

# Effect of Fiscal and Monetary Policies on Industrial Sector Performance- Evidence from Nigeria

Bakare-Aremu, T. A. Osobase, A. O  
Department Of Economics, University Of Lagos, Nigeria

## Abstract

We unearth the impact of monetary and fiscal policies (i.e. stabilization policies) on the performance of the manufacturing sector as a real sector in Nigeria, using an error correction mechanisms model, and discover that those policies has expected impact on output of the manufacturing sector in Nigeria both in the short-run and long-run. Relationship among the stabilization policies on one hand and industrial or manufacturing sector output on the other hand. The model makes use of time series data while ordinary least squared was the techniques of analysis, the data were filtered with use of augmented dickey fuller unit root test while Johansen cointegration test was used to justify the long-run relationship among all included variables. While the error correction model serves the basis for adjustment from short-run drift (disequilibrium) to long-run equilibrium through its speed of adjustment. The research work established that stabilization policy has a great impact on manufacturing sector performance and that if certain adjustment are made it would better the lots of the people by developing the sector, through Government fiscal policy and its monetary policy measures.

**Keywords:** fiscal and monetary policies, industrial sector, error correction model, Nigeria.

## 1.0 BACKGROUND TO THE STUDY

In Industrialization plays a significant role in economic development. It acts as a catalyst that accelerates the pace of structural transformation and diversification of economic, enable a country to fully utilize its factor endowment and to depend less on foreign supply of finished goods or raw materials for its economic growth, development and sustainability. Industrialization which is a deliberate and sustained application and combination of an appropriate technology, infrastructure managerial expertise and other important resources has attracted considerable interest in development economies in recent times (Okafor, 2005). Manufacturing sector is assumed to be more dynamic than other sectors. A transfer of productive resources to more dynamic sectors contributes to growth. Here the evidence turned out to be somewhat mixed (Szirmai, 2008).

The current dwindling in manufacturing sector (proxy for industry) and seemingly collapse in the entire socio-economic infrastructures of the Nigerian economy has made several scholars to tag the country a sick nation. The Nigerian manufacturing sector is sick. The productive sector is in a crisis as its average contribution to the nation's Gross Domestic Product over the past few years has not gone beyond 5%. Many years of neglect and maladministration on the part of successive military and civilian governments, coupled with corruption and indiscriminate policy reversals have all conspired to render the manufacturing sector comatose. Governments after governments have failed to pursue policies that could create a vibrant real sector with the result that the impact of the manufacturing sector has steadily declined over the years and its contribution to national growth and development has been disappointingly low (Banmijoko, 2011). The genesis of this sickness can be traced to its departure from a diversified economy to a mono-product economy with oil becoming almost the sole provider of foreign exchange earnings which account for about 90 per cent. Nigerian economy, before independence, was purely agrarian whose policy was anchored on the colonial interest of making the colonies producers of primary raw materials for foreign industries and consumers of imported goods. The economy of Nigeria was largely foreign dependent as the colonial government never had in its policy to industrialize the nation. Hence, Nigerian economy was dominated by foreign firms such as UAC, CFAO, Royal Niger Company and John Holt, etc. This effort added very little to our Gross Domestic Product as their main aim was to suck Nigerian economy dry by importing manufactured goods from their home countries and repatriating the excess profit made to develop their home countries. As a result, real indigenous manufacturing activities and adequate encouragement of local entrepreneurship were conspicuously absent in the scheme of things in the country (Adejugbe 2006).

Consequent upon this, Nigerian leaders since independence, have continually emphasized the need to sprout the economy of the country to prosperity through industrialization. The genuineness of this is encapsulated in the various development programmes since 1960. The Nigerian Enterprises Promotion decrees of 1972, 1977, and 1981, by limiting foreign ownership shares in various industries, shifted the manufacturing sector from foreign majority ownership in the 1960s to indigenous majority ownership in the mid-1970s and late 1970s. As a result, indigenization policy was implemented owing to the unprecedented participation of the local people in the productive sector of the economy.

The growth rate in the manufacturing sector was relatively high in the period 1966-75 at an average of 12.9 per cent owing to the importance which the government attached to manufacturing activities and the

adoption of the imported substitution strategy. The oil boom which provided the foreign exchange for the importation of the needed raw materials served as an impetus for the impressive growth. The growth rate expanded in the period 1976-85 to an annual rate of 18.5 per cent with the establishment of more import substitution industries. However, the subsequent reduction in the foreign exchange earning capacity due to the collapse of the world oil market impacted negatively on the sub-sector ability to import the needed inputs. Hence, manufacturing output growth fell drastically to an annual average of about 2.6 per cent during the period 1986-98, even with the introduction of SAP in 1986. In fact, for the period 1993-98, growth in the sub-sector was negative (Anyanwu, 2004).

Ever since then, manufacturing output, capacity utilization rate, and the contributions of manufacturing to GDP have been on the decline. This is even relatively infinitesimal compared to the great economic loss owing to the massive laying off of workers in the sector that employed the largest work force after government, and the recent relocation of manufacturing industries to neighbouring countries. In spite of all these, Nigerian government seems to be an indifferent slumlord making business environment too unfavourable for business people.

However, it is no doubt that industrialization has brought developed nations to the enviable status which they presently occupy, and through same, developing nations aspire to climb up the ladder to economic prosperity. Yet, it remains vast, if the approach of the industrial policy-making in developing nations, of which Nigeria is one, has indeed been successful in transforming their economies. This is captured thus:

“With the capacity utilization of the industrial sector nose-diving to a meagre 35 per cent in recent times, the production sector of the Nigeria economy is indeed on the path to irrecoverable comatose. As a matter of fact, the recent news of the relocation of some Nigerian firms to the neighbouring countries, especially Ghana, should send jilters to the spines of Nigerian leaders that all is not well with our economy. The once giant of Africa is fast turning to a complete import dependent nation; and the aftermath of the current scenario may make the vision 2020 of Yar’Adua administration a balloon dream.”(Agboola, *the Nation*: 1/10/2009).

The fiscal recklessness of the Government is suggestive, Nigerian government has seen deficit budgeting in their fiscal operations as a yearly affair with nothing to show for it. In fact, since 1970, the country has witnessed only six years of surpluses. Domestic and external debts are used in financing the deficits and the purported projects embarked upon have not impacted positively on the economy and the manufacturing sector.

Annually, the Manufacturers Association of Nigeria (MAN) recounts some of the happenings in the real sector which include: erratic power supply, collapse of the textile industry, increasing cost of production, inconsistent industrial policy, paucity of funds resulting from capital flight, high interest rate, financial crises, closure of many manufacturing companies, and exodus of Nigerian industries to the neighbouring countries.

The Nigerian textile industry is presently on the verge of collapse. A one-time vibrant industry and the second largest employer of labour after the Federal government has now become a shadow of itself. The total staff strength of the industry that stood at 200,000 in 1985 has dwindled to 24,000 in 2008. .... The number of textile companies that peaked at 175 in 1985 has reduced to 25 by 2008.” (Banjoko, S., *The Nation*, 4/12/2009). To buttress the claim above, the Secretary-General, National Union of Textile, Garment and Tailoring of Nigeria (NUTGTWN), Comrade Isa Aremu, revealed that rather than blame the perpetrator of the act, it is an attestation that governance has collapsed in Nigeria (see *The Nation*, 1/10/2009).

Government, as the manager of the entire economic activities, determines the overall macroeconomic direction of a nation. Its functions transcend its activities as a regulator of specific industries. The government also manages the overall pace of the economic activities, seeking to maintain high levels of employment and stable prices. To achieve these objectives, it has two main tools: fiscal policy, through which it determines the appropriate level of taxes and government spending; and monetary policy, through which it manages the supply of money, interest rate and inflation.

Fiscal policy is a deliberate manipulation of government expenditure and revenue to influence the working of the economic system. Modern fiscal policy is a compensating device to deal with aggregate demand (excessive / deficit) at full employment level of income (Ukpabio G.E., 2004). Variably or invariably, government influences the way resources are used in the economy by adjusting the rate and form of taxes, the magnitude and composition of spending, and the degree and form of borrowing through the Ministry of Finance. Monetary policy refers to the combination of measures designed to regulate the value, supply and cost of money in an economy, in consonance with the expected level of economic activity. For most economies, the objectives of monetary policy include price stability, maintenance of balance of payment equilibrium, promotion of employment and output growth, and sustainable development (Nnanna O. J., 2001). The attainment of these objectives falls on the shoulder of the central bank. All central banks, including the Central Bank of Nigeria, have the main function of promoting and maintaining monetary stability and a sound financial system. It is believed that this will help encourage long term planning, aid infrastructural development, attract foreign investments and engender economic growth all through the growth in economic output. Thus, given the fact that both monetary and fiscal policies impact on economy growth and development, it is not surprising that they are

matted and are capable of achieving the government's desired economic goals.

In view of these unfolding realities, this research work shall probe into the impact of both the fiscal and monetary policies (stabilization policies) of the Nigerian government on the industrial sector of the economy, with a special focus on the manufacturing sub-sector.

## 2.0 LITERATURE REVIEW

### ❖ MANUFACTURING PRODUCTIVITY AND FISCAL AND MONETARY POLICIES IN NIGERIA

The trend of manufacturing output fluctuation in relation to the joint effect of fiscal and monetary development is very discerning. As shown in Appendix I, the period characterized by fiscal expansion and relative stability (1970-1981) covered a large part of the period of persistent stable real growth. This is 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 appears that during this period, both policies attached more importance to stimulating real output than inflation control, as inflation was less severe in this period.

Each of the stabilizing policies shifted in the 1970s which immediately led to the feasible dynamics in growth pattern recorded in manufacturing production and real output. Fiscal policy became more expansionary in terms of both capital and recurrent spending. Basic infrastructures were put in place and there was an economic empowerment in the form of increase in wages and salaries. These resulted into increase in demand for goods and services. Although, the combined effect of these policies resulted in inflationary pressure which led to a reduction in real growth rate in the late 1970s. The shift in monetary policy target from exchange rate to a direct money supply control is a deliberate attempt to curtail the inflationary 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 are anticipated. In short it seems 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 appears that the period of relatively high but volatile growth rate coincided with a period of combined fiscal and monetary policy that is expansionary and accommodating.

In the 1980s period, fiscal and monetary policies 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 is also introduced to tighten monetary conditions aimed at reducing inflation. This is a coordinated domestic fiscal and monetary restraint combination and it marks 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.

The above trend analysis suggests 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 accounted 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. Perhaps the most fundamental change in the practice of post SAP monetary policy was the shift from a direct to an indirect monetary policy management system. The essence of this shift in Government policy was to strengthen and deepen the Nigerian money market with the aim of ensuring monetary stability in the economy. Despite the adoption of the Structural Adjustment Programme in 1986, very little change with respect to the pattern of the government fiscal policy even with the concerted effort by the government to cut its spending in mid-1990s.

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 manufacturing sector over the years. However, in broad terms there is a case for more detailed investigation of the relationship between the manufacturing output and the stabilization policies of the governments to determine whether they act as catalysts of growth or not to the industrial sub-sector.

Previous studies in relation to the topic under study centred their views on the effectiveness of the fiscal policy and monetary policy on economic activities. While several studies involved either of the two stabilization instruments, others who are very few combined both. Yet, very few Literatures are available on the relative effectiveness of monetary and fiscal policies on manufacturing industry in developed and developing countries of the world. However, there has been contrasting opinions on which of the two policies exert greater influence on the economic or manufacturing activities. This section hereby critically reviews previous studies in

this area both within and outside Nigeria.

On the foreign scene, Elliot (1975) examined the relative importance of money supply changes compared to government expenditure changes in explaining fluctuations in nominal GNP. He was of the opinion that this area of study had continuing capacity to provide debate among economists. He estimated St. Louis equation with the use of OLS technique. The equation is of the form:

$\Delta Y_t = c + \sum_{mi} \Delta M_{t-i} + \sum_{ei} \Delta E_{t-i} + U_t$ . Where  $\Delta Y$  represents the change in nominal GNP,  $\Delta M$  represents the change in money supply while  $\Delta E$  represents the change in high employment federal government expenditures. After estimating the equation above, the result of his evaluation clearly supported the conclusion that fluctuations in nominal GNP more importantly attach to monetary movements than to movements in federal government expenditure.

Batten and Hafer (1983) also discussed the relative effectiveness of the two stabilization policies in some developed countries. In their study, they found out monetary action rather than fiscal action had a greater influence on the nominal GNP. However, the results from this study cannot be generalized for the developing countries since they have significantly different economic and political structures. The above study however confirms the work of Dewald and Marchon (1978). Contrary to these results from outside Nigeria is the work of Andersen and Jordan (1986). They tested empirically the relationships between the measures of fiscal and monetary actions and total spending for United States. These relationships were developed by regressing quarter to quarter changes in Gross National Product (GNP) on quarter to quarter changes in the money stock (MS) and the various measures of fiscal actions namely; high employment budget surplus (R-E), high employment expenditure (E) and high employment receipt (R). The analysis of their results was that the influence of fiscal action on economic activity occurred faster than that of monetary action.

Also, Chowdhury (1986), in his study of monetary and fiscal impacts on economic activity in Bangladesh was also of the opinion that fiscal rather than monetary action had greater influence on economic activities. He also made use of the ordinary least square (OLS) technique in his empirical investigation. He adopted St. Louis equation in estimating the monetary and fiscal variables. The modified model estimated here is of the form:

$Y_t = C_0 + \sum_{mi} M_{t-i} + \sum_{fi} F_{t-i} + \sum_{ei} E_{t-i} + U_t$ . Where Y, M, F, and E represent the growth rate of nominal income, money supply, government expenditures and exports respectively. In analyzing his results, he confirmed the result of some authors and concluded that fiscal actions exert greater impact on economic activity in Bangladesh than monetary actions. This result was confirmed with the t-statistics of the summed coefficients, which is significantly larger than the corresponding value for the monetary summed coefficients. It follows from this study that fiscal policy impacts on nominal income are more predictable than the monetary impact.

Okaviani et al. (2010) realised the significance of the manufacturing sub-sector in their study, "The Impact of Fiscal and Monetary Policy on Industry and Indonesian Economy: A Computable General Equilibrium Analysis". Their result shows that both fiscal and monetary policies are quite powerful to minimize the impact of external and internal shocks. However, if the impact of internal or external shocks on Indonesian economy is quite big, the government should intervene at a reasonable scale as well. On the types of policy tools that are used, the result showed that fiscal policy with different tools will result in different impacts. It will depend on the transmissions that have occurred. Further, their study suggests that Indonesian industry is not so responsive to changes in the interest rate. This means that fiscal policy is still preferable to improve the real sector relative to monetary policy.

In Nigeria, some studies have also been conducted on the relative effectiveness of the government stabilization policies on the economy with few dedicated to manufacturing. According to Ajayi (1974), he emphasized that in developing economy in which Nigeria is a typical example, the emphasis is always on fiscal policy rather than monetary policy. In his work, he estimated the variables of monetary and fiscal policies using ordinary least square (OLS) technique and found out that monetary influences are much larger and more predictable than fiscal influences. This result was confirmed with the use of beta coefficients that changes in monetary action were greater than that of fiscal action. In essence, greater reliance should be placed on monetary actions.

Olaloye and Ikhide (1995) in their article entitled "Economic Sustainability and the Role of Fiscal and Monetary Policies in A Depressed Economy: The Case Study of Nigeria", estimated a slightly modified form of the basic St. Louis equation of the form:

$$Y_t = g_0 + \sum_{mi} M_{t-i} + \sum_{fi} F_{t-i} + \sum_{xi} X_{t-i} + U_t$$

In estimating the above equation, monthly data for the period 1986-1991 was employed. The analysis of their results showed that fiscal policy exerts more influence on the economy than monetary policy. The result, therefore, suggests that fiscal policies have been more effective in Nigeria at least in the period of depression. They are, however, of the opinion that government expenditure will be an appropriate measure of fiscal policy.

Ajisafe and Folorunso (2002) probed into the relative effectiveness of fiscal and monetary policies in macroeconomic management in Nigeria. The result of their analysis showed that monetary policy rather than



fiscal policy exerts a greater impact on economic activities in Nigeria. The specification of the model took the form:

$$Y_t = f(MP_t, FP_t)$$

Their log-linear model took the form:

$$\ln Y_t = a_0 + b_1 \ln MP_t + b_2 \ln FP_t + e_t$$

Where  $Y$ ,  $MP$ ,  $FP$ ,  $\ln$ , and  $e$ , are gross domestic product (GDP), monetary policy, fiscal policy, natural logarithm, and error term respectively. Narrow money (M1) and broad money (M2) were used as proxy for monetary policy, while government expenditure (E), government revenue (R) and budget deficits (R-E) were used as proxy for fiscal policy. The effectiveness of both policies was determined through cointegration and error correction modelling techniques. The time series properties of the variables were investigated by conducting a unit root test using annual series data for the period 1970-1998. They stressed further that the emphasis on fiscal action of the government has led to greater distortion in the Nigerian economy. They were, however, of the view that both fiscal and monetary policies should be complementary. Their conclusion confirms the foreign studies of Elliot (1975), and Batten and Hafer (1983).

Ezeoha and Uche (2004), while reviewing the practice of monetary and fiscal policies in their study, "Rethinking Monetary and Fiscal Policies in Nigeria", the independent variables they employed are retained revenue, total expenditure, overall deficit/ surplus and debt for fiscal policy; nominal lending rate and real interest rate for monetary policy, and the dependent variable used is capacity utilization rate. The methodology of their study was not, however, stated but they concluded that fiscal recklessness has been the cause of the failure of the stabilisation policies of the government, and that what the government of Nigeria needed was fiscal policy rule.

Reviewing the various literatures above, while the studies of Elliot (1975), Batten and Hafer (1983), Ajayi (1974), Ajisafe and Folorunso (2002), Ezeoha and Uche (2004), supported monetary policy as being more potent than the fiscal policy in regulating the macroeconomic activities, others such as the studies of Andersen and Jordan (1986), Chowdhury (1986), Oktaviani et al. (2010), Olaloye and Ikhide (1995) had contrary results. Can we then conclude that, probably, monetary policy is more effective than fiscal policy or vice versa? Is it even possible to deduce that there may be external factors such as economic openness, globalization policy, etc, counteracting the effects of the Government fiscal and monetary policies in Nigeria.

It has become obvious that empirical studies regarding the relative effectiveness of the stabilization tools in Nigeria are on the increase. Yet, there exist very scanty similar studies on the output of manufacturing sector in Nigeria. The purpose of this study is, therefore, to fill this vacuum by testing empirically the impact of fiscal and monetary policies' variables on the index of manufacturing sector in Nigeria taking due advantage of longer time series.

## **CONTRIBUTIONS OF MANUFACTURING INDUSTRIES IN NIGERIA TO GROWTH AND DEVELOPMENT**

The contribution of the manufacturing industries in the economy cannot be over emphasized when considering its employment potentials and financial impacts on the economy. Apart from its role of building grounds for development by laying solid foundation for the economy it also serve as import substituting industry and provide ready market for intermediate goods. According to Aderibigbe (2004) manufacturing industry contributes significantly to the nation's economic development in the following ways; 'increase in government revenue through tax; boost manufacturing no doubt will leads to industrialization. The bigger the number of manufacturing industries the better industrialized such society is said to be; Improve standard of living with manufacturing potentials, more of the people will be gainfully employed in various manufacturing activities, per capital income may increase and the general standard of living improved; Infrastructural growth- construction of good roads to areas where raw materials are exploited and sitting of manufacturing industries to these sources of raw materials may help improve the growth of basic infrastructural requirements; Contribution to Gross National Product (GNP)- the manufacturing sector in Nigeria being next to oil has through their operations contributed to the gross national product of the country through earning from exportation of manufactured goods; Employment generation- manufacturing industry being one of the largest in the economy performs the major role of employment generation at all levels i.e. skilled, semi-skilled and unskilled labour and thereby fulfilling one of the nation's ultimate macroeconomic goals; Enhance manpower development- the manufacturing industries provides on the job training for some of the workers to enable them to operate some machine or perform some activities and thereby enhancing manpower development; Manufacturing can also make available many essential commodities; it lead to transfer of technology; Manufacturing may bring about an improvement in bilateral relationship especially in terms of trade with other foreign nations; Industrialization lead to foreign direct investment.

## 2.1 MANUFACTURING SECTOR AND THE NIGERIAN ECONOMY

In a country of over fifty years of self-rule, incessant military intervention in governance culminating into twenty-eight years of military rule and three years of civil war, Nigeria could be said to have derailed from the path of industrial progress and failed to take full advantage of her fertile soil which generated over 60 per cent of GDP in the 1960s; rich and massive oil and other mineral resources; and a relatively skilled and well-educated citizens. The failure of the country which has caused widespread poverty and economic dislocation emanated from chronic mismanagement and corruption. The importance of the industrial sector, particularly the manufacturing, in the economic development process cannot be over-emphasised. The experience of the East Asian newly industrialised countries with booming manufacturing attests to the fact that appropriate macroeconomic policy mix and productivity growth in the manufacturing sector are the key to promoting competitiveness and growth of the industrial sector and the economy as a whole.

At independence in 1960, Nigeria inherited a narrow manufacturing sector based pre-occupied with the processing of agricultural and forestry products for domestic and foreign markets. The sector was dominated by a few European commercial firms and it contributed only 4.8 per cent of GDP in 1960. This low level of manufacturing output has been associated with the institutional impediments which characterised the British colonial administration (Egbon, 1995; Soludo and Adenikinju, 1997). Although not much have been achieved, the Nigerian governments have promoted rapid industrialisation as envisaged in the various development plans and strategies. In line with the prevailing paradigm then, imports substitution industrialisation (ISI) strategy was embraced as a means of transforming the manufacturing sector. Government directed its efforts at the expansion of infrastructure and also promoted indigenous and private participation in the manufacturing sector through the Nigerian Enterprises Promotion Decree (the indigenisation decree of 1972 and 1977). In an attempt to speed the pace of industrialisation, government provided a set of incentives such as tax holidays, high rate of protection (through tariff and non-tariff barriers), favourable exchange and credit policies, etc., with the intention of encouraging foreigners to invest in manufacturing activities.

With the implementation of the ISI strategy the growth performance of Nigeria's manufacturing sector was highly dependent on domestic demand, import substitution policies and availability of foreign exchange to procure imported inputs. Consequently, the sector depended heavily on import of raw material and capital goods, protection from foreign competition and preferential treatment in foreign exchange allocation. This resulted in lack of competitiveness and the creation of a manufacturing base that had insignificant backward and forward linkages effects with the rest of the economy. Macroeconomic crises following the collapse of crude oil prices in the early 1980s led to the introduction of the Structural adjustment programme (SAP) in 1986. The industrial policy under SAP was aimed at promoting investment, stimulating non-oil exports and providing a base for private sector-led development. Among the industrial policies that were introduced under SAP were those that were meant to promote efficiency of Nigeria's industrial sector. Specifically, the privatisation and commercialisation programme initiated by the government was intended to promote industrial efficiency. This programme was sustained up till now. Government also encouraged both domestic and foreign investment in Nigeria by promulgating a new decree in 1989, and repealed the indigenisation decrees of 1972 and 1977. Further, trade and financial liberalisation policies were implemented to foster competition among the local firms and between the domestic import competing firms and foreign firms with a view to promoting efficiency. As part of trade liberalisation scheme, the levels of both tariff and non-tariff barriers were reduced and commodity marketing boards were scrapped. This resulted into the exposure of the local firms (which had been hitherto protected under ISI) to foreign competition, hence the need for these firms to be more efficient in order to be able to compete favourably and effectively with the foreign firms. The policy of financial liberalisation through liberalisation of payment system, market determined exchange rate and deregulation of interest rates was meant to foster competition and efficiency in the financial sector. The anticipated effect of this policy on the manufacturing sector is that, the benefits or preferences (in terms of concessionary rates of interest, tariff protection, etc.) that have been enjoyed by the manufacturing sector prior to SAP were eroded, and the sector has to compete for funds in the financial market. Moreover, in an attempt to promote non-oil exports, especially export of manufacturing, a package of incentives has been introduced since 1986. In effect, an Export Credit Guarantee and Insurance Scheme was put in place. A compensatory scheme was also introduced to enable exporters of locally manufactured goods to claim subsidies from the export adjustment scheme fund. In addition, an export expansion fund was set up to provide cash inducements for exporters who have achieved a minimum of N50 000.00 worth of manufactured or semi-manufacture products. Other incentives that were introduced include exports proceeds retention scheme, export license waiver, capital allowance of 5 per cent on plant and machinery for firms that exports a minimum of half of their annual turnover. Further, The Nigerian Export and Import Bank (NEXIM) was set up to implement the scheme and facilitate the process of financing manufactured exports in Nigeria.

Following the return to democracy in May 1999, the reform process was re-energized, mainly through Nigeria's home-grown poverty reduction strategy. The National Economic Empowerment and Development

Strategy (NEEDS), adopted in 2003, was meant to guide public policies until 2007. The preparation of NEEDS followed a highly participatory process. Associated poverty reduction strategies were developed at the State and local levels – State Economic Empowerment and Development Strategies (SEEDS), and Local Economic Empowerment and Development Strategies (LEEDS).

NEEDS, SEEDS and LEEDS were major departures from the policies of the past. Their broad agenda of social and economic reforms was based on four key strategies to:

- (i) Reform the way Government works in order to improve efficiency in delivering service, eliminate waste and free up resources for investment in infrastructure and social services;
- (ii) Make the private sector the main driver of economic growth, by turning the Government into a business regulator and facilitator;
- (iii) Implement a “social charter”, including improving security, welfare and participation; and
- (iv) Push a “value re-orientation by shrinking the domain of the State and hence the pie of distributable rents which have been the haven of public sector corruption and inefficiency”.

In contrast with previous development plans, NEEDS emphasized the growth in the industrial sector as germane to attainment of the set target by 2007. The policy direction and target of NEEDS for the real sector specifically stated that critical to the growth performance in the sector is improvement in power and other infrastructure, general reduction in the cost of doing business and more conducive investment environment, including security of life and property. High growth is expected in the primary and secondary sectors, particularly agriculture, manufacturing and solid minerals. The manufacturing sector for example is expected to grow by at least 7 per cent over the 2004 to 2007 period, while agriculture is expected to grow consistently by about 6 per cent between 2004 and 2007. This explains the attention on manufacturing by the President Obasanjo’s NEEDS, and his successor, Yar’Adua/Jonathan’s 7-Points Agenda and the current vision 20:2020..

However, the critical appraisal of industrialisation in Nigeria and some LDCs has shown that the policy has not brought the expected economic and social benefits. On the locally made goods, Hutchful (1998) poses the following pertinent questions: *“who will consume our products? Whois interested in consuming our products? Whoare we in the service of? These questions we havenever really addressed.... In terms of the future,where do we want to go? And it seems that unless these questions are answered, we will continueto work in a vacuum without clearly definedsense of who we are, or an answer to the questionof what effort in the satisfaction of whatobjectives.”* Because of these unanswered questions, Nigeria and many other developing nations blindly adopted foreign-made industrialization policies and the experience has not been fruitful. The situation became aggravated by the fact that most Nigerians have preference for foreign goods or anything imported. The consequence of this is that domestic manufactured products become unsaleable thus entrenching and institutionalizing the problem of low output resulting from underutilized capacity.

## 2.2 PROBLEMS AFFECTING THE NIGERIA’S MANUFACTURING SECTOR

Soludo and Adenikinju (1996) opined that the main problems that have characterized the manufacturing sector of Nigeria are lack of competitiveness, import dependency, low capacity utilisation and low output. According to them, the period of the implementation of import substitution industrialisation strategy produced a manufacturing sector that is weak, non-competitive and highly import dependent. Even though some growth in value-added was recorded during this period (particularly in the oil boom period 1973-81), manufacturing sector performance has been propelled by investment in factor accumulation rather than efficiency in factor use. They argued that the period of adjustment reforms (and beyond) has also featured low capacity utilisation resulting in low output in the manufacturing sector, non-competitiveness of exports even after the introduction of various export incentive scheme and trade liberalisation policy.

Söderbom and Teal (UNIDO, 2002) in their study “The Performance of Nigerian Manufacturing Firms: Report on the Nigerian Manufacturing Enterprise Survey 2001, had as part of their findings that the most frequently cited number-one problem for the firms is physical infrastructure, followed by access to credit, insufficient demand, cost of imported raw materials, and lack of skilled labour. This aggregation masks considerable differences over the size range in problem perceptions; for instance among micro firms the most frequently cited main problem is credit access, while for medium and large/macro firms it is physical infrastructure.

In his study, Anyanwu (2004) highlighted the lingering problems rocking the manufacturing sector as follow:

- (a) Low level of technology;
- (b) Low level of capacity utilization rate
- (c) Low investments;
- (d) High cost of production
- (e) Inflation; and
- (f) Poor performing infrastructure.

Apart from these militating factors listed above, there exist other fundamental and current socio-economic and political problems affecting manufacturing captured by many authors. These are stated as follow:

**(1) Multiple Taxation/Levies:** This stands out as one of the thorniest problems of the sub-sector in recent time. The tax and levies structures in the country are not well defined and are also volatile as all levels of

government come up with different ways of raising revenue to finance their budgets. The government must take a position that recognizes that some of its expenditures and fiscal activities have negative impacts on the economy. The recent government active drive on internally generated revenue where a manufacturer/business concern is made to pay over 61 different taxes/levies per annum from the three tiers of government has a negative impact (Borodo, M, 2010). Taxes are paid by the producers but of course, the incidence is mostly borne by the consumers especially for goods with relative inelastic demand. This accounts for the reason why prices of commodities are highly volatile in the Nigerian local markets.

**Scarcity/Incessant Increase in Petroleum Products' Prices:** As an alternative to the epileptic power supply, manufacturers rely on generators to stay in business. The prices of diesel (AGO) and petrol (PMS) alone which have now constituted the larger chunks of costs of inputs in the production process have led to high cost of doing business in the country. In 1999, the Obasanjo administration assumed office and argued for the removal of the oil subsidy claiming that the proceeds could be used for important economic purposes. Eight years later, the former president left petrol price at N75.00 from the N19.00 which he met in the year 1999. This is about 295 per cent hike in petrol price. In addition to this, reduction in subsidy payment by President Jonathan in January 2012 aggravated this effect by raising the PMS Price to N97 from N65 his predecessor left it (a 38.14 per cent and 410.5 per cent since inception of democracy in 1999). But what about its concomitant effect on other products since their prices are tied to oil price?

**Insecurity of Lives and Property:** Business thrives in a conducive environment that is devoid of factors inimical to growth and development. The constant ethno-religious and political crises in the country have contributed in large measure to the relocation of some firms from certain parts of the country to another while others like the multinational companies are threatening to quit business in Nigeria.

### **2.3 Recent Effort of Government to Fast-Track Industrial Development in Nigeria.**

#### **2.3.1 The SME/Manufacturing Refinancing and Restructuring Fund**

The Fund, established in 2010, with an initial sum of N200.00 billion had additional approval for N35.0 billion in 2011, bringing the resources under the scheme to N235.0 billion. The sum of N30.0 billion was disbursed in the same period, bringing the cumulative to N220.64 billion for 486 projects. The sum of N11.24 billion was repaid during the review period. The sectoral distribution of disbursements showed that food and beverages had the highest share with 21.0 per cent, followed by engineering and construction and chemicals/plastics, which recorded 19.0 and 18.0 per cent, respectively. Agro-allied and paper/allied had 10.0 per cent each, oil and gas 5.0 per cent, while pharmaceuticals, ICT and solid minerals recorded 4.0 per cent each. Textile/leather, and hotel and tourism got 2.0 per cent each, while transportation got 1.0 per cent.

The Scheme had since its inception generated 16,422 new jobs, sustained the operations of 347 projects and resuscitated 9 moribund companies. In addition, capacity utilization and turnover of the beneficiaries increased from a pre-intervention level of 25.0 to 36.0 per cent and N2.97 billion to N5.34 billion, respectively. Under the Scheme, beneficiary companies accessed long-tenured funds, culminating in an annual interest cost-saving of N35.30 billion, while boosting the liquidity of the participating banks.

### **3.0 METHODOLOGY AND THEORETICAL UNDERPINNING.**

#### **3.1 THE KEYNESIAN MODEL AND THE QUANTITY THEORY OF MONEY**

The question of whether an expansionary monetary policy (MP) or fiscal policy (FP) will help to raise output starts from the basic Keynesian model. In general, either an increase in government expenditure or an expansionary monetary policy (MP), leading to an increase in investment via lower interest rate, will lead to an increase in output. Nevertheless, for many years, and to some extent and even now, there is the view that Keynesians ascribe that only fiscal policy (FP) can affect income and output, while monetarists believe that only MP can have such an effect. It turns out, therefore, that in certain special cases, only FP works and in another special case, only MP works. It has, however, been observed that only FP will work, and MP will not have any effect, if one of the links between changes in money supply and changes in investment is broken.

The accounts of Keynesian theory concentrate on the liquidity trap as the extreme Keynesian special case. The important implication of the liquidity trap is that once the rate of interest has fallen to the level at which the liquidity trap occurs, an increase in the money supply will not reduce the interest rate any further. Therefore if the level of investment which could occur at this minimum rate of interest is still not great enough to provide expenditure equal to full employment output, then MP will not be able to increase investment and thereby restore full employment and income by this route. However, in a liquidity trap, an increase in government expenditure will still increase output. In fact, as long as we remain in liquidity trap, an increase in government expenditure will have the full effect on income predicted by the multiplier because interest rates do not rise at all and there is no crowding out of private investment to offset any of the effects of the increase in government expenditure. Hence, this becomes the basis for supporting the fiscal action of the government to boost output. On the other hand, those who accuse Keynesian believe that only fiscal policy can work, and that



monetary policy cannot, then point out the extreme unlikelihood of liquidity trap, and the lack of evidence that it has ever occurred. It seems to us, however, that most of those Keynesians who claim that monetary policy cannot raise income did not have liquidity trap in mind. Instead they usually based their view on the other link between monetary policy and investment. If investment is completely insensitive to the rate of interest, then monetary policy will have no effect even if it does to a fall in the interest rate except that investment is sensitive to interest rate. By now, virtually all economists accept that investment is sensitive to interest rate. It follows therefore that the general theoretical framework accepted by Keynesians indicated that provided that the economy was not in a liquidity trap and provided that there was some sensitivity of investment to interest rates, monetary policy would affect output. This view is now accepted as the empirically relevant case.

The converse case in which monetary policy can affect income while fiscal policy is powerless will also not occur in the general Keynesian model. This view referred to as the Monetarists' view is expressed by making reference to the "Quantity Theory of Money" as in equation (9) below:

$$MV=PY \quad \dots\dots\dots (9)$$

Where M stands for money stock; V, velocity of circulation; P, an index of the price level; and Y, the income. The right-hand side of equation (9) is the value of nominal national income. If V is constant then equation (9) tells us that there is a one-to-one relationship between changes in the stock of money and changes in the value of national income.

$$M = kPY \quad \dots\dots\dots (10)$$

If, in addition, as in the present context of our discussion of monetary and fiscal policy, we keep the price level (P) fixed, then the only way that Y can change is if M changes. The implication is that any other change, such as a change in government expenditure will not affect the level of real income. Hence, fiscal policy must be powerless while monetary policy will affect real output. Considering equation (10) as a demand for money which is not dependent at all on interest rates, one has the idea that there is one, and only one, level of national income which would lead to a demand for money balances which is equal to the exogenously given money supply. This suggests that if there is an increase in one of the components of desired expenditure, such as government expenditure, what will happen is that there will be an excess demand for funds which will drive up the interest rate in the financial markets. The process will only stop when enough investment has been crowded out by the rise interest rates so as to leave total expenditure back to its old level. The end result of the dynamic process is however clear from the model in equation (11) below:

$$Y = C + I + G \quad \dots\dots\dots (11)$$

An increase in government expenditure will lead to a drop in private investment of exactly the same magnitude leaving total expenditure and output unchanged. In terms of equation (11), the increase in G will be matched by a fall in I, and there is full crowding out. Hence fiscal policy cannot have any effect in the special case where the demand for money is completely insensitive to interest rate. Given the above discussion, the tendency now is for the Monetarists to say that Keynesians believe only in fiscal policy and for Keynesians to accuse monetarists of believing only in monetary policy. The issue now is to determine which view is more relevant to the Nigerian economy, especially to her ailing manufacturing sector.

❖ **METHODOLOGY AND ANALYTICAL FRAMEWORK**

The study shall be empirical. Data shall be collected on the hypothesized variables (index of manufacturing sector, fiscal and monetary policies' variables) from 1970 to 2009. The data shall be secondary type and the main source shall be the Central Bank of Nigeria Statistical Bulletin and CBN Annual Statement of Accounts on various issues. The model shall specify a functional relationship between index of manufacturing sector and the hypothesized variables. This will involve multiple regression with the aid of error correction mechanism (ECM). The following model is specified in an attempt to determine the impact of fiscal and monetary policy on index of manufacturing sector in Nigeria;

$$MANO=f(MP,FP) \quad \dots\dots\dots 1$$

Where,

$$MP= f(LR, EXR, M2, INFR, LMS) \quad \dots\dots\dots 2$$

$$FP=f(TTR,TGE,DF) \quad \dots\dots\dots 3$$

Substituting (2) and (3) into (1), to obtain the econometric form of the model as,

$$MANO=f(LR,EXR,M2, TTR, TGE, LMS, DF, INFR) \quad \dots\dots 4$$

Hence, the functional form of the model is specified as:

$$MANO = a_0 + a_1LR + a_2EXR + a_3INFR + a_4M2 + a_5TTR + a_6TGE + a_7DF + a_8LMS + \mu \quad 5$$

However, as a result of the large magnitude of the value of some of the independent variables, log-log mode is applied, and equation (5) becomes:

$$LOG(MANO) = a_0 + a_1(LR) + a_2(EXR) + a_3(INFR) + a_4LOG(M2) + a_5LOG(TTR) + a_6LOG(TGE) + a_7LOG(DF) + a_8LOG(LMS) + \mu \quad 6$$

Where,

MANO -Manufacturing Sector Output; MP - Monetary Policy Instruments; FP – Fiscal Policy Instruments

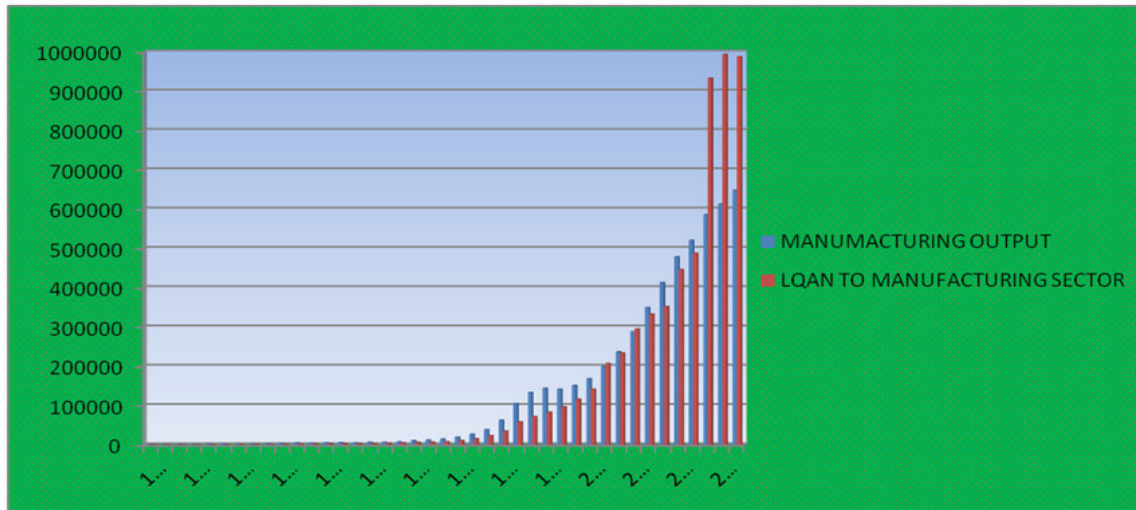
LR - Lending Rate; EXR - Exchange Rate; M2 - Broad Money Supply; TTR– Total Tax Revenue of Government; TGE- Total Government Expenditure; DF - Deficit Financing;

$\mu$  - Stochastic term (error term); and

$a_0 > 0, a_1 < 0, a_2 < 0, a_3 < 0, a_4 < 0, a_5 > 0, a_6 > 0$ , *a priori* expectations of parameters.

#### 4.0 DESCRIPTIVE AND EMPIRICAL ANALYSIS.

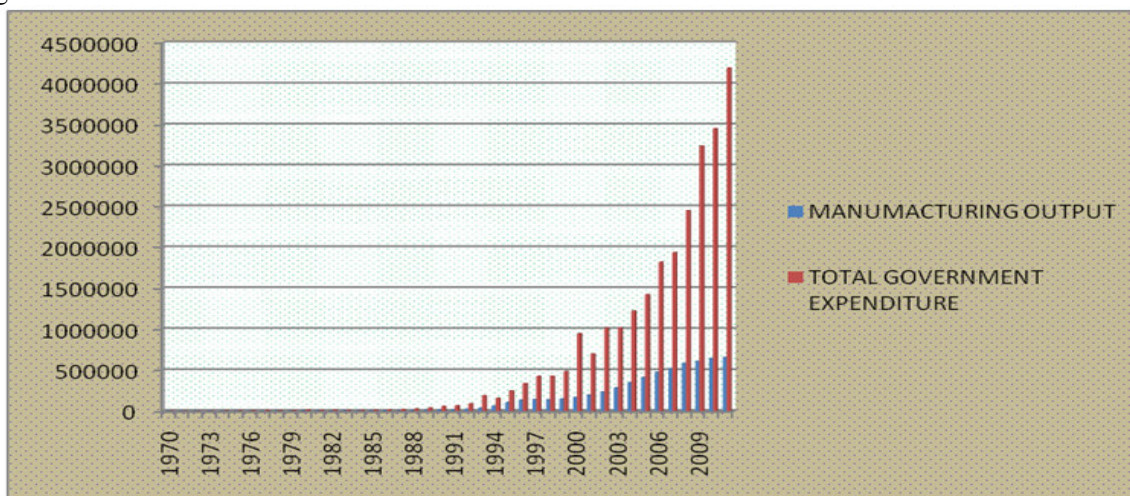
FIG. 1: A Graph Showing Relationship between Manufacturing output and Loan to Manufacturing Sector.



The figure above shows the output and loan allocation to the manufacturing sector in Nigeria between the year 1970 and 2010. The growth in output and loan allocations were negligible in the first two and half decades, this could be due to large dominant of foreign firms, repatriation of profits, effect of indigenization policy and Structural

Adjustment policy programme in Nigeria. However, thereafter, from the mid- 90s there has been considerable increase in both output and loan allocation by banks to the manufacturing sector, this was steady, consistence and proportional until the year 2006 when the loan allocation to the industry was far higher than the performance, measured by the industrial output, this could be as result of loan diversion to other sectors order than the manufacturing sector which could also be a reason for some failed banks during same period for non-performing loan granted to some debtors.

FIG. 2: A Graph Showing Relationship between Manufacturing output and Government spending in Nigeria



The total government expenditure in the early years under review was small and insignificant when compare to The latter years, this was probably due to the organic nature of “State”, that is, the bigger the state becomes the higher would be the Government spending and as such infrastructural facilities should perhaps grow along, this is highly important for industrial growth. Nevertheless, industrial output has been on the increase along with public spending but in a disproportionate manners, the question of whether this spending has affected

the growth of industrial output would be tested empirically, later in this section.

#### 4.1 EMPIRICAL ANALYSIS

**TABLE 1 : STATIC OLS REGRESSION RESULTS**

Dependent Variable: LOG(MANO)

Method: Least Squares

Date: 10/13/12 Time: 10:41

Sample (adjusted): 1970 2010

Included observations: 41 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.162880	0.407900	-0.399314	0.6923
EXR	-0.003196	0.001624	-1.968398	0.0577
INT	-0.013211	0.009436	-1.400092	0.1711
INFR	0.003018	0.002473	1.220202	0.2313
LOG(LMS)	0.045042	0.068593	0.656656	0.5161
LOG(M2)	0.291854	0.133890	2.179802	0.0367
LOG(TGE)	0.424064	0.089981	4.712829	0.0000
LOG(TTR)	0.168342	0.069512	2.421780	0.0213
LOG(DF)	0.018449	0.026000	0.709554	0.4831
R-squared	0.992806	Mean dependent var		9.982796
Adjusted R-squared	0.991007	S.D. dependent var		2.343952
S.E. of regression	0.222278	Akaike info criterion		0.021416
Sum squared resid	1.581046	Schwarz criterion		0.397566
Log likelihood	8.560969	F-statistic		551.9976
Durbin-Watson stat	1.286234	Prob(F-statistic)		0.000000

(LOGTGE) and Total Tax Revenue (LOGTTR) are all statistically significant and have the expected signs, while other Variables are not statistically significant in the short run. The (EXR) is negatively related to manufacturing output meaning that the lower the exchange rate, the higher the manufacturing output and vice versa, this is because most input are externally sourced. On the other hand money supply is directly related to the manufacturing output, that is an increase in money supply will translate to increase in industrial output, also Government Expenditure has an expansionary impact on industrial output while government tax revenue is mild enough to support increase in industrial output. However, the R-squared which measure goodness of fit of the model indicates that 99 per cent variation in manufacturing output is influenced by all included explanatory variables, and the adjusted R- Squared, also indicates 99 per cent which point out that even if other variables that influence manufacturing output but not included in the model are now included, the included ones will still explain 99 per cent variation in the industrial output. The F-statistics which show joint impact of all variables and robustness of the model is statistically Significant at 1 per cent level, while the Durbin-Watson statistics show presence of serial auto-correlation. Therefore, to move away from statics analysis to dynamics we shall carry out the following tests, the Unit Root Test (for Stationarity of data), Co-integration test ( for long-run relationship of all included variables), Pairwise Granger Causality test, Correlation matrix and the Error Correction Mechanism.

**STATIONARITY TEST**

**TABLE 2: The Augmented Dickey-Fuller Unit Root Test**

VARIABLES	@ LEVEL	@ FIRST DIFFERENCE	ORDER OF INTEGRATION
LOG(MANO)	-1.819847	-3.666160**	I(1)
LOG(DF)	-3.458329***	.....	I(0)
EXR	-1.555387	-4.021029**	I(1)
INFR	-3.755822**	.....	I(0)
INT	-2.253966	-7.108415	I(1)
LOG(LMS)	-3.417351***	.....	I(0)
LOG(M2)	-2.756290	-3.764662**	I(1)
LOG(TTR)	-2.635363	-4.609312*	I(0)
LOG(TGE)	-3.048044	-6.571961*	I(0)

SOURCE: AUTHOR'S COMPUTATION VIA E-VIEWS

The result in the table 2 above shows level at which each included variable is stationary and it's statistical significant level. The asterisk show different level of statistical significant at which each variable becomes non stationary, \*, \*\*, \*\*\*, represent 1%, 5%, and 10% level of significant respectively. All variables became non stationary at level and first difference as denoted by order of integration. The Augmented Dickey Fuller statistics for 1%, 5%. And 10% are respectively given as follows -3.605593, -2.936942, and -2.606857. Having satisfied with Stationarity level of all included variables, the next point of "action" is the test for long term interrelationship among the variable which is otherwise known as cointegration test, the most popular of this tests is Johansen cointegration test which we apply for this study.

**TABLE 3 : JOHASSEN COINTEGRATION TEST**

Date: 10/16/12 Time: 20:32  
 Sample (adjusted): 1972 2011  
 Included observations: 40 after adjustments  
 Trend assumption: Linear deterministic trend  
 Series: EXR INT INFR LMS M2 MANO TGE TTR  
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized	Trace	0.05		
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.998429	669.4515	159.5297	0.0000
At most 1 *	0.991830	411.2212	125.6154	0.0000
At most 2 *	0.880629	218.9307	95.75366	0.0000
At most 3 *	0.672228	133.9098	69.81889	0.0000
At most 4 *	0.659538	89.29234	47.85613	0.0000
At most 5 *	0.558261	46.19424	29.79707	0.0003
At most 6	0.286421	13.51281	15.49471	0.0973
At most 7	0.000357	0.014299	3.841466	0.9046

Trace test indicates 6 cointegratingeqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

The cointegration test result in table 3 above indicates six (6)cointegrationequations, this is known through the value of Johansen trace statistics and the 5% critical value, if the trace statistics is greater than the 5% critical value, then cointegration exist. Alternatively, the MacKinnon-Haug\_Michelis probability values also indicate five equation being statistically significant at 1%, and one equation at 10%. In sum, the results show that there exist long run relationships among all the included variables.



**Table 4: CORRELATION MATRIX**

	EXR	INT	INFR	LMS	M2	MANO	TGE	TTR
EXR	1.000	0.490622	-0.219726	0.841373	0.775124	0.914200	0.883332	0.843665
INT	0.490622	1.000000	0.293030	0.325333	0.280163	0.384868	0.360695	0.303436
INFR	-0.219726	0.293030	1.000000	-0.211232	-0.201446	-0.212037	-0.224689	-0.220155
LMS	0.841373	0.325333	-0.211232	1.000000	0.987186	0.965327	0.980649	0.946705
M2	0.775124	0.280163	-0.201446	0.987186	1.000000	0.937762	0.970330	0.930304
MANO	0.914200	0.384868	-0.212037	0.965327	0.937762	1.000000	0.983157	0.966161
TGE	0.883332	0.360695	-0.224689	0.980649	0.970330	0.983157	1.000000	0.948015
TTR	0.843665	0.303436	-0.220155	0.946705	0.930304	0.966161	0.948015	1.000000

The correlation matrix above show the interrelationship among all variables in the model, individual variable is perfectly correlated with itself and thus it has value of one (1). For instance, interest rate and manufacturing output has correlation value of 0.384868, meaning that 38% change in output of the manufacturing sector is due to interest rate and vice versa. In the same strain, the correlation value for total government expenditure and manufacturing output is given at 0.983157 which imply that 98% relationship exist between TGE and MANO, this is very strong and close to perfect. Also total tax revenue (TTR) and manufacturing output (MANO) have 0.966161 as correlation value, this is equally strong. Exchange rates (EXR), broad money supply (M2), loan to manufacturing (LMS), correlation to MANO are respectively as follows, 0.914200, 0.937762, and 0.965327, meaning 91%, 94% and 97% correlation, which are strong relationship with MANO.

**TABLE 5: DYNAMICS PARSIMONIOUS ERROR CORRECTION MODEL**

Dependent Variable: LOG(MANO)

Method: Least Squares

Date: 10/16/12 Time: 23:02

Sample (adjusted): 1974 2011

Included observations: 38 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.679027	0.126610	13.26141	0.0000
D(LOG(TTR))	0.091053	0.090221	1.009225	0.0a218
D(LOG(TGE(-1)))	0.186978	0.103312	1.809833	0.0815
D(LOG(TGE),2)	0.126591	0.059201	2.138302	0.0417
D(LOG(M2),2)	0.417043	0.191867	2.173605	0.0387
D(EXR)	0.002001	0.002281	0.877455	0.3880
INFR(-1)	0.004913	0.001501	3.274066	0.0029
D(INT)	-0.013376	0.006726	-1.988858	0.0569
LOG(LMS)	0.853912	0.011119	76.79889	0.0000
D(LOG(LMS))	0.175092	0.052819	3.314958	0.0026
ECM(-1)	-0.280478	0.243876	1.150084	0.0602
R-squared	0.996350	Mean dependent var		10.47847
Adjusted R-squared	0.994998	S.D. dependent var		2.107476
S.E. of regression	0.149048	Akaike info criterion		-0.731894
Sum squared resid	0.599816	Schwarz criterion		-0.257856
Log likelihood	24.90599	F-statistic		737.0295
Durbin-Watson stat	1.558024	Prob(F-statistic)		0.000000

Source: author's computation

The parsimonious model gives a resounding lucidity among all included variables, all the independent variables are statistically significant except the D(EXR), and LOG(DF) does not significant at all forms. The positive coefficient of constant term and its 1% level of significant imply that beside the stabilization policy tools, there exist some other factors which still influence manufacturing output, however this also counteract by the value of adjusted R-squared which infer

that if other variables which explained LOG(MANO) and included, the included explanatory variable will still explain 99.5% variation in the manufacturing output. The R-squared which measured the goodness of fit of the model suggest an approximately 100% variation in manufacturing output being explained by all included explanatory variables. The Durbin Watson Statistics shows absence of serial auto correlation while the F-statistic which measured the overall robustness of the model is at 1 per cent level of significant. The coefficient of error correction variable known as speed of adjustment shows that there is short run disequilibrium through the negative sign and that the disequilibrium will be adjusted for in the long run. The long run adjustment would take a period of approximately four years, this is informed by the value of the ecv.

## 5.0 CONCLUSION AND RECOMMENDATION

In sum Government should encourage and maintain spending towards the manufacturing sector development and simultaneously develop the nation's infrastructural facilities, in other to encourage domestic investors and win more foreign investors which are highly competitive globally. Government should also maintain her tax pattern because it is mild on investor and encourages output growth, however multiple tax system being practice in some quarters' in country should be discouraged and eventually be discarded, this is because it is anti-productive and could lead to economic menace. On the other, loan to manufacturing sector and broad money supply should be encouraged and maintain in other to boost manufacturing productivity. In the same vein, a milder inflation would have a better result on manufacturing performance and this could be achieved through policy of inflation targeting.

So far, we have seen that stabilization policy in Nigeria has a greater deal on performance of manufacturing sector. Both monetary and fiscal policies have great influences on industrial output, smoothing these policies will boost industrial output and better the lots of our people through employment generation and improved standard of living

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