will be necessary for policy maker to manipulate the monetary and fiscal policies measures in such a way that desired objectives are achieved within a given time period. Consequent to the above, the central purpose of this paper is to ascertain how the fiscal and monetary policies adopted between 1990 and 2009 have affected the Naira Exchange rate.

In this paper we adopted, we applied the method of multiple and simple regressions to measure the impact and relationship between foreign exchange rate (Ex. Rate) and other Macro-economic Variables such as money supply, foreign exchange government expenditure, gross domestic product and inflation rate. The empirical data were obtained from the CBN Statistical Bulletin. The paper is structured into four sections, with section one as the introduction. Section two reviews the relevant literature. Section three presents the development of the models, its analysis and economic interpretations. Lastly, section four summarizes and concludes the paper.

## **THEORETICAL REVIEW**

### **Monetary Policy**

Asogu (1998) defined monetary policy as the actions by the monetary authorities to influence the national economic objectives by controlling or influencing the quantity and direction of money supply, credit and the cost of credit. He noted that monetary policy is aimed at ensuring adequate supply of money to support financial accommodation for growth and developmental programmes as well as stabilizing various sectors for a sustainable growth and development.

Johnson (in Asogu (1998)) sees monetary policy as a policy employing the Central Bank's control of the supply of money as an instrument of achieving the objectives of a general economic policy.

Falegar (1978) also argued in the same direction. According to him, monetary policy deals with discretionary control of money supply by the monetary authority in order to achieve stated or desired economic goals. While Onido (1995) refers to monetary policy as actions taken by the monetary authorities usually the Central Bank, to effect monetary and other financial conditions,

through influence over the availability and cost of credit in pursuit of broad objectives of sustainable growth of output, price stability and a healthy balance of payments position.

Ubogu (1985) defines monetary policy as an attempt by the monetary authorities to influence the level of aggregate economic activities by controlling the quantity and direction of money and credit availability. All the scholars mentioned above are of the view that monetary policy emanates from Central Bank that sets the standard rules and guidelines for each year's monetary policy. For instance, the Year 2000 Monetary Policy and Credit Policy measure as published by Central Bank states that "monetary policy shall seek to subdue inflation as single digit annual rate".

Essentially, therefore, monetary policy is the policy of the Central Bank of any nation to control and regulate money supply in the economy to achieve the desired economic policies or goals in any particular year or time. Ogwuma (1994) did not only define monetary policy as other scholars above. But also pointed out the monetary policy can be represented in three parts: The assembly and analysis of wide range of data on the economy and the appraisal of Current policies. The development or forecasts aimed at determining the future course of the economy in the absence of policy changes. Developing and evaluating policy options for overcoming the likely problems in short and medium term. He further noted that policy formulation exercise involves developing a consistent set of targets for the growth of output or GDP, rate of inflation, the fiscal deficit of the Federal Government and its financing, the outcome of the balance of payment and demand for money. Ogwuma mentioned instruments used in the third quarter of 1992 "which deemphasize the use of direct instrument of monetary control, but maintain the use of stabilization securities as part of the control to contain the large injections of liquidity.

Nanna and Dogo (1998), traced the monetary policy Nigeria adopted from 1986 aimed at deepening the financial system and reducing the level of financial repression in the banking industry. They stated that, despite the reforms to put banks in good image there was loss of public confidence that on the long run affected the entire monetary policy. They cited several scholars to show that sound monetary policy contain extraneous factors that would enable it to either succeed or fail. After using statistical data and hypothesis Nanna and Dogo concluded that, positive monetary policy can only result if the monetary authority had the legal and operational autonomy and flexibility to intervene decisively and on timely basis in the system.

But Asogu (1998) emphasized that owing to the underdeveloped nature of Nigeria's Financial and Capital Market, the monetary policy is adapted to accommodate government's financial needs for tackling critical and urgent problems of economic growth and development.

However, he identified three key elements of monetary policy as reserve money, credit supply and interest rate, which jointly determines the liquidity in the economy. In his view, "monetary policy requires establishment of a relationship between monetary instruments which the authorities control and the key targets of policy or economic objectives".

Asogu also identified tools to monetary policy including bank credit, interest and discount rates, reserve requirements, credit ceilings, moral suasion, and open market operations.

According to him, "the application of these tools are directed at influencing the size and behaviour of money supply which in turn affects output, income and prices as well as the balance of payment. The net aggregate credit to the economy was 29.2% to (9.5) between 1994 to 2000 out of which credit to private sector was 32.2 to 17.5% as against 32.6 to 21.9 percent target. This shows that the targets were never met. Credit to the government sector rose from 27.7% against zero target in 1994 to 144.9% in 1998 and down in 2000 to (78.9%).

Commercial and Merchant banks' compliance to the maximum lending rate was encouraging. In particular, improved monetary and financial conditions in 1996, emanated from policy implementation as associated developments were characterized by relatively modest growth in monetary aggregate', from 1995. Banks complied with the maximum lending rates up to 2003. Nominal interest rates rose in 1990 and was the cause of the reversion to interest rate controls in 1991. When the rates were again deregulated in 1992, they once more rose to unprecedented levels which were sustained in 1993. The controls came back in 1994 and 1995 but were dismantled in 1996. Inflation was also on the increase except for "1990 - 1991 when the inflation rate was relatively low. The other cause of huge hikes in interest rates was the attempt made by the authorities to reduce excess liquidity in the system, the persistent distress in the banking system which aided some distress borrowing and of course the fact that only a few banks had the dominant control of the available funds of the banking system.

However, the ultimate objectives of the monetary policy were increasingly not realized over the period. From 1990 to 1994 there was a gradual decline in output growth rate recording a low 1.3% in 1994. The growth rate increased between 1995, 1996 and 1997 but declined between 1998 to 2000 when it was 5.4%, 2001 it was 4.6% 2002 it was 3.5% and 10.2% in 2003. The inflation rate has been on the high side since 1990 to 1995 from 7.5% to 72.8%, came down to 29.3% in 1996, a single digit of 8.5% in 1997, 10% in 1998 again to 6.6 and 6.9% in 1999 and 2000 respectively. In 2001 it was 18.9% and 12.9 10.7% and 17.6% in 2002, 2003 and 2004 respectively. The Central Bank of Nigeria (CBN) Act authorizes it to formulate the monetary policy in any fiscal year. After formulation of the policy, the CBN Governor sends it to the President for his approval. So Monetary Policy is the prerogative of the Monetary authority and the President in Nigeria.

## Fiscal Policy

Asogu (1998) defined fiscal policy as the use of Government expenditure, taxes, borrowing and financial administration to further national economic objectives. According to Central Bank of Nigeria (CBN) (1993) Fiscal Policy refers to the discretionary changes in the level, composition and timing of government expenditures and revenue. Fiscal expenditure is capable of increasing output in the desired direction while 'fiscal deficits tend to have serious adverse effects on monetary aggregates and inflation.

Ulmer (1994) stated that, pure Fiscal Policy in the conventional macroeconomic model assumes the government finances its expenditures through borrowing from the public after exhausting the revenue. He also mentioned that discretionary Fiscal measures are those which depend for execution upon the decision of government officials, administrators and legislators. "It is they who must decide whether government expenditures are to be increased or decreased, whether higher or lower taxes shall be levied and by how much in each instance. Ulmer (1994) argued that the tools available through government's Fiscal Power are rare, potent and forceful, for they may enlarge or reduce the volume of money spending directly. According to him, such are not fool proof, a characteristics they share with most other controls in social as well as physical spheres because of difficulties in timing and other problems they cannot guarantee perfection in result. According to Umole (1985), "Fiscal Policy, in its broad definition, is the use of Government expenditure and taxation to influence the country's economics activities". From the above definition, it is obvious that there arc two major tools at the disposal of Government or Fiscal Policy makers and these are Government expenditure and taxation. Dembarg and Medougall (1958) defined Fiscal Policy as "the use of the budget of the Federal Government in order to influence the level of total spending in the economy by means of changing the amount of or altering the income of the private sector by changing taxes or Government transfer outlays to individuals". Accordingly to Iyioha (1996) Fiscal Policy is the use of changes in Government expenditures and changes in taxes to influence the level of key economic aggregates like GNP, employment, the general price level and the balance: 'of payments. To understand the influence of Government on the economy, it is usual to start by examining the budget, that is, the counter-cyclical fiscal policy. The budget shows, inter alia, the receipts and expenditure of Government in a given year. If we recall the notion of aggregate demand and its mathematical representation thus:

$$AD = C + I + G$$

Where AD is Aggregate Demand

C is Consumption

I is Investment

G is Government Expenditure

An increase or decrease in Government expenditure has identical effect like that of taxation. Therefore, an increase in Government expenditure, all things being equal, has an expansionary effect on income while a decrease on the other hand has a contractionary effect on income. Taxes are negatively related to consumption and hence, aggregate demand. An increase in tax will have a contractionary effect on income while a reduction in taxes will have an expansionary effect on income. It must be noted that taxes like savings represent leakages from the income stream while Government expenditure, like investment are injection into the income stream. Therefore, income and Government spending are positively related while income and taxes are negatively related.

### **Evolution of Nigeria's Exchange Rate Regime and Management**

The use of exchange rate policy has been a significant instrument for macro-economic management in Nigeria, as it has been frequently applied in the past to preserve the value of the naira, maintain a comfortable external reserves position and ensure price stability. In the past, different exchange rate policies have been used depending on the conditions of the economy at any given period and sometimes in response to the changing exchange rate policies in the rest of the world. The different policy stances of the country's exchange rate regime and management date back to the pre-colonial era and have undergone various changes to date.

### **The Unified Exchange Rate System**

Owing to the subsidy element in the two rates adopted under the dual exchange rate system, the regime was open and subjected to a lot of abuses. Therefore, the two rates, the first and second-tier rates were merged in July 1987 into a unified exchange rate and the- market was called FEM (foreign Exchange Market) thereby subjecting all transactions to market prices. But the persistent depreciation of the Naira exchange rate led to the separation of the- Inter-bank market for banks from the official market resulting in the emergence of an autonomous market with its independent rate for privately source foreign exchange. This autonomous rate was subsequently merged with the FEM rate in January, 1988 to form the Inter-bank Foreign Exchange Market (IFEM) because the autonomous rate had depreciated continuously. To further eliminate the abuses inherent in, the system and reduce exchange rate instability, the naira exchange rate under this regime was determined using several methods, namely, marginal and average rate pricing, highest and lowest bids, weighted average, average of successful bids. Again, the Dutch Auction System (DAS) was reintroduced in December, 1990 while the weighted average method was adopted in 1991, in order to reduce wide fluctuations in the exchange rate.

### **Fully Deregulated Exchange Rate System**

Even under the method, above, there was persistent instability in the exchange rate system further on 5<sup>th</sup> March, 1992 by depreciating the naira exchange rate at the IFEM again in order to equate it with the parallel rate which was considered the more appropriate indicator of the market perception of the value of naira vis-a-vis other currencies. The aim was to narrow the parallel market premium

and enhance the operational and allocative efficiency at the IFEM through adequate participation in the market. Under this new mechanism, the Central Bank bought and sold foreign exchange actively in the market and was expected to supply all requests made by the authorized dealers. The official exchange rate was adjusted from N10.5564 to N18.0000 to \$1.00 on 5th March, 1992. However, as a result of renewed demand pressures and speculative activities, the premium widened again and the high margin that resulted led to the reregulation policy of 1994.

### **Fixed Exchange Rate System**

This system was re-introduced in 1994 to stabilize and shore up the value of the naira by pegging the naira exchange rate at N22.00 to \$1.00 and by centralizing all foreign exchange receipts in the Central Bank. The policy stance was aimed at instilling sanity into the foreign exchange market and encouraging increased activities in the productive sectors of the economy. In pursuance of these objectives, bureau de change operations and some designated banks (authorized dealers) were made mere buying agents of the Central Bank in the remittance of the foreign exchange.

A Ministerial Foreign Exchange Allocation Committee was also constituted to supervise the allocation of foreign exchange to designated sectors of the economy using certain percentages to allocate to bid on behalf of their customers and were mandated to deposit the naira cover of their bids with the CBN before applications could be approved for bidding.

### **The Period 1995 To Date Dual Exchange Rate System**

The dismal performance of the deregulation policy, especially as it related to non-oil exports, informed the re-introduction of the dual exchange rate policy in 1995 which was called "guided deregulation". The new policy was aimed at addressing the substantial depreciation of the naira exchange rate in the parallel market and achieving efficient allocation and utilization of resources. In this regard, the Exchange Control Act of 1962 was repealed, while the Foreign Exchange (Monitoring of Miscellaneous) Provision Decree 17 of 1995 was promulgated. The Decree established the Autonomous Foreign Exchange Market (AFEM) for trading in privately sourced foreign exchange while the fixed exchange rate in the official market remained for bonafide government transactions. The rate at the AFEM is market determined while the Central Bank intervenes initially monthly, but later from 1996 to date, on weekly basis, in order to regularly monitor developments in the market and ensure stability in the naira exchange rate. This exchange rate policy was retained in fiscal year, 1996 and is still retained in the current fiscal year because it has achieved a fairly stable exchange rate since its introduction.

This stability was achieved because the system succeeded in slowing down aggregate demand for foreign exchange, thus minimizing the speculative activities inherent in the past regimes. The supply situation in the AFEM also improved at both the official and the autonomous sources. The pressure on the naira rate has since eased off and the rate had remained at N80.00 = \$1.00 until late

1999, However, the additional foreign exchange policy measures introduced in the Federal Government Budget for 1997, which aimed at further deregulating the foreign exchange market, did not have the desired salutary effect on the exchange rate. Consequently the demand pressure resumed in the foreign exchange market as a result of the liberalization in the payment for certain transactions. This led to the depreciation of the AFBM rate to N85.00 = \$1.00 in March 1997 and the rate has virtually remained at this level until late 1999. Nevertheless, the premium, between the parallel (unofficial rate) and the autonomous rate has narrowed substantially in the past three years due to the relative success of the current foreign exchange and exchange rate policies.

The following are some of the highlights of the foreign exchange guidelines that were substantially restructured to reflect the liberalization posture of the foreign exchange policy introduced during the 1997 fiscal year. Fees previously paid in foreign currency would now be paid in either local or foreign currency depending on the discretion of the party making the payment. Personal travel and business travel allowances are no longer subject to limits. The restriction in home remittances for expatriates is also removed but the evidence of income earned would have to be produced before remittance can be effected. The remittances for education studies overseas, hitherto restricted; to undergraduate and postgraduate studies have been widened to cover all categories of educational institutions. In all cases, remittances have to be made through the AFEM. Interventional experience has shown that no one country leaves its exchange rate determination completely to market forces alone, as some level of intervention is applied from time to time as occasion demands. Therefore, the central issue is whether exchange rate stability can be achieved in deregulation implies elimination of all forms of controls. In the first place exchange rate stability is meaningful only if such exchange rate is measured in relation to the estimated equilibrium rate of the currency and the Purchasing Power Parity (PPP), at a level above over valuation or under valuation of the currency as the case may be both of which are not ideal as they lead to distortions and misallocation of resources in the economy.

Exchange rate stability should, therefore, be seen in the context of an appropriate equilibrium rate. It is this equilibrium rate or currency parity that a country defends through intervention in the foreign exchange market. Nonetheless, the equilibrium rate is not a static rate but is dynamic and responds to relevant economic stimuli within and outside the economy, such as price level, interest rate, monetary expansion, or contraction including political and social dispensation among others. From the above analysis, it will be impossible for any country in which equilibrium exchange rate is not determined to meaningfully target exchange rate stability. This is the situation in most developing countries and Nigeria is no exception.

Most of them focus exchange rate prevailing in the parallel markets and so, stability in the exchange rate market is measured in terms of the divergence between the official rate and the parallel rate. A scientific approach to making the parallel rate, to equate the equilibrium rate. The



problem of measuring exchange rate stability is further complicated in most countries by the policy of administratively fixing the exchange rate at a level over a relatively period of time.

## METHODOLOGY AND ANALYSIS

### Model 1

The impact of money supply (MS) and Foreign Exchange (FOREX) on Exchange rate (EX Rate). The Model is specified with Exchange rate, the dependent variable and money supply and Foreign Exchange the independent variable and money supply and Foreign Exchange the independent variables.

$$\text{Ex. Rate} = a_0 + a_1 \text{ MS} + a_2 \text{ FOREX}$$

Analyzing thus, secondary data collected from Central Bank of Nigeria for the period of 1990 – 2004 were used. These are presented in the table below:

**Table-1.** Money supply, Foreign Exchange and Official Exchange Rate 1990 - 2004 data

Year	Ms (N, Million)	Foreign Exchange (N, Million)	Official Exchange Rate
1990	37233.7	3248.4	8.0378
1991	49364.5	3026.4	9.9095
1992	75406.5	4045.7	17.2984
1993	116390.7	2957.1	22.0511
1994	17578101	1961.1	21.8861
1995	201414.7	1747.1	21.8861
1996	234006.2	1859.1	21.8861
1997	276563.6	2939.3	21.8861
1998	333176.0	4112.1	21.8861
1999	393,078.8	5,601.2	92.34
2000	637731.1	7,836.2	100. 12
2001	816,707.7	11,403.00	111.52
2002	946,253.4	10,178.00	120.47
2003	1,225,559.3	12,105.40	129.22
2004	1,330,657.78	14,032.80	133.50
2005	2,814,846.1	15,061.50	130.60
2006	4,027,901.7	16,091.70	128.28
2007	5,809,826.5	17, 051.30	245.19
2008	9,166,835.3	18, 071.75	189.33
2009	10,767,377.8	19, 085.50	242.81

**Source:** Compiled from CBN Statistical Bulletin for Various Years

### \* Estimated Value

The detail result of the regression Analysis of the above data is shown in Appendix 1 and the various relevant data were extracted and presented as follows. Ex. Rate = -4.954 + 6.134E

$$05 \text{ MS} + 6.176\text{E} - 03 \text{ FOREX}$$

$$\text{S.E} = 8.244 \text{ (0.000)} \quad (0.002)$$

$$t = -0.601 \quad 1.852 \quad 1.835$$

$$R = 0.951, R^2 = 0.904 \quad R^2 = 0.887$$

$$F_{(2,11)} = 51.832, DW = 1.834 \quad N = 15$$

\* The figures in brackets are standard errors of the coefficients. The regression equation above shows that the explanatory variable MS is positively related to the dependent variable. And that a 1% change in MS with FOREX held constant will lead to  $6.134E - 05$  changes in Ex. Rate. Similarly a 1% change in FOREX with MS held constant will result to a  $6.176E - 03E$  Change in Ex. Rate.

Furthermore, the coefficient of correlation  $R = 0.951$  shows that there is a high correlation between the explanatory variables and the dependent variable while the coefficient of determination  $R^2 = 0.904$  shows that the two explanatory variables MS and FOREX have been able to explain 90.4%, variation in Exchange rate. The other 9.06% in Ex. Rate is due to other factors not considered in the model, such as the propensity of the nationals to import, illegal activities like money Laundering to mention but a few.

However, accounting for the increase in the explanatory variables with the adjusted or corrected  $R^2$  means that in fact the two independent variables MS and FOREX have explained in reality 88.7% variation in Ex. Rate within the period under consideration. Testing significance of the two explanatory variables MS and FOREX simultaneously, the F – test value  $F_{(2,11)} = 51.832$  at 0.01 level of confidence shows that the two explanatory variables are statistically significant. Furthermore, to test for the significance of the intercept (-4.954), and the coefficients of the independent variables ( $6.134E - 05$ ) and ( $6.176E, :- 03$ ) respectively, the calculated t - values show that they are statistically significant at 95% level of confidence. The Durbin-Watson value 1.834 shows that there are not serial correlations shows though the coefficient of the explanatory variables are significantly small, we can conclude from the above analysis and tests that money supply and foreign exchange affect the exchange rate thus accepting hypothesis 1.

## Model 2

The impact of Government Expenditure (Govt. Exp.) and Gross Domestic Product (GDP) on Exchange Rate (Ex. Rate).

The model is specified with exchange rate. as the dependent variable and government expenditure and gross domestic product at 1990 constant factor cost as the independent variables.

$$\text{Ex Rate} = 90 + 91 \text{ Govt. Exp} + 92 \text{ GDP.}$$

Analyzing thus, secondary data collected from Central Bank of Nigeria for the period 1990 - 2004 were used. These are presented below.

**Table-2.** Exchange Rate, Government Expenditure and GDP

Year	Exchange Rate	Govt. Expenditure	Gross Domestic Product
1990	8.0378	60,268.2	267,550.0
1991	9.9095	66,584.4	265,379.1
1992	17.2984	93,835.5	271,365.5
1993	22.0511	136,645.5	274,833.2
1994	21.8861	156,837.2	275,450.6
1995	21.8861	254,038.0	281,407.4
1996	21.8861	282,969.6	293,745.4
1997	21.8861	393,943.0	302,022.5
1998	21.8861	487,113.4	310,890.1
1999	92.34	947,690.0	312,183.5
2000	100.12	701,059.4	329,178.7
2001	111.52	1,018,025.6	344,285.6
2002	120.47	1,188,714.6	356,305.8
2003	129.22	1,225,957.7	392,767.0
2004	133.50	1,337,306	416,704.5
2005	130.60	1,822,100.00	451,783.6
2006	128.28	1,938,002.50	495,007.1
2007	245.19	2,450,896.70	527,576.0
2008	189.33	1,743,200.00	561,931.40
2009	242.81	1,842, 600.00	595,821.61

**Source:** Compiled from CBN Statistical Bulletin for various Years

The result of the regression analysis using model 2 specification is in appendix 2 and an extract of the relevant data is presented below.

Ex. Rate = -10.744 + 1.007E - 04

GOVT. EXP. + 3.840E- 05 GDP

S.E = (86.383) (0.000) (0.000)

t =0.124 3.467 0.117

R-0.960 R1 0.921 R1 0.,907

F<sub>(2u)</sub> 64.215 DW= 1.112 N = 15

The figures in brackets are standard errors of the coefficients. The result of the analysis above shows that there is a positive correlation between the official exchange rate, government expenditure and gross domestic product at constant factor cost. This implies that increasing government expenditure will lead to an increase in the official exchange rate of the Naira. Secondly, due to the high propensity of Nigerian to import increase in GDP means increase in the value of import of the inputs used for the domestic production and consequently a serious pressure on the foreign exchange rate thus increasing the official exchange rate.

Though there is a positive correlation between the dependent and, independent variables under consideration, the coefficient (i.e. the rate of change in exchange rate resulting from change in government expenditure and gross domestic product) is significantly small, 1.007E - 04 and

3.840E-05 respectively. These small coefficients could be attributed to the fact that government expenditures vis-a-vis on imports do not really depend on the official rate. Governments can import without the consideration of the exchange rate. The calculated value of the t-ratios shows that the coefficients of the independent variables are statistically significant.

The value of the  $R^2 = 0.921$  shows that Government expenditure and Gross Domestic Product accounted for 92.1 % variation in the exchange rate while the remaining 7.07% variation in the Official exchange rate could be attributed to other factors not considered in the model. Accounting for the increase in the independent variables with the adjusted or corrected  $R^2 = 0.907$  means that in fact the two explanatory variables = government expenditure and Gross Domestic Product have explained in reality 90% variation in Exchange rate under periods considered.

Testing the significance of the two explanatory variables simultaneously, the value of the F -test statistic  $F_{(2,10)} = 64.215$  shows that they are statistically significant at both 95% and 99% levels of confidence. The Value of Durbin-Watson (DW) 1.112 shows that there is little or no autocorrelation in the data collected and analysed implying that the disturbance terms are independent of one another. From the foregoing analysis, we can conclude that Government expenditure and Gross Domestic Product have positive impact on the exchange rate; thus accepting the Null hypothesis and automatically rejecting the Alternative hypothesis.

### Model 3

The price of domestic goods and services are positively related to high rate of exchange.

In analyzing and verifying this hypothesis, an economic model prices (using the inflationary rate as index price increase) and exchange rate was constructed as follows: The impact of prices on the exchange rate.

Model Specification

$$\text{Ex. Rate} = a_0 + a_1 \text{INFL.}$$

Where inflation is the explanatory variable and exchange rate the dependent variable.

The data used for the analysis were collected from Central Bank of Nigeria and presented as follows:

**Table-3.** Exchange rate and inflation rate

Year	Exchange Rate	Inflation Rate
1990	8.0378	7.5
1991	9.9095	13.0
1992	17.2984	44.5
1993	22.0511	57.2
1994	21.8661	57.0
1995	21.8661	72.28
1996	21.8661	29.3
1997	21.8661	8.5

1998	21.8661	10.0
1999	92.34	6.6
2000	100.12	6.9
2001	111.52	18.9
2002	120.47	12.9
2003	129.22	14.0
2004	133.50	17.6
2005	130.60	17.90
2006	128.28	15.0
2007	245.19	8.50
2008	189.33	11.60
2009	242.81	11.70

**Source:** Compiled from CBN Statistical Bulletin for Various Years Vol. 14, Dec. 2004.

The detailed result of the regression Analysis of the above table is shown in Appendix 3 and the various relevant data were extracted and presented as follows:

$$\text{Ex. Rate} = 73.034 + -0.841\text{INFL}$$

$$\text{S.E} = (18.361) \quad (0.545)$$

$$t = 3.978 \quad -1.542$$

$$R = 0.407 \quad R^2 = 0.165 \quad R^2 = 0.096$$

The regression equation above shows the explanatory related to the dependent variable Exchange rate. The coefficients imply that a unit change in the inflationary rate will result to a 0.841 change in, the Exchange rate of Naira while 73.034 shows the value of exchange rate that does not depend on the inflationary rate.

The figures in the brackets are the standard errors of the coefficients. To test the slope of the regression equation with reference to their standard errors, that they (intercept and slope) are statistically significant at 95% level of confidence.

Furthermore, the coefficient of correlation  $R = 0.165$  shows that there is a low positive correlation between inflationary rate have been able to explain 16.5% variation rate the remaining 83.5% variation in exchange rate is due to other factors not considered in this model. However, accounting for the increase in the explanatory variable with the adjusted  $R^2$  means that infact the explanatory variable inflationary rate has explained in reality 9.6% variation in Exchange rate within the period under review.

Testing the significant of the regression equation, the value of the F - test statistic shows that the calculated coefficients of the regression equation are statistically significant at 95% level of confidence. From the foregoing analysis, we can conclude that inflationary rate (domestic prices) has negative impact on the exchange rate thus rejecting the Null hypothesis and accepting the Alternative.

## CONCLUSION

The results as observed showed that the implementations of policy instruments in Nigeria are not properly harmonized to achieve the desired national objectives. This confirms Ogwuma (1996) statement that fiscal policy did not generally play a stabilizing role in most countries and in several of them it is clearly destabilizing. During the debt crisis of the 1980s, stabilization efforts focused predominantly on reestablishing external balances. It is therefore suggested that the government of Nigeria should proffer an enabling environment for a good policy mix of both monetary and fiscal policies. The method of changing policies, before result of the existing ones is realized should be discouraged. Furthermore, policy implementation should have a minimum time lag of at least three years and there should be a joint council of monetary and fiscal policy experts to analyze, monitor, policies implementation and proffer solutions through the ministry of finance to the various sectors of the Nigerian economy and at international levels.

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**APPENDIX I**

Variable Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	X2,X1	-	Enter

- a. All requested variables entered.
- b. Dependent variable: Y

Model summary

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
1	.951 <sup>**</sup>	.904	.887	15.75774

Model Summary

Model	Change Statistics					
	R Square Change	F Change	Df1	Df2	Sig. F Change	Durbin-watson
1	.904	51.832	2	11	.000	1.834

- a. predictors: (constant), X2, X1
- b. Dependent variable: Y

ANVA

Model		Sum of Square	Df1	Mean Square	F	Sig.
1	Regression					
	Residual	25740.697	2	1248.348	51.832	.000 <sup>**</sup>
	Total	2731.382	11	248.307		
		28472.079	13			

- a. predictors: (constant), X2, X1
- b. Dependent variable: Y

Coefficients

Model	B	Unstandardized Coefficients	Standardized Coefficients	T	Sig.	95% confidence Interval for B	
		Std Error	Beta			Lower Bound	Upper Bound
1	-4.954	8.244	.486	-601	.560	-23.099	13.190
	constant	6.134E-05	.000	.481	1.852	.091	.000
	X1	6.176E-03	.003		1.835	.094	.014
	X2						

Coefficients

Model	Correlations.			Collinearity Statistics	
	Zero-order	Partial	Part	Tolerance	VIF
1 (constant)					
X1	.935	.488	.173	.127	7.882
X2	.935	.448	.171	.127	7.882

a. Dependent variable; Y

ANOVA

Model	Sum of Square	df	Mean Square	F	Sig.
1. Regression	26225.855	2	13112.928	64.215	.000
Residual	2246.223	11	204.202		
	28472.079	13			

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.	95% confidence Interval for B		
					Lower Bound	Upper Bound	
1	B	Std Error	Beta				
1	-10.744	86.383		-1.24	.903	200.872	179.383
constant	1.007E-04	.000	.930	3.467	.005	.000	.000
X1	3.840E-05	.000	.031	.117	.909	-.000	.001
X2							

Coefficients

Model	Correlations.			Collinearity Statistics	
	Zero-order	Partial	Part	Tolerance	VIF
1 (constant)					
X1	.960	.723	.294	.100	10.031
X2	.914	.035	.010	.100	10.031

a. Dependent variable; Y

Coefficients Correlations

Model	X2	X1
1		
Correlation X2	1.000	-.949
X1	-.949	1.000
Covariances X2	1.071E -07	-9.02E-09
X1	-9.02E-09	8.445E-10

a. Dependent variable; Y

b. Collinearity Diagnostics



Model Dimension		Eigenvalue	Condition Index	Variance proportions		
				(Constant)	X1	X2
1	1	2.736	1.000	.00	.00	.00
	2	.282	3.222	.00	.11	.00
	3	8.147E-04	57.949	1.00	.89	1.00

## Residuals statistics

	Minimum	maximum	mean	Std Deviation	N
Predicted Value	5,600680	127.8432	51.456950	44.915181	14
Residual Std	-28.3801	27.598108	-1.2E-14	13.144825	14
Predicted Value	-1.701	1.701	.000	1.000	14
Residual Std	-1.986	1.931	.000	.920	14

## Variables enter \ removed

Model	Variables Entered	Variables Removed	Method
1	X1	-	Enter

- All requested variables entered.
- Dependent variables: Y

Model Summary<sup>a</sup>

model	R	R square	Adjusted R square	Std Error of the Estimate
1	.407	.165	.096	44.498432

## Model Summary

Model	Change Statistics					Durbin-Watson
	R Square change	F Change	Df1	Df2	Sig. F Change	
1	.165	2.379	1	12	.149	.356

- predictors: (constant), X2, X1
- Dependent Variable: Y

## ANOVA

Model		Sum of Squares	d f	Mean Square	F	Sig.
1	Regression	4710.753	1	4710.753	2.379	.149**
	Residual	23761.326	12	1980.110		
	Total	28472.079	13			

- a. predictors: (constant), X2, X1
- b. dependent variable: Y

Coefficients

model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95% confidence Interval for B	
	B	Std Error	beta	t		Lower Bound	Upper Bound
1	73.034	18.361	.407	3.978	.002	-33.028	113.040
(constant)	-.841	5.45		-1.542	.149	-2.030	.347
X1							

Coefficients

Model	zero-order	Corrections partial	part
1 (constant)n	-407	-407	-407

- a. Dependent variable: Y