

FISCAL DEFICITS AND INFLATION DYNAMICS IN NIGERIA: AN EMPIRICAL INVESTIGATION OF CAUSAL RELATIONSHIPS

by

Emmanuel Ating Onwioduokit

Government expenditure in Nigeria has consistently exceeded revenue for most of the years beginning from 1980. This paper investigates the causal relationship between inflation and fiscal deficit in Nigeria from 1970 to 1994. It was empirically confirmed that although fiscal deficit causes inflation, there was no feedback between inflation and fiscal deficit. However the findings showed that feedback existed between inflation and fiscal deficit deflated by the GDP. The Structural model of inflation revealed that, it takes about two years for the fiscal deficit to impact on inflation in Nigeria. The study concluded that what should be of paramount concern to policy makers as regards inflation should not so much be the level of fiscal deficits but the sources of its financing as well as the absorptive capacity of the economy. Thus, policies to tame inflation should have inbuilt ability to increase the productive capacity of the economy.

1. INTRODUCTION:

The growth and persistence of fiscal deficits in both the industrialized and developing countries in recent times have brought the issue of fiscal deficits into sharp focus. The issues surrounding fiscal deficits are certainly not new, but the economic development of the past decade has rekindled the interest in fiscal policy issues. In the advanced countries, the growth of United State Federal deficit provided the impetus for a reassessment of the effect of fiscal deficits on economic activities (Islam and Wetzel, 1991). In the less developed countries including Nigeria, fiscal deficits have been blamed for much of the economic crisis that beset them in the 1980s: over indebtedness and the debt crisis; high inflation and poor investment performance; and growth. Attempts to regain stability at the macro-level through fiscal adjustment achieved uneven success, raising questions about the macroeconomic consequences of public deficits and fiscal deterioration or fiscal stabilization (Easterly and Schmidt-Hebbel, 1993).

Government expenditure in Nigeria has consistently exceeded revenue for most of the years beginning from 1980. The symptoms of such fiscal imbalance are, of course, budget deficits. While budget deficits are nothing new in the country's history, the recent size of the deficit has been a cause of concern to many people including academics, policy makers, and investors. It is, however, pertinent to note that much of the debates over the deficits has been more related to the effects of unacceptable large deficits rather than with the causes of the deficits. For example, higher interest rates, real exchange rate depreciation, increased public spending are frequently mentioned. Others point the direct relationship between fiscal deficits and inflation, with the causal link generally assumed to be deficit financing by means of credit creation through the banking system. Even though convincing empirical evidences pointing to a significant relationship between deficits and these variables are few, there has been renewed interest on the issue of deficits reduction in recent times. However, proposals that do not address the basic causes of deficit growth will not likely achieve the desired results of deficit reduction on a sustainable basis.

In Nigeria, a lot of work has been done on inflation. However, the causality between deficit and inflation has not been investigated. This study seeks to empirically verify the existence of a causal relationship between fiscal deficits and inflation in Nigeria and present a framework for the dynamic modeling of inflation in Nigeria. The pertinent question that we shall attempt to answer is, do fiscal deficits cause inflation or is it inflation that causes fiscal deficits? The answers to these questions will provide a guide to modeling inflation in Nigeria. The remaining part of the paper, is organised thus: Part II reviews related literature on inflation; Part III discusses the trend in fiscal development and inflation as well as fiscal deficits financing in Nigeria. Part IV contains the models for causality between fiscal deficits and inflation as well as dynamic representation of inflation equation for Nigeria. The study is summarized and concluded in Part V.

II. FISCAL OPERATION AND INFLATION IN NIGERIA: HISTORICAL PERSPECTIVE

As a background to the paper, the development in fiscal operations and inflation in Nigeria from 1960 - 1994 are discussed in this segment.

In the ten years of this era, (1960-1970) inflation reached double-digit mark only in 1966 (10.2 per cent) and 1970 (13.8per cent). Hence, this era could generally be described as one with modest inflation. Except in 1966 when fiscal deficit showed a decrease of 39.2 per cent, increase in fiscal deficit for all the years in this era was substantial. It became alarming in 1967, 1969 and 1970 with 163.8per cent, 69.9per cent and 152.8per cent, respectively. Between 1967 and 1970 the size of

fiscal deficit as expressed in millions of naira did not, however, exceed three digit level.

Inflation in the oil boom era reached double digit except for 1972 and 1973 when the rates were 3.2 per cent and 5.4 per cent, respectively. The rates of inflation were 15.6, 34.4, 23.7 and 15.7 per cent in 1971, 1975, 1976 and 1977, respectively. Fiscal deficit sizes which were still within three digit mark between 1971 and 1974 noticeably declined in 1971, 1973 and 1974. But in 1972 and 1975, the rates of increase in fiscal deficit could be well be described as astronomical. For instance, the rates stood at 196.2 per cent in 1972 and 933.8 per cent in 1975.

The size of the fiscal deficit jumped from ₦427.9 million in 1975 to ₦1090.8 million in 1976, but declined to ₦781.4 million in 1977. Between 1978 and 1981, the level of deficits range between ₦2266.8 million and ₦3902.1 million.

The ratio of fiscal deficit (FD) to gross domestic product (GDP) during the period, 1971 - 1977 averaged 2.5 per cent. This was not surprising as increased oil revenue during the period considerably narrowed fiscal gap. The windfall from the country's oil earnings was used in promoting infrastructural development and ambitious and unproductive projects. On the face value, it could be argued that in the 1970s government expenditures fueled inflation. Government was advised by policy makers to embark on ownership and control of not only the "commanding heights" of the economy like the petroleum sector and mining, but also direct involvement in banking, insurance, clearing and forwarding activities, etc.

With the promulgation of the Nigerian Enterprises Promotion Decree (Indigenization Decree) of 1972, and amended in 1974, government became directly involved in virtually all aspects of the economy, especially as foreign exchange was no longer a constraint to development.

During the period spanning about 16 years, 1978 - 1994, the ratio of fiscal deficit (FD) to GDP, on the average, stood at 14.5 per cent. This rate was far less than 19.3 per cent which represents the average rate that obtained during the nine years of Nigeria's structural adjustment programme (SAP) 1986 - 1994. The FD/GDP ratio has been increasing from 21.2 per cent in 1984 to 38.3 per cent in 1993 except for 1987 when the rate stood at 8.3 per cent. The growth in fiscal deficit was substantial during the SAP years except in 1987 when it decreased by 31.1 per cent.

The inflation rate during the entire stabilization period continued to remain permanently double-digit except for 1982, 1985 and 1986, when it declined to 7.5, 5.5 and 5.4 per cent, respectively. Therefore, it is right to say that the negative indices especially the index of inflation did not abate during the period of stabilization and structural adjustment. It has also been observed that in addition to the increasing rate of inflation, declining oil revenue, disequilibrium in the balance of payment, growing unemployment, etc.; were common features during this period.

Unfortunately, a country that never had foreign exchange constraint had to go borrowing from the Euro-dollar market in 1977/78. Because the structural problems of the economy were not addressed, the austerity measures introduced by the Obasanjo regime in 1976/77 did not have lasting impact on the economy. Among other things, the austerity measures attempted to reduce government expenditure by trying to maintain fiscal imbalance, but lacked the necessary supply-induced measures. Consequently, the economy entered a recessionary phase. This was evident by the GDP showing negative growth rates between 1978 and 1986, except for 1979 and 1985 when the growth rates were positive. As noted earlier, the average rate of inflation over the two decades stretching from 1970 - 1994 remained at the double-digit level. Notwithstanding the high rates of inflation, government deficit spending even after the introduction of SAP in 1986, continued to be on the increase. For the graphic presentation of inflation, fiscal deficit and economic growth in Nigeria (See figure 1).

III. THEORETICAL AND EMPIRICAL CONSIDERATIONS

Inflation can simply be defined as a general and continuous increase in prices of goods and services. For the purpose of this paper, the causes of inflation will be discussed under the contending views of the monetarists and the structuralists. The monetarists argued that inflation is caused by excessive monetary growth. That is to say that the rate of increase in the money stock is substantially in excess of the rate of growth of real output. This monetarist argument was earlier advanced by Friedman (1956, 1960 and 1971). To him, changes in money supply have been seen to cause changes in prices. It follows, therefore, that an increase in money supply is likely to cause an increase in prices, and hence inflation. Inflation in the Cagan model is caused specifically by expansion in the money supply and there is no feedback.

Fiscal deficit arise because public spending rises while revenue remains unchanged, or tax revenue falls while public spending remains unchanged, or tax revenue falls while public spending rises. A commonly observed phenomenon in most developing countries is that, the public sector plays a dominant role in initiating and financing economic growth. The resultant growth in public spending is expected to be financed by public revenues from taxes and non tax sources but the revenues always lag behind the level of public spending, leaving large deficits in the focus. The growth in public revenue in developing countries are restricted by many factors such as low per capita income, limiting the base on which direct taxes can be imposed, income tax exemptions in the form of tax holidays, accelerated depreciation rates and tax credits usually provided to the manufacturing sector, and deficiencies in tax administration. On the other hand, public spending continues to grow due mainly to mismanagement; increased public participation in production and control of economic variables; and sheer inability to control spending.

The macroeconomic theory concerning fiscal deficits has undergone considerable transformation since the Keynesian revolution. Although fiscal deficits were common before the emergence of the Keynesian theories, the pre-Keynesian presumption was that in peace time the budget should generally be balanced or even in surplus to pay off the government debt generated by war time deficits (Fisher and Easterly, 1990).

Keynes provided a framework on how fiscal deficit behaviour should be analysed. His earlier emphasis was on fiscal policy and deficit as components of aggregate demand. From this perspective, the Keynesians found no need to balance the budget during periods of recession. Instead, the notion of the cyclically balanced budget, that is, the budget should be in balance on the averaged over the business cycle - in surplus during booms, and in deficit during recessions - was developed as a norm for fiscal behaviour.

Following the recession of the threat of widespread postwar unemployment, however, the emphasis shifted from the effect of fiscal policy on aggregate demand to its effect on the components of demand (Fisher and Easterly, 1990).

Another contentious issue is whether larger fiscal deficits are associated with higher inflation. Sargent and Wallace's (1985) "monetarist arithmetic" answers this question affirmatively, nevertheless, the relationship is blurred because government finances deficits by borrowing as well as by printing money. The relationship is further distorted by other influences such as unstable money demand, inflationary exchange rate depreciations, widespread indexation, and inflationary expectations (Kiguel and Liviaton, 1988; Dornbusch and Fisher, 1991). However, whether or not deficit financing is inflationary depends on source of borrowing and the impact on money supply. For instance, when central banks buy government securities, they pay for them by issuing high powered money, thus increasing money supply. Equally, when the government borrows from the public, it does not only receive but also spends leaving high-powered money in the hands of the public unchanged, except for a brief transitory period between the sale of securities and expenditures by government (Klindo, 1993).

Government's resort to money creation to finance its expenditure, increases the nominal stock of money and consequently increases demand for goods and services. If output does not grow in tandem to meet this increase in demand, an upward pressure on prices will result. In synopsis, inflation would result from increased government deficit which is financed by money creation. In most developing countries, including Nigeria, poor and inadequate tax programmes make government unable to generate enough funds for expenditures, hence, the pursuance of the policy of financing government expenditures by creation of money becomes inevitable. With full employment of resources achieved, Aghevei and Khan, 1977

and Tanzi, 1978, showed that inflation tax can be used as instruments to finance investment in developing countries. However, full employment situation rarely holds in most developing countries. It has been argued by some economists that inflation has no feedback effect. The unidirectional cause of inflation has been questioned by several other studies which supported the causation of inflation as running both ways (French and Rasin, 1988, Jacobs, 1977; Aghevei and Khan, 1977, 1998). In essence, the excessive/hyper-inflation is brought about by two-way causation between fiscal deficit through money supply and prices. Aghevei and Khan (1978) relate this feedback to attempt by government to extract real resources at a faster rate than was sustainable at a given rate of inflation, thus resulting in increase in the money supply and further inflation. As a self feeding process, Aghevei and Khan also related inflation theoretically and empirically to fiscal deficits. They argue that inflation results in widening fiscal deficits which are often financed through the banking system, leading to excessive liquidity in the system and thus generating inflation. Muller (1983) observed that there exist simultaneous relationship between fiscal deficits and inflation. Also, Heller (1980) noted that inflation raises the cost of government services and investments and increases budgetary demands for distributional transfer while simultaneously increasing, the amount of revenue collected. Furthermore, Blejer and Khan (1984) confirmed the two way causation between fiscal deficit and inflation and noted that "fiscal deficits whether financed from borrowing from the public or the banking system are necessarily inflationary". Ariyo and Raheem (1991) maintained that an acceleration of inflation by whatever means has a strong tendency to punch up government outlays on its consumption profiles.

The structuralists explain the long-run inflationary trend in developing countries in terms of structural rigidities, market imperfection and social tensions (relative inelasticity of food supply, foreign exchange constraints, protective measures, rise in demand for food, fall in export earnings, hoarding, import substitution, industrialization, political instability, etc.) Kirkpatrick and Nixon, 1976; Thirwall, 1974; and Aghevei and Khan; 1977.

Apart from the monetarists and the structuralists, there are also those who believe in cost-push as the main cause of inflation. The cost-push views attribute inflation to a host of non-monetary supply-oriented influences of shocks that raise costs and consequently prices. In the earlier views of the cost pushers, inflation was attributed to: union wage pressure; monopoly pricing policies; competitive struggle for relative income shares; labour and capital immobilities; and, job information deficiencies (Bowen, 1965). However, in recent times, this school of thought has attributed inflation to such random non-monetary shocks such as crop failures, commodity shortages and increase in the price of oil (Humphery, 1986).

In Nigeria, there has been several studies for various time periods on the causes of inflation. For instance, Oyejide (1972), Akinnifesi (1984), Adeyeye and Fakiyesi (1980), Osakwe (1983) and Asogu (1991), attempted empirically to ascertain the causes of inflation in Nigeria. Oyejide (1972) made empirical enquiry into the impact of deficit financing on inflation and capital formation. He related domestic money supply to inflation using Fisher's type of equation. Since there seems to exist a direct correlation between general price level and measures of deficit financing over the 1957 - 1970 time period, he concluded that less emphasis on deficit financing may limit the growth of price inflation. In Akinnifesi (1984) factors such as changes in money supply, lagged changes in money supply, credit to government by the banking system, government deficit expenditure, industrial production and food price indices were variables captured, while changes in the annual data for 1960 - 1983 were used in empirical estimation. The study showed that changes in the above factors jointly explained inflationary tendencies in Nigeria. The study, however, emphasised that increases in government expenditure financed by monetisation of oil revenue and credit from the banking system were responsible for the expansion of money supply, which in turn, with a lagged-in-effect contributed immensely to inflationary tendencies.

Adeyeye and Fakiyesi (1980), estimated and tested the hypothesis that the main factor responsible for instability of prices and inflationary tendencies in Nigeria has been government expenditure. Using annual time-series data, spanning 1960 - 1977, they tested hypothesis that the rate of inflation in Nigeria is linearly related to the rates of growth of money stock, government expenditure, especially deficits, and growth of government revenue, especially monetization of foreign exchange from oil exports. The results established some significant positive relationship between inflation rate and growth in bank credit, growth of money supply and growth in government expenditure, while the relationship with growth of government revenue was uncertain.

Osakwe (1983), attempted to verify the amount of government expenditure which affect money supply in the ten year period 1970 - 1980, using quarterly data. Significant statistical relationship obtained from the analyses showed strong relationship between increases in net current expenditure and growth in money supply on the one hand, and growth in money supply and inflation on the other hand. Further increase in money wage rates and money supply (with lag-in-effect) were identified as the two most important factors which influenced the movement of prices during the period.

Asogu (1991) considered factors such as money supply, its lagged values, domestic credit, real output, net exports, and net government expenditure in a single equation model. The results showed that money supply variable and its lag were not significant at least when annual data were used in the estimation. In addition,

changes in real income was significant and had an inverse relationship with the rate of inflation. Further, domestic credit was not significant, while government expenditure even though statistically significant had the wrong sign.

Egwaikhide et al (1994) in a study titled "Exchange rate Depreciation, Budget Deficit and inflation: The Nigerian Experience" examined the quantitative effects of exchange rate depreciation on inflation, government revenues and expenditures, and money supply in Nigeria. The findings revealed that domestic money supply, real output, the shadow price of exchange rate (the parallel market exchange rate) and more recently official exchange rate are the proximate causes of inflation in Nigeria. In a related study Ariyo and Raheem (1991) made an in-depth investigation of the impact of fiscal deficit on the level and direction of economic growth and development as might be reflected in the behaviour of key macroeconomic indicators such as current account balance, government investment, private investment, inflation, interest rate, external and internal debts profiles, etc. The findings also confirmed a direct relationship between fiscal deficit and inflation. However, none of these studies tested for causality between fiscal deficit and inflation.

IV. DEFICITS AND INFLATION IN NIGERIA: ANY CAUSALITY?

To merely assume that since the size of fiscal deficit over the years has continued to increase, and the inflation rate, on the average, during the study period has remained double-digit, then fiscal deficit and inflation simultaneously induce each other is rather simplistic. In an attempt to avoid doubt based on this simplistic assumption, we intend to conduct Granger causality test on fiscal deficit and inflation rate. It might also be necessary to conduct similar test using the ratio on fiscal deficit to GDP and inflation rate. According to Granger (1969) causality is said to exist if when Y_t is causing X_t (i.e. $Y_t \rightarrow X_t$), we are able to better predict X_t using all available information than if the information apart from Y_t had been used.

This is demonstrated functionally thus:

$$Y_t = f(Y_{t-1}, X_{t-1}, \dots, X_{t-n}) \dots \dots \dots (1)$$

If X_t causes Y_t , the functional relationship will be

$$X_t = f(X_{t-1}, Y_{t-1}, \dots, Y_{t-n}) \dots \dots \dots (2)$$

In the simple causal model, a change in the value of lagged independent variable(s) does not have to affect the dependent variable in the same period. Usually,

the dependent variable has current period value.

In the case of the existence of feedback between Y_t and X_t denoted thus $Y_t \leftrightarrow X_t$, Granger shows that such feedback is said to occur when Y_t is causing X_t and X_t is causing Y_t . There are two broad types of causality. Equations (1) and (2) above are sufficient "simple causality" test for the existence of feedback.

The other, the unidirectional instantaneous causality ($Y_t \rightarrow X_t$) occurs if the current value of X_t is better predicated (Granger, 1969). In which case, the unlagged independent variable, i.e. X_t has to be included along with one or two lags of X_t .

The model for instantaneous causality is specified thus:

$$Y_t = f(Y_{t-1}, X_t, X_{t-1}, X_{t-2}) \dots\dots\dots (3)$$

If the coefficient of X_t is significant, then it can be inferred that instantaneous causality has occurred. In such a case, Y_t is instantaneous caused by X_t . Furthermore, it can be said that instantaneous causality occurs if a change in the value of the independent variable in the current period affects the dependent variable in the current period.

Whether or not a model involving some group of economic variables is a simple causal model depends on what one considers to be speed with which information flows through the economy and also the sampling period of the data used (Granger 1969, 1986 and 1988). For both cases, if as Granger (1969) and (1988) puts it, if Y_t causes X_t and X_t causes Y_t then there is said to be a feedback relationship between X_t and Y_t . The test statistics for the Granger Causality is distributed F_{v_1, v_2} . The rejection region consists of all values for which $p(F_{v_1, v_2})$ is less than or equal to 0.05, which is the significant level, and v_1 and v_2 are the degrees of freedom.

IV.1 Causality Test Using Nigerian Data on Fiscal Deficit and Inflation 1970 - 1994

For our purpose, we applied the Nigerian data as follows:

FGDP	=	Ratio of Fiscal deficit to gross domestic product.
FD	=	Level of Fiscal deficit
IFR	=	Inflation rate

In Granger causality test, the thrust is to regress autoregressive distributed lag model of: FGDP on IFR and FD on IFR.

Models based on instantaneous causality as in equation (3) are expressed in this study, as follows:

$$FGDP_t = a_0 + a_1 FGDP_{t-1} + a_2 FGDP_{t-2} + a_3 IFR_t + a_4 IFR_{t-1} + a_5 IFR_{t-2} \dots\dots\dots(4)$$

$$IFR_t = b_0 + b_1 IFR_{t-1} + b_2 IFR_{t-2} + b_3 FGDP_t + b_4 FGDP_{t-1} + b_5 FGDP_{t-2} \dots\dots\dots(5)$$

$$FD_t = c_0 + c_1 FD_{t-1} + c_2 FD_{t-2} + c_3 IFR_t + c_4 IFR_{t-1} + c_5 IFR_{t-2} \dots\dots\dots(6)$$

$$IFR_t = d_0 + d_1 IFR_{t-1} + d_2 IFR_{t-2} + d_3 FD_t + d_4 FD_{t-1} + d_5 FD_{t-2} \dots\dots\dots(7)$$

Table 1: Result from Granger Causality Test

	IFR	FD	FDGP
IFR	-	0.400	0.002
FD	0.0018	-	-
FDGP	0.003	-	-

Note: Values in the table are probabilities

IV.2 Major Findings

1. The result from FD and IFR was significant indicating the existence of instantaneous causality since the associated probabilities was less than 0.05. Hence, it could be inferred that fiscal deficit (FD) causes inflation. However, no feedback mechanism was confirmed. Thus, inflation does not cause fiscal deficit.
2. The result from Granger causality test of IFR on FGDP showed that FGDP causes IFR and there exists feedback mechanism.

The above results lead us to the specification of a dynamic model of inflation for Nigeria. The next section examines this relationship.

IV.3 Dynamic Structural Model of Inflation in Nigeria

Different specifications of a structural dynamic model of the inflation and fiscal deficit were conducted. The following equations were estimated using ordinary least squares (OLS) in a step-wise procedure and the final model written as:

$$IFR_t = F(IFR_{t-2}, FGDP_t, FGDP_{t-1}, FGDP_{t-2}, FGDP_{t-3}, FGDP_{t-4} \dots\dots\dots(8)$$

or more generally as:

$$IFR_t = a_0 + a_1 IFR_{t-2} + a_2 FGDP_t + a_3 FGDP_{t-1} + a_4 FGDP_{t-2} + a_5 FGDP_{t-3} + a_6 FGDP_{t-4} \dots \dots \dots (9)$$

a priori, $a_i > 0$, where $i = 1, \dots, 6$.

Table 2: Result from Dynamic Model

Variable	Coefficient	t-value	Standard Error
<u>Dependent</u> IFR_t			
<u>Independent</u>			
IFR_{t-2}	-5.294386	-2.66598	.19856
$FGDP_t$	1.2900977	1.99197	.64767
$FGDP_{t-1}$	-1.3658473	-1.66614	.81977
$FGDP_{t-2}$	1.8875242	2.20275	.85690
$FGDP_{t-3}$.3760051	.41261	.91128
$FGDP_{t-4}$	-.2268065	-1.49506	.82057
constant	18.5572685	4.54985	4.07866

$$R^2(\text{adj.}) = 74, F(6,14) = 6.44 [.0020]$$

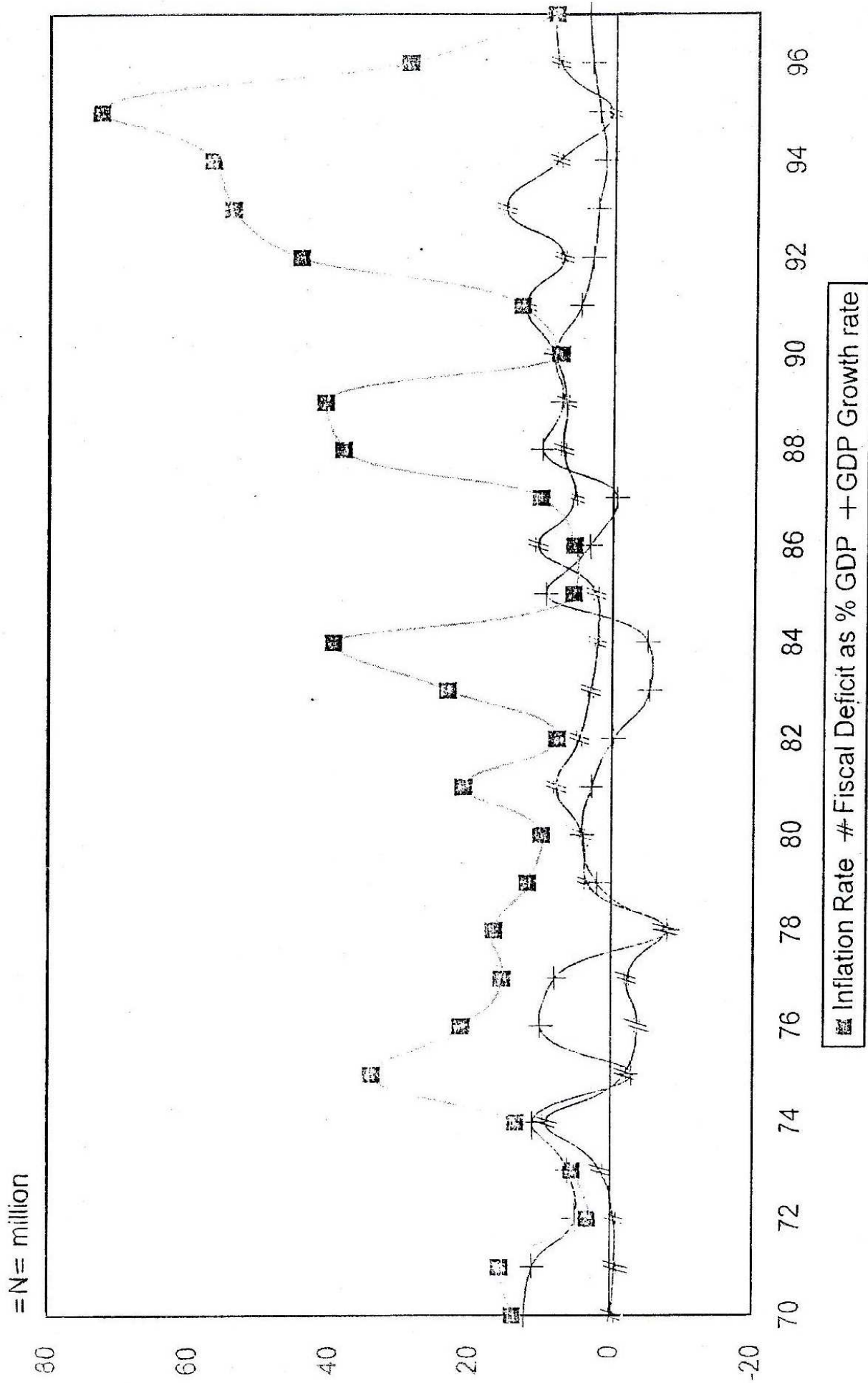
From the equation specified and estimated above, it was observed that all the independent variables in the model with the exception of inflation rate in last two preceding years and fiscal Deficit/Gross Domestic Product ratio with the first and fourth period lags have the expected sign. Regarding statistical significance, only the second year lagged value of inflation rate and second year lagged value of fiscal Deficit/Gross Domestic Product ratio were statistically significant at the 5 per cent level. However, the current fiscal deficit/GDP ratio was at the border line of statistical significance. The adjusted R^2 of 74.0 per cent, was significantly high. Thus, even though inflation is not only caused by fiscal deficit, but a significantly high variation in inflation could be explained by the corresponding linear influence of fiscal deficit, at least in Nigeria. The F-Statistic which measures the overall regression was also significant.

V. SUMMARY AND CONCLUSION

In this study, attempt was made to ascertain the impact of fiscal deficits on inflation as well as the impact of inflation on fiscal deficits. In essence the study sought to answer the question: Do fiscal deficits cause inflation or is it inflation that causes fiscal deficits? Using Granger-causality test, the study confirmed that fiscal deficit as well as fiscal deficit/Gross Domestic Product (which proxied absorptive capacity of the economy) causes inflation. However, the empirical results did not confirm a feedback effect between inflation and fiscal deficit in absolute terms.

Furthermore, the study also specified and estimated a parsimonious dynamic structural model for inflation in Nigeria. It was shown that fiscal deficit/GDP ratio takes at least two years to impact on inflation. The relationship between inflation rate in the current year and its two years lagged value was established. This indeed is revealing. It therefore means that policies targeted at inflationary control could be best achieved if it is aimed at fiscal deficits reduction. Consequently, it could be concluded that, in Nigeria, what should be of paramount concern to policy makers as regards inflation should not so much be the level of fiscal deficits but the sources of its financing as well as the absorptive capacity of the economy. On the whole, policies to control inflation should have in-built ability to increase the productive capacity of the economy.

Figure 1: FISCAL DEFICIT, INFLATION AND GDP GROWTH RATE 1970 - 1998



REFERENCES

- Adeyeye, E. A. and T. O. Fakiyesi (1980): "Productivity Prices and incomes Board and Anti Inflationary Policy in Nigeria", in *the Nigerian Economy Under the Military* Proceedings of the 1980 Annual Conference of Nigeria Economic Society. Ibadan.
- "Aghevei, B. and M. S. Khan (1977): Inflationary Finance and the Dynamics of Inflation: Indonesi, 1951 - 1972" *American Economic Review*, vol. 67, (June).
- Aghevei, B. and M. S. Khan (1978): "Government Deficits and Inflationary Process in Developing Countries" *IMF Staff Papers*, vol. 25 (September).
- Akinnifesi, E.O. (1984): "Inflation in Nigeria: Causes,. Consequences and Control" *The BULLION*. vol. 1 (July).
- Ariyo, A. and M. I. Raheem (1991): "Effect of Fiscal Deficit on some Macroeconomic Aggregates in Nigeria" *Report of a Research Study Sponsored by AERC*, Nairobi.
- Asogu, J.O. (1991): "An Econometric Analysis of the Nature and Causes of Inflation in Nigeria" *Economic and Financial Review* vol. 29 No. 3
- Blejer, M. S. and M. S. Ican (1984): "Government Policy and Private Investment in Developing Countries" *IMF Staff Papers*. No. 31 No. 2
- Dornbusch, R. and S. Fisher (1991): "Moderate Inflation" *Working Papers (Wps)*, No. 807, Washington D.C: the World Bank, office of the vice President, Development Economics.
- Easterly, W and K. Schmidt-Hebbel. (1993): "Fiscal Deficits and Macroeconomic Performance in Developing Countries", *World Bank Research Observer*, vol. 8 No. 2
- Egwaikhide, F. O. et al (1992): "*Exchange Rate Depreciation, Budget Deficit and Inflation: The Nigerian Experience*" The AERC, Nairobi.
- Fisher, S. and W. Easterly. (1990): "The Economics of Government Budget Constraint." *World Bank Research Observer* Vol. 5 No. 2

- Frenkel, J. A. and A. Razin (1988): "Budget Deficits under Alternative Tax Systems" *IMF Staff Papers*, vol. 35 (June)
- Friedman, M. (1956): *Studies in Quantity Theory of Money*, Chicago.
-(1971): "The Role of Monetary Policy" *Journal of Political Economy*, Chicago.
- Granger, C. W. J. (1969): "Investigating Causal Relationship by Econometric models and Gross-spectral Methods" *Econometrics*, vol. 37, No 3.
-(1986): "Developments in the Study of Co-integrated Economic Variable" *Oxford Bulletin of Economics and Statistics*, vol. 48 No. 2
-(1988): "Some Recent concept in the Theory of Causality" *Journal of Econometrics*. vol. 39, No. 3
- Heller, P.S. (1980): "Impact of Inflation of Fiscal Policy in Developing Countries" *IMF Staff Papers* vol. 39, No. 3
- Henry, D. F (1986): "Econometric Modeling with Cointegrated Variables: An overview" *Oxford Bulletin of Economics and Statistics*, vol. 48. No. 3
- Humphery, T. M. (1986). "Essays on Inflation" *Federal Reserve Bank of Richmond*, Richmond, Virginia.
- Islam, R. and D. Wetzel. (1991): "The Macroeconomics of Public Sector Deficits: The Case of Ghana", *Working Papers (Wps)* No. 672, Washington D.C. The World Bank, Policy Research and External Affairs Department.
- Jacobs, R. L (1977): "Hyper Inflation and the Supply of Money" *Journal of Money, Credit and Banking* vol. 9. No. 1
- Kirkpatrick, C and F. Nixon (1976): "The origin of Inflation in Less Developed Countries: A selected Review" in M. Parking and G. Zia (EDS) *Inflation in Open Economies*.

- Kilindo, A. A. (1993): "Fiscal Operations, Money Supply and Inflation in Tanzania" *Final Report submitted to AERC, Nairobi.*
- Miller, J. P. (1983): "Higher Deficit Policy Leads to Higher Inflation" *Federal Reserve Bank of Minneapolis - Quarterly Review*, Winter.
- Osakwe, J.O. (1983): "Government Expenditures, Money Supply and Prices, 1970 - 1980" *CBN Economic and Financial Review*. Vol. 21 No. 2
- Oyejide, T. A. (1972): "Deficit Financing, Inflation and Capital Formation: The Analysis of the Nigerian Economy, 1957-1970" *NJESS* Vol. 14.
- Sargent, T. J. and N. Wallace. 1985: "Some Unpleasant Monetarist Arithmetic", *Federal Reserve Bank of Minneapolis - Quarterly Review*.
- Tanzi, V (1927): "Inflation and Lags in Collection and the Real Value of Tax Reserve" *IMF Staff Papers*. Vol. 24.
- Theil, H (1958): *Economic Forecast and Policy*, Amsterdam. North Holland.
- Thorp, R (1971): 'Inflation and the Financing of Economic Development in Latin America' in K. Griffin (eds) *Inflation and Economic Development* Suffolk.
- Thirwall, A. P. (1974): *Inflation, Saving and Growth in Developing Economics*. London: Macmillan.
- Zellner, A (1979): "Causality and Econometrics" in K. Brunner and Meltzer (eds) *Carnegie-Rochester Series on Public Policy*. vol. 10. North Holland.