OUTPUT FLUCTUATIONS AND MACROECONOMIC POLICY IN NIGERIA
TRENDS ANALYSIS AND POLICY IMPLICATION FOR ATTAINMENT OF NEEDS AND MDGS IN NIGERIA

Saibu M.O [a]
[a] Department of Economics, Obafemi Awolowo University,
Ile-Ife, 234 220005, Southwest Nigeria.
[a] Corresponding author: omosaibu@oauife.edu.ng, omosaibu@yahoo.com

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Abstract: This paper examines the trends and patterns of fluctuations in real output growth in Nigeria. The paper used simple statistical tools to analyse the links among the macroeconomic variables. The analysis shows that real output experienced its full business cycle and growth rate of 1970s remained unsurpassed despite the array of policy reforms and palliatives introduced after the recession in the 1980s. However; there is strong evidence that the power of both monetary and fiscal policy to track output growth and fluctuation is reduced at a higher degree of economic openness. The paper concludes that the cause of real output fluctuation may be externally induced and macroeconomic policy plays little role in real output fluctuation in Nigeria. Thus to achieve the national economic empowerment and development strategy (NEEDS) and MDGs, it is imperative for Nigerian government to redirect attention from public oriented to private sector driven approach of economic management

Keywords: Macroeconomic Policy, Output Fluctuations, Trade Openness

I . INTRODUCTION

Fluctuations in economic activity continue to raise questions. One set of questions relates to the historical patterns of fluctuations and changes in the magnitude and durations of fluctuations over time. A second set of questions relates to the sources of fluctuations and changes in those sources as a result of changes in the structures of economic activities. A third set of questions involves the roles played by policy, either as a force contributing to the changing characteristics of fluctuations, or as a cause of fluctuations.

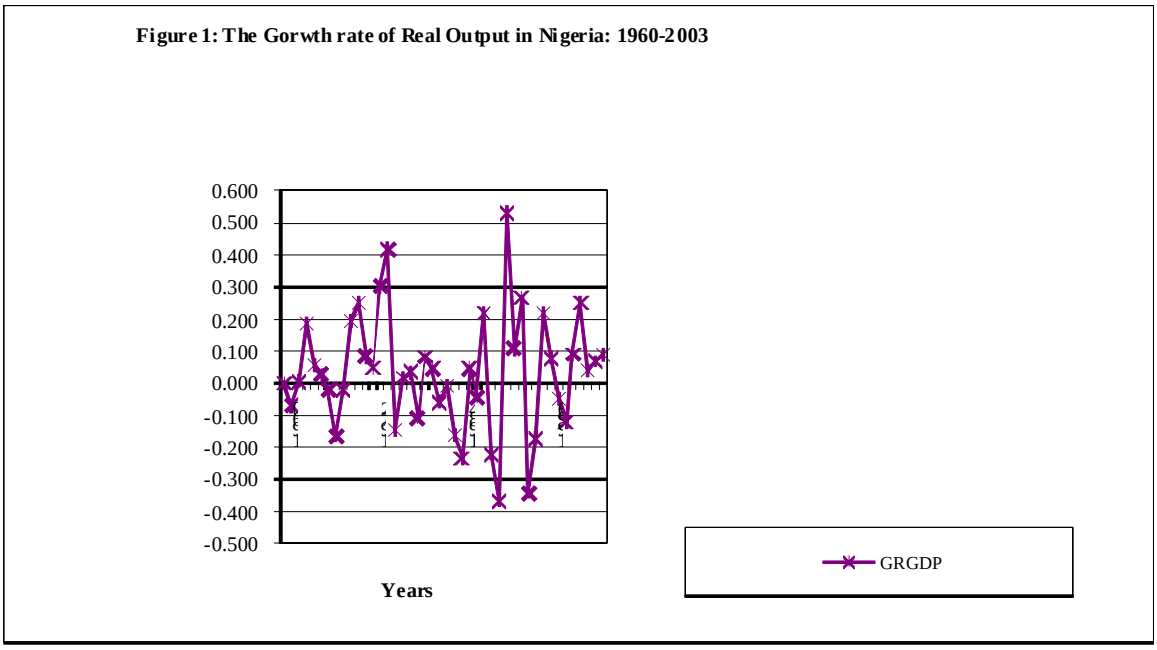
There is little consensus on factors explaining the historical patterns of fluctuations in economic activity in recent times and whether or not macroeconomic policy has any significant contribution to the patterns. While there is a wide range of studies on this controversy in the developed countries especially in the US and Canada, little or no attention is paid to the issue in the developing countries like Nigeria[1]. The unsatisfactory performance of the Nigerian economy over the years and the continuous reliance on monetary and fiscal policies as tools of economic stabilization and growth creates further concern about this issue. The experience of the Nigerian economy over the past forty years, from the first quarter of 1960 to the last quarter of 2003, thus provides a set of observations which could be considered in terms of these questions about the sources and magnitude of fluctuations and the role of macroeconomic policy.

This paper therefore examines the casual relationship between fluctuation in real outputs and changes in fiscal and monetary policies in Nigeria from 1960 to 2003. The main question addressed in this paper is: to what extent did changes in the volatility of output growth reflect changes in output structure and/or macroeconomic policy changes?

The paper is divided into five sections. Apart from this introductory part Section 2 examines the growth and fluctuation in GDP. The observed patterns of variations are then examined in several ways. In section three, the variation in Nigerian output growth is examined to identify any obvious changes in its growth rate and volatility over the forty-four-year period. While in section four, a disaggregate expenditure variation is used to evaluate

[1] Chritiana Romer's (1991 1999) Basu and taylor (1999) Watson 1994, Zarnowitz (1999),Taylor (1998), McConnell and Perez-Quiros (2000) and Cutis (2001) are some of these studies

Figure 1: The Gorwth rate of Real Output in Nigeria: 1960-2003



possible sources of observed changes in the volatility of output growth. In the fifth section, the relationship between macroeconomic policy changes and variance in output growth rates is examined. Section six provides the concluding remarks

II. Real Output Growth and Fluctuations in Nigeria, 1960-2003

The starting point is Figure1, which plot the annual growth rates in real GDP over the period 1960 to 2003. The graph shows that real output growth rate in Nigeria has been unsteady, highly unpredictable and volatile across the four decades. The first decade, 1960s was a period characterized by low but unstable real growth rate. The economy experienced negative growth towards the end of the decade between 1966 and 1968. This period coincided with the civil war era when attention was directed towards winning the civil war than to promoting economic growth. The war disrupted the production base of the economy. The second decade was a period of economic boom. It was the period of third (1975-1980) and fourth national plans (1981-1985) when attention was focused on intense reconstruction and rehabilitation efforts. With the increased revenue from oil sector, the economy witnessed increased growth, the negative growth experienced in the latter part of 1960s was reversed, and a record high of 5% and 11.2 % real growth rates were experienced in 1973 and 1974. Except in 1975 and 1978 with (-5.2% and -5.8%respectively) the real economic growth rate was positive and relatively high.

Note: GRGDP represent growth rate of Real Gross Domestic Output calculated as the log difference of the real GDP. Data for the computation is derived from IMF (2003) yearbook

The growth rate in the third decade (i.e the 1980s) showed a downward trend. Between 1980 and 1985 the economy experienced negative growth while there was a marginal recovery from 1985.The reasons for the low economic activities were well documented in Iwayemi (1995). One of such reasons is the drastic reduction in oil revenue, which is the main propellant of economic activities. Another reason identified is the global economic recession experienced during the period. The economic crisis of the period led to series of economic policy reforms of which the climax was the introduction of Structural Adjustment Programme (SAP) in 1986. for instance in 1982, the government introduced austerity measures and in 1984 there was the stabilization measured aimed at taming the economic recession. As part of this policy, wage and price control was introduced, government spending was curtailed and social reorientation from conspicuous consumption of imported consumer goods was initiated which crowded out importation of needed raw materials for industrial production. As obvious from the growth trends, the performance this policy is less satisfactory and hence

The fourth decade, 1990 to 1999 and the first four years in the 21st century, 2000 to 2003 witnessed economic recovery but an unstable growth pattern. There were both up and down turns in the real growth pattern. The period experienced more upward trend than down turn. Except for 1993 (-34.3%) 1994 (-17.2%), 1996 (-4.8%), and 1998 (-12.1%), all other years experienced upward trends; the highest values

of 26.6 and 25.0 were recorded in 1992 and 2000. The years, 1993 and 1994 were periods of political crisis occasioned by the dismantling of all democratic structure including presidential election, which was protested by the civil societies in form of industrial stoppages and production disruptions. Though, far-reaching policy reorientations were introduced during this decade, the lack of political will and general resentment by the people might have affected the implementation of some of these policies. The coming onboard of democratic governance in 1999 and increased determination of the new government to reverse the economic instability might explain the stable but low growth pattern in the 2000s.

Using this ten-year period as a basis for numerical analysis, the growth rate data for Figure 1 were also presented in Table 1. The standard deviation of this growth rate was used as a measure of volatility and the persistence of fluctuations were measured as the autocorrelation of the growth rate on its first lag, following Basu and Taylor (1999). These descriptive statistics provide clear confirmation of the pattern noted from the graph in Figure 1.

The real output growth was significantly high and more stable in the second decade (1970-1979) than the other periods except in the 60s which experienced the least volatility but relatively low average growth rate. In contrast to 1970s, the real output in 1980s was not only on the average negative but was also very unstable and volatile. Furthermore, fluctuations in growth rates, or departures from the mean, were more persistent in the 1960s than the other periods. It is also of particular note that there was no evidence of greater stability in the economy in the later period, 1990-2003, even though it was sometimes argued that policy objectives have been clarified and implemented to ensure stability in the period, and that the structure of the economy was evolving towards a larger and more diversified non-agrarian economy. Indeed, the observations suggest just the opposite, that the economy has been more volatile in the last 15 years than it was during the 1960-1989 period. This observation was also confirmed by the pre-SAP and post-SAP trend analyses. The volatility and persistence patterns in the pre-SAP (1960 to 1985) and post-SAP (1986 to 2003) periods differed significantly from each other as shown in last two columns of Table 1. While the overall volatility rate in the entire 25 years of pre-SAP era was 15.2%, the volatility rate in eighteen years post SAP was 7.3% higher (i.e. 22.5%) than the pre-SAP. However, the post-SAP era recorded higher growth rates on the average than the pre-SAP era as shown in Table 1

III. A DISAGGREGATE ANALYSIS OF OUTPUT FLUCTUATIONS IN NIGERIA

Table 2 below presents some additional measures of growth and fluctuations based on a broader set of indicators that are likely to correlate with fluctuation in real output growth. The output is disaggregated into its main components namely; agricultural, industrial and service sectors. The industrial component is further redefined as manufacturing by excluding the oil and mining extractive production from industrial component. This is done to see if changes in the structure could explain changes in the volatility of growth rates. The analysis extends the measurement of growth rates and volatility to include components of aggregate expenditure and inflation rate.

An examination of the growth process on these terms confirmed the earlier observations on the growth and stability of the Nigerian economy. In term of expenditure: investment; export; and import were the three main sources of growth and variation in growth rate, (Ekpo 1995, and Odusola and Akinlo 2003). Average growth rate in these expenditure exceeded average growth rate in the real GDP by substantial margin and are two to three times the value of aggregate real GDP in all the periods except in the 1960s. The volatility and persistence in these expenditure measures of real growth are also significantly higher than the real GDP values.

The difference between the subgroups 1960-1985 and 1986-2003 observed on the basis of GDP growth and volatility is confirmed by the observation on the expenditure components. It is noteworthy, however that the higher growth rate (3.6 %) and lower persistence (-14.7%) in the latter period manifested in external components of the aggregate expenditure than in the domestic investment. Among the external components, import increased more substantially than export. The period average growth rate in import expenditure increased from 11.2% to 29.2% while the volatility, as measured by the standard deviation, increased from 24.4% to 35.2%. By contrast, export growth, which was 3-point percent (14.3%) higher than the import growth rate (11.2%) in the 1960-1985 periods was one point lower than import in the 1986-2003 period. It appeared that the rise in real output growth rate and particularly the increase in their volatility reflected the change in the growth and volatility of import expenditure. This observation on the role played by import is consistent with those of other studies. Olomola (1998, 2001) for example, found high volatility of oil prices in the international market, which are transmitted into the Nigerian economy through increased oil importation, as one of the main long run determinants of real economic growth in Nigeria.

Looking at the growth and volatility from the output side rather than the expenditure side, Table 3 revealed a much different pattern from what is

observed in the expenditure perspective. In terms of real sectors, only the agricultural sector experience higher and more persistent but more volatile growth rate in the sub periods defined above. The industrial, (manufacturing inclusive) sector has lower growth rates in the 1986-2003 period than the preceding period, 1960-1985. However, despite the fall in the growth rate of industrial production, the sector still has the highest growth rate in the later period. Excluding the oil and mining sector production from the industrial contribution to have the manufacturing component, shows that industrial output is dominated by the oil and mining sector. The manufacturing production growth rate fall from 6.6% in the 1960-1985-sub period to a low value of 0.5% in the 1986-2003; these sector growth rate differentials reveals the general concern about the effects of policy reforms introduced since 1986. The general expectation from such reform is that the economy would be diversified and become more vibrant and self propelled. The domination of mining and oil sector, which is mainly extractive with little linkage to the domestic economy (Ajakaiye 2001), shows that the industrial sector has not structurally changed as expected.

Similarly, a further indication of the structural rigidity of the Nigerian economy is increasing proportion of agricultural contribution. When an economy is becoming diversified, the proportion of post-primary (i.e. manufacturing and service) sector is expected to increase at a higher proportion than the primary (agricultural and extractive industry) sector. The reverse is the case in the Nigerian economy, as observed in the table 4 above.

Table 2: Overall Disaggregate Measures of Economic Growth and Volatility in Nigeria; 1960-2003

Measures	Period Mean	Volatility (Std Dev)	Persistence
Aggregate GDP	3.4	0.185	0.018
Agriculture (AGRIC)	1.8	0.191	-0.183
Industrial (IND)	7.3	0.27	0.052
Manufacturing (MAN)	4	0.235	-0.009
Service (SERV)	3.3	0.191	0.078
Investment	17.2	0.253	0.344
Export	20.2	0.397	-0.078
Import	18.7	0.352	-0.045
Inflation	18	18.45	0.6

Table 3: Disaggregate Measures of Output Growth and Volatility in Nigeria: 1960-2003

Period	Measures	Period Mean	Volatility	Persistence
1960-1985	GDP	3.2	0.152	0.283
	Agric	1.1	0.136	-0.01
	Industrial	8.6	0.277	0.166
	Manufacturing	6.6	0.196	0.123
	Service	3.9	0.158	0.274
1986- 2003	GDP	3.6	0.228	-0.147
	Agric	2.8	0.253	-0.256
	Industrial	5.4	0.267	-0.122
	Manufacturing	0.5	0.28	-0.125
	Service	2.4	0.234	0.053
1960- 2003	GDP	3.4	0.185	0.018
	Agric	1.8	0.191	-0.183
	Industrial	7.3	0.27	0.052
	Manufacturing	4	0.235	-0.009
	Service	3.3	0.191	0.078

Table 4 : Further Measures of Economic Growth and Volatility in Nigeria: 1960-2003

1960-1985	Investment	12	0.263	0.434
	Export	14.3	0.293	0.084
	Import	11.2	0.244	0.476
	inflation	11.3	11.024	0.412
1986-2003	Investment	24.5	0.226	0.051
	Export	28.4	0.507	-0.214
	Import	29.2	0.451	-0.395
	inflation	27.5	22.533	0.509
1960-2003	Investment	17.2	0.253	0.344
	Export	20.2	0.397	-0.078
	Import	18.7	0.352	-0.045
	Inflation	18	18.45	0.6

Sources Author's calculation based on data from IMF Yearbooks (1990, 2003)

Discussing this in relation to the pattern observed in the case of expenditure analysis where real output growth is much reflected in the import and exports growth patterns than in the domestic investment expenditure provides insight into the trade and growth nexus. It appears that the dominance of the external sector is pervasive and remains a dominant factor in real output determination despite attempts to reverse the trend since 1986.

Despite the fact that the growth rate and stability of the real sector appear to have deteriorated over the time period being considered, there is one dimension of the economy that has improved. As the data in the Table 3 illustrate, the service sector growth rate has increased over time, thus indicating an element of diversification towards the service sector. However, this observation should be interpreted cautiously as an indicator of good portent for economic diversification. The increased service output contribution might be due to the increased trade liberalization that allowed trading activities to become predominant business at the expense of real manufacturing production, which could give more impetus to greater real growth than the trading-oriented based service economy that served the foreign economy at the expense of domestic economy. Ajakaiye (2001) had also observed the changing pattern of agricultural and service sector contributions to real GDP. He argues that the agricultural sector remains not only dominant but its contribution has increased in the 1990s, and that the diversification index of the Nigerian economy rose from 1.3% in 1990 to 1.4% by 1999, (Ajakaiye 2001, pp.15). The liberalization of telecom industry is another recent factor that may re-shape the structure of the industrial sector and tilt it towards the service. The sector has become the fastest growing industry, accounting for a high proportion of new employment generated in the 2000s.

Consistent with conventional wisdom, one important observation from the pattern of disaggregate output growth rates is that the agricultural output sector is much more volatile than service sector output in both sub periods, and thus the growth rate in the services sector does have the potentials to contribute to economic stability. However, this potential is not realized as the volatility of service sector output increased significantly in the 1986-2003 sub period and deviations of service sector growth from the average became more persistent, thereby adding to, and also explaining the greater volatility observed in the real output growth in this later period. Within the industrial sector, the growth of manufacturing sector output is strong relative to the entire industrial sector but it is also more volatile. This volatility increases in the 1986-2003 period as the average rate of growth of manufacturing output decreases. Furthermore, the observation implies that the differences in growth between the periods to a larger extent result from the increase in service and agricultural sector outputs. However, the increased volatility in growth rates in the latter period appears to result from increase in the output growth in the manufacturing and agricultural sector output fluctuations.

The levels and volatility of inflation rates over the 1960-2003 periods matched the patterns of growth and fluctuations observed in terms of expenditure but not in term of real outputs. Across the entire period, the rise in the average inflation rate coincided with the fall in the real disaggregated output components. Breaking the period into the two (1960-1985 and 1986-2003) sub periods; the Pre-SAP and Post SAP , shows that the increase in the inflation rate is primarily a feature of Post SAP (1986-2003) period and indeed the instability in the inflation rate is much higher in that period than in the earlier period.

Thus, by all measures presented the growth and fluctuations in real output changed markedly in the 1980s. As the growth rate declines, the stability of the growth rate worsens and the magnitude and persistence of deviation of growth from the mean increases. Inflation rate is also observed to be high, volatile and persistently deviating from the mean values throughout the period most especially after 1986 when there is a shift in policy thrust. These are not positive developments if, as is usually the case, stable growth in real output is seen as pre condition for welfare maximizing. These observations are a part of the ongoing debate about the sources of economic fluctuations and the roles of monetary and fiscal policies as causes of fluctuations or contributors to its stability. One way to approach the issue is to consider the growth and fluctuation patterns of real outputs and the various policy measures during different policy regimes. The question raised is whether changes in policy regimes caused the changes in the patterns of real output growth and fluctuations observed in the different time periods. These are issues discussed in the next sections.

IV. MACROECONOMIC POLICY REGIMES IN NIGERIA, 1960-2003

4.1:Monetary policy Regimes (1960-2003)

Monetary policy regime refers, broadly to how central banks carry out monetary policy actions (Mishkin, 2001). A central feature of the different forms of monetary policy regimes is the choice of the nominal anchor, (Oyejide, 2002). There are basically three types of policy regimes, namely: monetary targeting; exchange rate targeting and inflation targeting. Thus, each of the three basic types of

monetary policy regimes uses a different nominal anchor.

Monetary targeting involves the use of information conveyed by monetary aggregate(s) to conduct monetary policy. Monetary targeting occurs in at least two forms. First is the rigid Friedman-type in which the chosen monetary aggregate is kept on a constant growth–rate path as the focus of monetary policy. Second is the flexible variety, which may involve a set of monetary aggregates, each of which is allowed to grow at different rates. In the same way, exchange rate targeting comes in two forms: the soft peg and the hard peg. In the case of soft peg, pegging is not institutionalized, whereas it is in the hard peg. Under the hard peg form of exchange rate targeting, rigid commitment may be derived from a currency board type of institutional arrangement, which ties one currency to another. In the extreme case of hard pegs, the pegging country gives up the power of independent monetary policy.

This may be desirable in a country whose monetary and political institutions are so weak that it can achieve macroeconomic stabilization only by giving its monetary authorities little or no policy discretion. Finally, inflation targeting is a more recent monetary policy approach, which is closely associated with the movement towards institutional commitment to price stability as the goal of monetary policy.

With respect to Nigerian experience, Nnanna (2002) discussed the historical evolution of Nigerian monetary policy in terms of three-time periods and the corresponding policy issues or regimes. These periods fall neatly within the 1960-2003 period in which the real output fluctuation with respect to policy changes is being considered in this study' namely: 1960-1973, 1974- 1992, 1993- till date. Each period involved a particular policy environment along with a set of policy objectives[2]. Ojo (2000) also divided the policy regimes in Nigeria into two eras: the era of regulation 1960-1985 and the era of deregulation 1986-till date. The analysis in this section accounted for both classifications.

The first period 1960-1973, was a period of exchange rate targeting regime during which exchange rate was the nominal anchor of monetary policy. During this period the Nigerian currency was fixed to British pound sterling and US Dollar. This meant, a little independence for monetary policy but enhanced power for fiscal policy. The political and monetary institutions were very weak, young and underdeveloped. This was convenient, as fixing the exchange rate provide a more effective mechanism for the maintenance of balance of payment viability and inflation control in the Nigerian economy. From the onset, in 1959 the Nigeria currency was fixed at par (hard peg) with the British pound sterling until 1967 when the British pound was devalued and the Nigerian currency was pegged to the US Dollar. However following the international financial crisis of the early 1970s, which led to the devaluation of the Dollar, Nigeria abandoned the dollar peg and again kept faith with pound until 1973.

With these developments the severe drawbacks in (hard) pegging the Nigerian currency to a single currency became obvious, Nigeria then introduced its own currency, Naira and Kobo, which was pegged to a basket of 12 currencies of her major trading partners (a form of soft pegging). The increased revenue from crude oil in the mid 1970s resulted in naira appreciation against the currencies of the Nigerian major partners upon which naira was pegged. Therefore, using an exchange rate pegged against such currencies whose value has depreciated relatively to the Naira as a policy nominal anchor might jeopardize the monetary policy objectives. Hence, exchange rate targeting was abandoned in 1974 for monetary targeting. The subsequent period (1974-2003) was assigned to monetary targeting regime. During this period, the major focus was controlling monetary aggregates on the assumption that a stable and predictable relationship exists between these variables and monetary policy targets. The period 1974- 2003 could also be divided into two, based on the policy control approach adopted by the central bank, namely: direct and indirect monetary approaches.

The period 1974 to 1992 was a period of direct monetary policy control. The main aim of monetary policy during this period was to promote rapid and sustainable real output growth. Consequently, the monetary authorities imposed a quantitative interest rates and credit ceilings on the deposit money banks, and enforced sectoral credit allocation to various sectors of the economy. Overall, the preferred sectors: agriculture; manufacturing and construction were singled out for 'most favoured' treatment, in terms of credit allocation and below the market-lending rate.

The most important instrument of monetary policy control was the setting of targets on the aggregate credit to the domestic economy and the prescribing of low interest rates. With these instruments, the monetary authority attempted to direct the flow of loanable funds with a view to promoting rapid development through the provision of finance to the 'growth' sectors of the economy. The proactive stance of the monetary policy was justified,

[2] Sanusi (2002) identified only two sub-periods (1960-1973 and 1974-2001) based on particular policy concerns or actions

especially as the country's financial markets were under developed. The credit ceiling on the individual banks to the 'preferred' sectors of the economy, which was fixed at 30-40% of the banks' aggregate loans and advances in the early 80s, was later reduced to 7% in 1985, while the number of sectors was reduced from about 18 in the early 1970s to 4 in 1986 (Nnanna, 2002). The monetary authority administratively determined the level and structure of interest rates. Both deposit and lending rates were fixed in order to attain by fiat, the social optimum in resource allocation. These rates were typically below the central bank's minimum rediscount rates (MRR), and were not determined by market forces.

The emergence of severe economic difficulties towards the mid 1980s forced Nigeria to adopt economic reforms in 1986, as a policy option to put the economy back on the path of sustainable growth. The programme entailed, among others, reforming and dismantling the control regime which was characterized by a system of fixed credit allocation, a subsidized and regulated interest rate regime, exchange rate control and import licensing. Essentially, the economic reform ushered in a regime of financial and trade liberalization that require new and more effective monetary policy control measures. The search for a new approach extended over the 1986-1992 period.

The third period 1993 –till date, represents a shift in monetary policy approach from direct to indirect approach. Beginning from September 1993, the CBN embarked on the removal of all credit ceilings for banks in addition to other financial and trade deregulations introduced since 1986. The operational framework for the indirect monetary policy management involved the use of market (indirect) instruments, namely, the open market operations (OMO), to regulate growth in major monetary aggregates. Under this framework, only the operating variable, viz. the monetary base, or its components is managed while the market is left to determine the interest rates, exchange rate and credit allocations. The monetary development during each phase of monetary policy regimes have been challenging and therefore needs to be appraised to identify the pattern of correlation between real output growth fluctuation and changes in monetary policy regimes. The correlation serves as signal to probable nexus between monetary policy and real output fluctuations in Nigeria. This would be taken up in the next section.

4.1.2 Monetary Policy Regimes and Real output Fluctuations

The Central Bank of Nigeria (CBN) currently conducts its policy by setting targets for the nominal money supply[3] established within a framework of 'gradualism' to minimize the negative effects of possible resistance to inflation tendencies might have on real output growth[4].

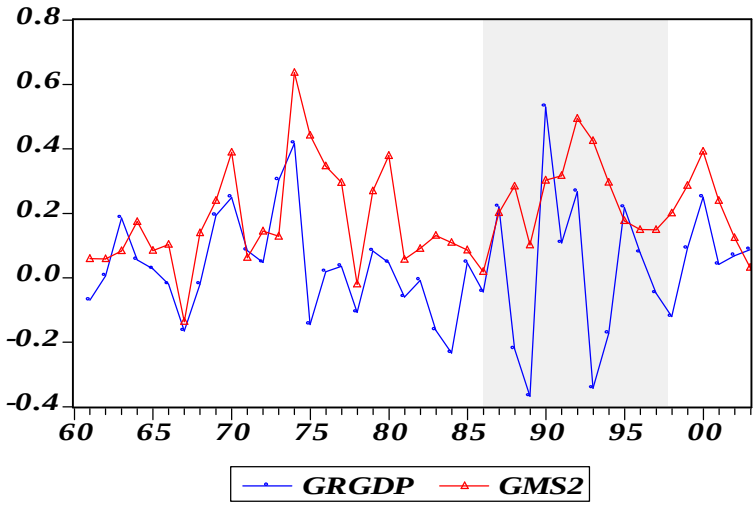
Figure 5 illustrated the trend of monetary policy indicator (growth rate of real money supply [M_2). The similarity in the patterns of both real monetary policy changes and output growth rate is obvious. The trends in money supply and real output moved in the same direction and fluctuated together for most parts of the sample periods. However, there are some elements of lead and lag in the trends depicted in Figure 5. The monetary expansion or contraction followed the expansion or contraction in the real output most of the time. This is more apparent in the 1960s and 1990s, when monetary policy was more stable and clarified. This suggests that monetary policy responds with lag to changes in the real economic activities. This is indeed in line with general economic wisdoms that monetary policy responds with a lag not less than six months in the Nigerian economy. (Olaloye and Ikhide, 1995)

Furthermore, there are substantial differences in the trends of monetary policy indicators across the policy regimes identified above. For instance, in 1974, 1986, and 1993 when policy regime changed there were changes in the trend of real output growth around these periods. Based on the regime classification, it could be observed that both real output and money supply grew steadily in tandem from 1960 through 1972, got to their peaks in 1973, and fell drastically altogether in 1974. The patterns of money supply deviated substantially from real output growth between 1975 and 1981. This period coincided with the period of oil boom era and the attendant high inflation rate during the period. During this period, especially in the 1970s, the conduct of monetary policy was much under severe pressure from

[3] Before 1986, the Central Banks sets targets for narrow money supply

[4] However, it is the real money balances defined as the nominal money supply adjusted for inflation, that influences real growth. Although the Central Bank does not control the real money balance growth rate directly, it includes information on current and expected inflation rates in its decisions about the nominal rate. Whether or not it does, it is the real money balance that provides an indicator of the possible effect of policy on economic activity. The real money supply growth rate in Figure 5 has been calculated by deflating the money supply by the composite consumer price index.

Figure 2: Growth Rates of Real Money Supply and Real Output in Nigeria, 1960- 2003



government sterilization of increased oil revenue during the period. Consequently inflationary pressure intensified while output growth slowed down in the late 1970s. The change in the policy regime at this period could not therefore be attributed to the changing condition of the British pound and US Dollar but due to the domestic need to design appropriate monetary policy that could effectively curtail the rising rate of inflation and at the same time promote economic growth in the country. Perhaps, it could be said that monetary policy was restrictive in the later part 1970s and this restrictive policy at a time the economy needed to be stimulated might have caused the downward trend observed in real output growth in the later years of 1970s.

As the oil boom of the 1970s came to an abrupt end, the government revenue fell drastically and the economic condition generally became worsened. The monetary policy stance of direct control remained unchanged but was further tightened. The real money supply grew at a decreasing rate and was negative from 1980 to 1984. Coupled with other austerity measures taken by government, the fall in real money balance further deepened the economic crisis and real output growth also became negative from 1981 through 1984.

The introduction of structural adjustment programme in 1986 led to a review in some monetary policy related economic fundamentals. The banking sector was deregulated, exchange rate determination became more flexible and the hitherto repressed trade sector was also liberalized. This led the monetary authority to broaden its policy indicator. Instead of setting targets for narrow money supply, (M1), broad money supply (M2) became the principal policy target. However, despite the reforms in financial sector, monetary policy further deteriorated, inflationary pressure, which built up in the second part of 1970s intensified, and resulted in a deeper fall in the real money balance. The cumulative effect was that real growth remained depressed. The change in 1993 from the use of direct policy control to indirect control was to *still the storm* generated by the direct control and to improve the operational efficiency of the Central Bank. Except in 1993 and 1994 when there was a serious socio-political crisis, which resulted in disruption of productive activities and creating excessive inflation pressure, other years in the 1990s experienced improved monetary policy control. The real balance was expansionary and, coupled with other growth determinants, led to a higher real output growth.

In terms of volatility and the average growth rate of money supply in each policy regime, Table.5 and Figure 5 show that monetary policy was more stable in pre sap era, both during the exchange rate targeting and direct policy control regime. The post sap and indirect control era witnessed lower but volatile real monetary growth. Relating this to the observed trend in the real output fluctuation, it could be concluded that both output and real monetary policy changes have some tendency to correlate especially before the Structural reforms of 1986 . However, the trends in the money supply and real output tended to deviate between 1986 and 2003 as shown in Table 5. In general, both real output and money supply experienced stable growth in the first two policy regimes but volatile and relatively low real growth in later policy regime.

Table 5: Growth and Volatility of Money Supply During Different Policy Regimes

Policy regime/Periods		Mean(%)	Volatility	Persistence
Full Sample:	1960-2003	4.1	0.185	0.246
Exchange rate Targeting:	1960-1973	6.8	0.102	-0.114
Direct monetary Control Era	1974-1992	5.0	0.204	0.102
Indirect Monetary Control era:	1993-2003	0.7	0.185	0.622
Pre Reform Era:	1960-1985	6.7	0.163	0.058
Reform and Post Reform Era:	1986-2003	0.5	0.184	0.407

Sources: computed by author using the data complied from International financial statistics yearbook 1990 and 2004 editions

4.2.1 Fiscal Policy Regimes in Nigeria, 1960-2003

Defining and identifying fiscal policy regimes is more complex than identifying monetary policy regimes. It does not have the benefit of a detailed summary to provide guidance comparable to that offered by the Central Bank of Nigeria, (Ojo 2000 and Nnanna, 2002) with respect to monetary policy. However, Egwaikhide (2003) attempted an appraisal of fiscal policy trends during different political regimes in Nigeria. The review laid more emphasis on the political regimes than the shift in fiscal policy thrust itself, though the analysis in this section benefits substantially from the paper, no emphasis is placed on the government in power in this review. An examination of federal government budget data illustrated in the Figure 7 suggested three broad fiscal policy regimes within the 1960-2003-time period, namely; deliberate fiscal expansion regime (1960-1981); fiscal stabilization regime (1982-1994); and fiscal policy moderation regime (1995-2003). These fiscal policy regimes are considered in detail one after the other below

Deliberate Fiscal Expansion Regime (1960-1981):

This policy regime era can be subdivided into two parts; 1960-1974 and 1975 to 1981. The first period 1960-1974 was a period of generally low budget deficit and as noted previously, a period of comparatively strong and stable real output growth. According to Egwaikhide (2003), fiscal policy initiatives during this period were directed towards making funds readily available for laying strong industrial base for overall development of the economy. It was a time of significant expansion in industrialization and increased government direct participation relative to the economy in total. However, the financing of the civil war, the reconstruction and rehabilitation works thereafter in earlier 1970s boosted the deliberate active fiscal policy embarked upon since independence. The 1975 to 1980 witnessed significant fiscal stimulus and government direct involvement in productive activities. During this period despite the huge government expenditure, fiscal surplus was recorded in some years; this was made possible by the increased revenue from oil exploration and exportation. The phenomenal increase in oil revenue led to a change in the productive orientation from agricultural sector to mining and oil. The proportion of agriculture in aggregate output dwindled while industrial share increased substantially. The unprecedented growth in oil receipt boosted the government expansionary fiscal stance, thus, public-expenditure-led growth model, *a la* Keynes, was the central fiscal policy thrust during the period.

Fiscal Restraint Regime (1982-1994):

By contrast the period from 1980 to 1985 was a time of fiscal restraint and turmoil. The real expenditure in Figure 7 shows strong discretion in fiscal stimulus from 1978 to 1984, which Egwaikhide (2003) identified with the combined effects of tax reforms and policy responses to a sharp fall in crude oil prices introduced under the Economic stabilization Act 1982. During the period, public sector wages were frozen, public spending was curtailed, and import and excise duties were increased and expanded to cover more items. The Nigerian economy took a dive to depression in the early 1980s, with the collapse of crude oil prices in the international market. The large fiscal deficit during the period pointed to fiscal expansion despite avowed determination to curtail spending. The climax of the fiscal policy shift was the implementation of IMF/World bank supported economic reforms introduced in 1986. Through the reform agenda, tight fiscal policy was stressed. In particular, it was emphasized that budget deficit would not exceed 3% of the GDP. To realize this, the federal government promised to engage in public expenditure planning that would be institutionalized.

Other fiscal policy reforms were in the area of trade liberalization; the import taxes and export duties were generally reduced or removed. For instance, import levy hitherto designed to protect infant local industries were abrogated, also export duties on non-oil export was abolished. Both company and income taxes were revised downward and expenditure on R & D was exempted from the taxes.

Fiscal policy moderation regime (1993-2003):

Fiscal policy during this period was anchored on policy moderation. The main objective is to moderate the negative effects of the policy restraint and to stimulate aggregate spending through active fiscal policy. Government expenditure resumed its upward trend while efforts were geared towards boosting non-oil revenue. One significant tax reform of the period was the introduction of 5% VAT on off-factory products. It was designed to boost non-oil revenue and to shift resources from consumption to real productive sectors. The political turmoil in mid 1990s had adverse effects on the fiscal management, and the apparent fiscal stability experienced around 1996 was not sustained in the subsequent periods.

The coming on board of democratic governance in 1999 led to some changes in fiscal policy thrust. The privatization and commercialization programme was given much attention. Among policy thrusts during the period were wage and income policy upward review, fringe benefits monetisation policy, aggressive budget monitoring and establishment of commissions to check official corruption and financial crimes that have become stigma to the Nigerian image and make Nigerian economy to be unfriendly real investment environment. Two of such bodies were the Independent Corrupt Practices Commission (ICPC), Economic, and Financial Crimes Commission (EFCC). In furtherance of the overall economic reform, a new economic reform package called National Economic Empowerment Development Strategy (NEEDS) that a private-led growth strategy was designed to become operational in year 2004. It is to form the basis for the rolling and annual budget planning. It is different from previous attempts in that it laid more emphasis on the role of private sector and incorporates both the state and local governments in the implementation. It is a comprehensive package that encompasses all other policy reforms agenda of government. It has as a central objective of curtailment of extra budgetary spending, aggressive debt management through buyback, rescheduling and outright payment as well as proper coordination of fiscal and monetary policies.

In a similar manner to monetary development, the fiscal policy trends required appraisal in order to identify the probable correlation between fiscal development and real output fluctuation. On the basis of this correlation, we discussed the extent the changes in fiscal policy thrust could account for the trends observed in real output growth over time.

4.3.2 Fiscal Policy Regimes and Real Output Fluctuation

Figure.7 clearly shows that the fiscal policy in Nigeria witnessed wide fluctuations. The data in table 4.6 confirmed the policy regimes identified above. A cursory look at the table 4.6 indicates that fiscal policy was expansionary in the sub period 1960-1981, restrictive and moderate in the sub periods 1981-1992 and 1993-2003 respectively. The volatility in the period was also relatively low compared to other sub periods. One noteworthy observation from this Table 6 is that the period of restraint 1982-1992 had the highest volatility rate. This indeed confirmed the seriousness of the economic turmoil in the country around this period. The problem was not only low real growth but also highly unpredictable trend in the macroeconomic fundamentals that generated the recession. Hence, the only option left for government at the period was to introduce stringent policy measures that could curtail the uncertainty. However, the low growth rate coupled with high volatility in the latter period 1993-2003 showed that the efforts at curtailing the uncertainty in this period of turmoil yielded little results (see Figure 7).

The volatility fell from 25% in the 1982-1992 to 18% in 1993-2003 sub-periods. The average growth rate of fiscal indicator experienced upward movement from 0.6% to 1.4%. Therefore, the real expenditure trend adequately illustrated the policy stance of the government over the period under study. Using the pre-SAP and post sap dichotomy, the average growth rate of real expenditure was higher in the post-SAP era unlike the case with monetary policy. However, as observed in both real output and monetary policy trends the volatility in the post-SAP era was more pronounced and persistent than pre-SAP era. In view of this, it could be said that there was an indication of apparent though tentative, correlation between changes in the fiscal policy and fluctuation in real output growth.

Figure 3: Growth Rates of Real Government Expenditure and Real Output in Nigeria, 1960- 2003

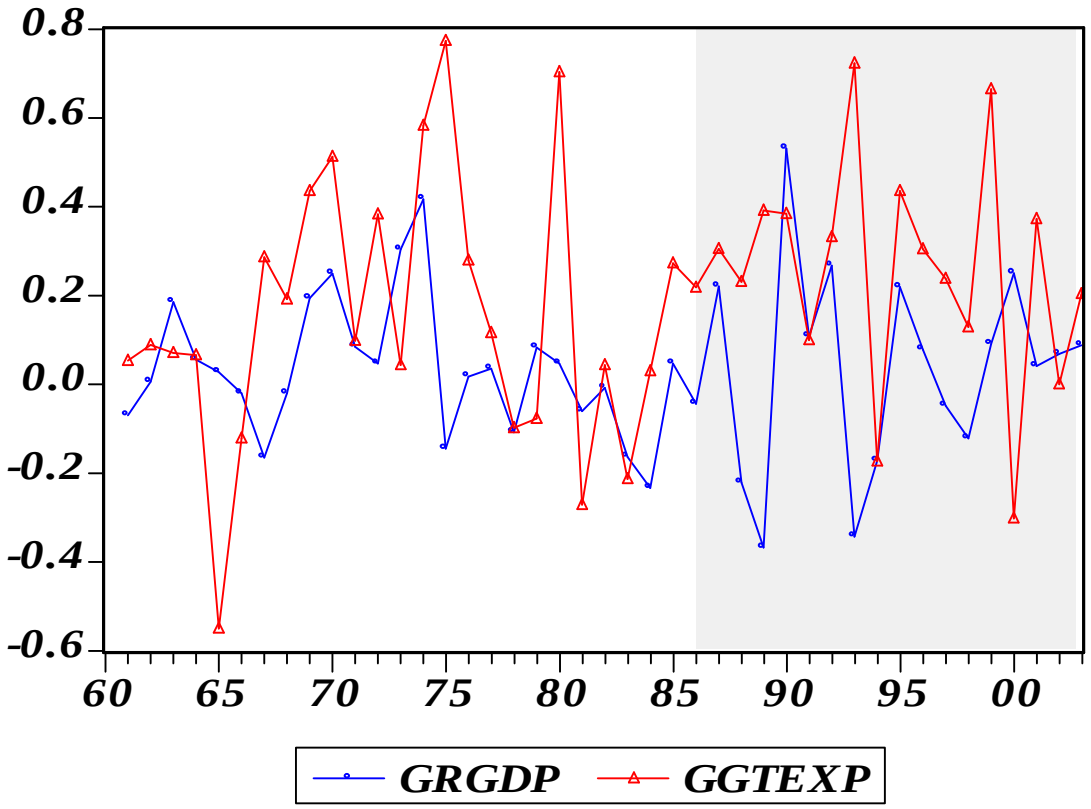


Table 6: Growth and Volatility in Nigerian Fiscal Policy Indicator; 1960-2003

	Period Mean (%)	Volatility (Std Dev.)	Persistence
1960-2003	3.4	0.18	0.018
1960-1981	**5.6**	**0.15**	**0.19**
1982-1992	**0.6**	**0.25**	**-0.09**
1993-2003	**1.4**	**0.18**	**0.22**
1960-1985	3.2	0.15	0.28
1986-2003	3.6	0.22	-0.15

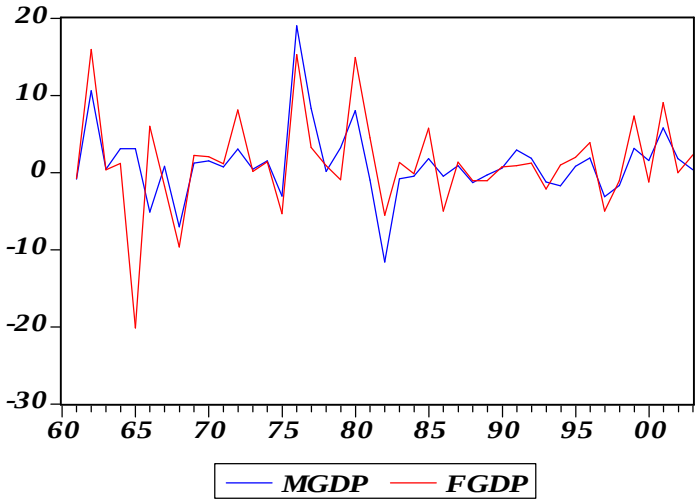
Explaining the fiscal trend in relation to the observed trends in real output and monetary development, the linkage between the fluctuations in real growth and the two macroeconomic policies became more obvious and illuminating on their associative tendencies. From the summary of observations on the fiscal policy indicator, it appeared that while there were clearly different fiscal policy regimes in the period 1960-2003, these regimes and changes in them did not coincide with either the previously identified regimes in monetary policy or shift in the pattern of growth and fluctuations in real output. However, using the real output growth rate as a framework, and as depicted by Figure 9, the period characterized by

fiscal expansion and relative stability (1960-1981) did cover a large part of the period of persistent stable real growth. As noted earlier, this was also a period of expansionary monetary policy, as described by the relatively stable high money supply growth rate, despite the shift from the exchange rate targeting to money supply targeting. It appeared that during this period both policies attached more importance to stimulating real output than inflation control, as inflation was less severe in this period.

Both fiscal and monetary policies shifted in the 1970s which immediately disrupted the pattern of growth and fluctuation in real output. Fiscal policy became more expansionary in terms of both capital and recurrent spending. Basic infrastructure, such as telephone network, road network, public water supply and public oriented industries were established. In addition, there was an upward review of worker's salary as a means of economic empowerment of the people and to stimulate aggregate effective demand, which in turn was expected to boost economic growth. The combined effects of this resulted in inflation pressure which reduced the real growth rate in the late 1970s. The shift in monetary policy target from exchange rate to a direct money supply control was a deliberate attempt to curtail the inflation pressure. Under money supply targeting, monetary policy restraint should have dominated the fiscal expansion through the exchange rate and interest rate channels but the fixed exchange rate and interest rate policy of the period did not make this happen. The exchange rate in real terms depreciated in response in part, to non-monetary factors and external financial conditions rather than appreciating as perceived, and restrictions on money supply growth appeared to have smaller effects on expenditure than were anticipated. In short it seemed that the shifts in fiscal and monetary regimes in opposite directions offset the effects of each other on real output hence the downward trend in the real output. Thus, despite the apparent shifts in monetary and fiscal policy regimes in this period, it appeared that the period of relatively high but volatile growth rate coincided with a period of combined fiscal and monetary policy that was expansionary and accommodating.

As noted earlier, in the 1980s period fiscal and monetary policy imposed coordinated restraint on the economy. Fiscal restraint, in response to concern over the mounting deficit and debts resulting from a fall in oil revenue marked drastic departure from 1970s fiscal expansion posture. Monetary restraint was also introduced to tighten monetary conditions aimed at reducing inflation. This is a coordinated domestic fiscal and monetary restraint combination and it marked the end of a relatively high, and stable real output growth. However, the adverse impacts of this policy mix on growth led to a quick reversal of the policy restraint in the 1990s to fiscal policy moderation and monetary accommodation. Real output responded to this stimulus positively but slowly.

Figure 4: Money Supply, Government expenditure and Real output Growth (1960-2003)[5]



[5] Mgdp = GMS2/RGDP and FGDP = GTEXP/RGDP. GMS2 is the growth rate of Broad money supply while GTEXP is the growth rate of government total expenditure. RGDP is the real gross domestic output

The above trend analysis suggested that the post 1970s period of slower and more volatile growth in real output did occur during a period when fiscal and monetary policies shifted from expansionary to more of restraint and moderation. Thus, the shift in policy might possibly account for the greater volatility and low growth in real output in the later period from 1980s even in the 1990s when substantial structural and policy reforms had been implemented. This apparent linkage in policy and output trends is therefore suggesting though tentatively that macroeconomic policy is an integral determinant of output growth volatility and hence could not be excused from the dismal performance of the Nigerian economy over the years. However, some studies, for example, Egwaikhide (2003) and Sanusi (2002) had argued that the sluggishness of real economy to respond to policy palliatives was not necessarily because the policies were not effective but rather there were other non-domestic factors hindering the policy-real economy interactive process. One of such external factors was the degree of economic exposure to international economic conditions. Though no economy can operate effectively as an autarky state but the degree of exposure should correspond to the potential capability of the economy to withstand the shocks and surprises that such external exposure could generate.

The Nigerian economy was exposed to this external economic influence in terms of both export and import of goods and services. The oil export whose value and volume are determined outside the shores of Nigeria dominated export earnings while raw materials and intermediate capital and in recent times refined petroleum products constituted a higher proportion of import. Therefore, the degree of trade openness could be a significant source of the external shock that militate against the effectiveness of macroeconomic policy in Nigeria. Thus, in broad terms there is a case for more detailed investigation of the relationship between the changes in the pattern of real output growth and fluctuations in Nigeria; and the underlying patterns of monetary and fiscal policy as well as the role played by the degree of economic openness either as a stimulant or hindrance to policy effectiveness. As a preliminary step, correlation test was implemented to further reveal the extent of association between policy and real output. The direct and indirect effect of economic openness was also examined as well as the effects of policy shift in 1986. The various policy regimes identified in the monetary and fiscal policy processes were excluded because of the difficulty of comparison. However, the general trend observed above showed that there was a significant break in the trends of real output and both monetary and fiscal polices in 1986, the beginning of overall economic overhauling in the country.

4.4.Correlation Relationship between Policy and Output Growth

In this experiment, monetary impulses were represented by money supply (MP), broadly defined[6]. Fiscal impulses were measured by federal government total expenditure (FP); Openness (OP) was measured by ratio of non oil-export plus import to GDP. Output was measured by gross domestic output at current market prices. All the variables were converted to real variables by deflation with composite consumer price indices and expressed in growth rate form. The results of the correlation analysis are shown in Table 7. The correlation analysis suggests a relatively strong link between monetary policy and real economic activities during the pre sap period, 1960-1985. The apparently strong associative link between money growth and real output during the pre-SAP era confirmed the link observed in the output and monetary policy trends and fluctuations earlier. More importantly, the openness had a weak link with output both before and after SAP. However, there was a relatively strong link during post SAP between openness and real output growth.

Generally, monetary policy seems to have relatively strong correlation with real output than both the fiscal and trade policy (openness) measures respectively. The correlation evidence in Table 7 confirmed further the concern expressed about the possibility of adverse effects of economic openness on the real effects of monetary and fiscal policy from 1986 when economic (trade liberalization) policy was implemented.

A probing scrutiny of the column (iv) and (vii) shows that the interactive effects of degree of economic openness were strong but different on monetary and fiscal policy transmission process across policy regimes era. In the pre reforms era, the correlation effects of monetary policy and fiscal policy weakened from 73% and 38% to 45% and 22% respectively, with a higher degree of economic openness, whereas in the reform era 1986 to 2003, monetary policy correlation effect remained unaffected while fiscal policy was weakened in the post-SAP period. Therefore evidence from the correlation analyses provided an indication that higher degree of openness might have hindered the effectiveness of macroeconomic policy in Nigeria. Furthermore, when the economic policy reforms were taken in totality and interacted with both monetary and fiscal policy indicators, column (iii) and (vi), there was a significant deviation in the coefficients.

[6] Following Nnanna (2002) this is the most appropriate definition of money supply for an open developing economy

Monetary policy correlation with output became inverse, -11% and -.6% for reform and entire sample periods respectively. In sharp contrast, the fiscal policy remained positive and even had higher correlation with output. On the whole, there seems to be a threshold where continuous liberalization of the economy might become harmful to domestic real economic growth. As obvious from the table, there is evidence that the interactive effects of openness seemed powerful on both monetary and fiscal policy correlative effects on real output.

V. CONCLUDING REMARK AND POLICY ISSUES

In this paper, it has been established that real output had experienced its full business cycle. It rose gradually in the 1960s, got to a peak in 1975 and began a downward trend till it reached the trough in 1984. It began an upward trend again, got to its peak 1994, and declined steadily thereafter. One important observation about the output trend is that the 1970s peak remained unsurpassed despite the array of policy reforms and palliatives introduced after the recession in the 1980s. More importantly, the amplitude of volatility and fluctuation was relatively strong in the period of recession than the period of recovery and boom. An examination of the sources of the fluctuations from the structural and policy shift perspective showed that the share of both agricultural and service sectors had increased and contributed significantly to the fluctuations in the real outputs. The external component of the aggregate expenditure was also found to contribute substantially to the growth and fluctuation in real output. Specifically, real output growth moved more in tandem with export and import than investment expenditure.

Furthermore, the fluctuation in real output was observed also to coincide with fluctuation and volatility in monetary and fiscal policies. The period of fiscal expansion and monetary accommodation correlated with period of output growth and relative stability. However, monetary policy changes moved more in tandem with output growth than fiscal policy. This implies that monetary policy might track down real output than fiscal policy. As a further confirmation of the observed trends in the real output growth and the two macroeconomic policies, the correlation analysis conducted also affirmed some of these observations. The result showed that there was a relatively strong link between monetary policy and real output growth. Trade openness, played relatively little direct role in explaining output movement in the context of correlation analysis framework; however, there was strong evidence that the power of both monetary and fiscal policy to track output growth and fluctuation reduced at a higher degree of economic openness, suggesting that there could be a threshold at which openness become harmful to macroeconomic management in Nigeria.. In addition, the economic reforms in general hindered rather than enhanced the real output-monetary and fiscal policy associative power.

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