

**FISCAL POLICY AND ECONOMIC INSTABILITY
IN AN OIL-DEPENDENT ECONOMY: The Nigerian
Experience During the Oil Boom of the Seventies***

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Despite the unprecedented inflow of foreign exchange into the Nigerian economy during the period of the oil boom in the seventies, the economy has been experiencing a balance of payments crisis and a recession since early 1982. While the glut in the world oil market is often blamed for these problems their genesis is perhaps best sought within the context of the fiscal indiscipline and the exchange rate policy which characterised policy makers' response to the oil boom. This paper examines the effects of these policy responses on certain macro-economic variables during the period 1972-1984. It is observed that the evolution of these variables indicates that the Dutch Disease syndrome emerged during this period. Real output hardly grew; real agricultural output declined; non-oil exports, especially agricultural exports, lost competitiveness as a result of real exchange rate appreciation. The non-oil sector became more and more dependent on imports and a balance of payments crisis was imminent even before the 1982 oil market bust. It is argued that these developments could be directly traced back to the budgetary operations of the government through which the oil boom affected the rest of the economy. The policy of nominal exchange rate appreciation also contributed to the events which eventually led to an external debt crisis in the eighties. All of these happened because of the failure to make appropriate policy choices.

I. Introduction

The most important phenomenon which characterised the Nigerian economy in the seventies was the unprecedented transfer of wealth from abroad which followed the two oil price shocks of 1973-74 and 1979. Given the foreign exchange nature of the transfer, expectations were high that the country's rate of development could be accelerated and that,

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before long, the economy could be set on the path to self-sustained growth. However, hardly a decade after the first oil price escalation the economy was faced with a balance of payments crisis of a magnitude that had not been experienced in the country's history. In addition, the record of performance during the period of the oil boom shows that there was hardly any tendency towards the realisation of sustained growth during the period of the boom, (see Table 1). Although the economic crisis was brought into the open by the 1982 collapse of the world oil market data clearly show that it had been incipient throughout the period of the oil boom. The thesis of this paper is that the foundation for the crisis had been laid by the particular policy responses to the massive inflow of

TABLE 1

Performance of the Nigerian Economy during the Oil Boom, 1972-1984.

Year	GDP at 1980 prices	Per capita real GDP	Non-oil GDP at 1980 prices	Per capita real non- oil GDP
	(1)	(2)	(3)	(4)
1972	40114.6	670.3	22978.9	383.9
1973	35468.1	574.8	27017.7	437.8
1974	43255.8	679.6	39188.6	615.7
1975	41493.2	613.2	36914.9	545.5
1976	46249.1	660.0	37962.6	541.8
1977	49780.7	685.9	37284.7	513.7
1978	46526.2	618.9	36701.5	488.2
1979	47785.9	613.9	36232.3	465.5
1980	49338.0	612.4	35706.0	443.2
1981	47673.8	572.2	33856.5	406.4
1982	47801.4	555.0	35749.0	415.1
1983	43868.0	492.8	29629.5	332.8
1984	41520.6	451.1	21246.8	230.8

Notes: GDP at current prices is deflated by the GDP deflator to obtain GDP at 1980 prices. Non-oil GDP is GDP at current prices less oil exports deflated by the consumer price index. The use of consumer price index is to avoid the bias which the changes in oil prices might have introduced through the use of aggregate GDP deflator.

Sources: IMF (1987) for all the data.

foreign exchange which marked the oil boom period.

The oil price escalation confronted the economy with a 'windfall situation', similar to the type experienced by a country when a new natural resource has just been discovered. While such a windfall could potentially provide the means by which a less developed country (LDC) such as Nigeria could put its economy on the path to economic progress, it is also well-known that such a situation, if not properly managed, could lead to structural changes which could have serious repercussions for the future development of the economy, [Corden and Neary (1982), Harberger (1983), and Lewis (1984)].¹

Unfortunately, there seemed to be no indication of an awareness on the part of policy makers of the possibility of a 'Dutch Disease' syndrome in the presence of such massive inflow of foreign exchange as was experienced during the oil boom in Nigeria. As the literature cited above clearly indicates, the primary cause of a 'Dutch Disease' in an economy experiencing a natural resource or agricultural export boom is the expenditure effect of the boom. Such a boom initially leads to a higher disposable income for the economy. The increase in disposable income will result in an increase in demand for goods and services (both tradables and nontradables). If the domestic prices of tradable goods are determined by their international prices and the exchange rate, then the spending effect of the export boom would be reflected in a rise in the price of nontradables and a real appreciation of the domestic currency. The export boom will also tend to be accompanied by a balance-of-payments surplus which, if not sterilized, will increase the monetary base. The increase in the supply of money will tend to lead to further domestic inflation and a higher real appreciation of the local currency. The likely effect of a real appreciation will be an increase in demand for importables whose domestic prices have been reduced relative to those of other goods. If the rate of growth of the value of imports exceeds that of exports (a possibility, in spite of the export boom) then, eventually, a balance of payments crisis may emerge if appropriate policy actions are not taken to correct the situation. In such a circumstance in which leakages (imports) exceed injections (exports) into the circular flow of income there will be a tendency for real income to decline eventually.

This appears to be what happened in Nigeria during the oil boom years. Even though real GDP did not decline its rate of growth was an average of 1.6 per cent per year between 1973 and 1984 (Table 1). Thus, gross

¹ The repercussions referred to here are the 'Dutch Disease' syndrome of real appreciation, the loss of competitiveness and the decline of the non-booming tradable sectors, the growth of the non-tradable sectors, and the 'de-industrialisation' and/or 'de-agriculturalisation' which often accompanies an export boom.

domestic product (including the output of the oil sector) hardly increased in real terms during the period in spite of the oil boom. Indeed, aggregate real income per head fell by about 2.2 per cent over the eleven year period. The non-oil sector even performed worse than the aggregate economy. Real GDP in this sector in 1984 was only about 79 per cent of its 1973 level and on a per capita basis it was only half as much as it was in 1973.

The nature of the oil sector in the Nigerian economy is such that the possibility of a boom in that sector, having such adverse repercussions for the economy, depends upon the policy responses of the government to the boom. The oil sector in Nigeria is an 'enclave' whose only linkage with the rest of the economy is through the budgetary operations of the government. In Nigeria oil revenues are received in the first instance by the government. The way and manner in which these revenues are spent is therefore important in determining the impact of the oil boom on the Nigerian economy. The primary objective of this paper is therefore to examine the linkage between the government's fiscal responses to the oil boom and the trends of certain economic aggregates in the economy over the period 1972-1984. The analytical approach adopted for the paper is one which has been articulated elsewhere, [Olopoenia (forthcoming)]. It links the oil boom to domestic money supply and aggregate demand through the budgetary operations of the government. Domestic money supply and aggregate demand are in turn linked to the domestic price level, the real exchange rate, non-oil exports, import demand and the balance of payments of the non-oil sector.

Section II briefly discusses the impact of the oil boom on government revenue. Section III reviews the policy options available to the government as a result of the revenue boom and the choices which were made. Section IV analyses the extent to which the policy responses to the oil boom affected certain key macro variables through the impact on the money supply. The variables focused on are private expenditure, the rate of inflation, the real exchange rate, non-oil exports, imports, and the balance of payments. The last section summarises the findings and their policy implications.

II. The Oil Boom and Government Revenue

The two oil price shocks had the effect of raising Nigeria's export earnings from oil very significantly throughout the period of 1973 to 1984. From a low level of Nairas 1,176 million in 1972 oil exports rose rapidly between 1973 and 1977 when they reached Nairas 7,073 million. Although they fell by Nairas 1,402 million in 1978, the 1979 shock had raised them

to Nairas 13,632 million by 1980. While oil export revenues declined considerably after that year, by 1984 they were still about seven and a half times their 1972 level, (see, Table 2).

The immediate impact of the oil export boom on the Nigerian economy was an expansion in government revenue from oil. Both oil export revenue and government revenue rose at an annual average rate of more than 19 per cent between 1972 and 1984. Thus government revenue from oil increased from Nairas 764.3 million in 1972 to Nairas 12,353.8 million by 1980. Although it fell between that year and 1983, by 1984 it was still nearly ten times larger than its level in 1972. This rapid increase in government's oil revenue was reflected in the rate of growth of total revenue. While total revenue growth rate lagged behind that of oil revenue, it still averaged an annual rate of about 16.8 per cent between 1972 and 1984. The low rate of growth of total revenue was due to a slower growth rate of non-oil government revenue which expanded at the average rate of 15.7 per cent through the period.

TABLE 2

Profile of Government Revenues in Nigeria during the Oil Boom:
1972-1984 (Nairas million)

Year	Oil exports	Government's Oil revenue	Government's non-oil revenue	Total government revenue	Share of oil revenue in total
	(1)	(2)	(3)	(4)	(5)
1972	1176	764.3	640.5	1404.8	54.4
1973	1894	1016.0	752.9	1768.9	57.4
1974	5366	3726.7	810.3	4537.0	82.1
1975	4630	4271.5	1243.2	5514.7	77.5
1976	6196	5365.2	1400.7	6765.9	79.3
1977	7073	6059.0	1593.5	7652.5	79.2
1978	5671	4458.8	2356.4	6815.2	65.4
1979	9706	8880.9	2032.2	10913.1	81.4
1980	13632	12353.8	2880.2	15234.0	81.1
1981	10681	8564.4	3615.7	12180.1	70.3
1982	8602	6867.8	3276.1	10143.9	67.7
1983	7337	7253.0	3255.7	10508.7	69.0
1984	8841	8209.7	2984.1	11193.8	73.3

Source: IMF (1987) for oil exports and Central Bank of Nigeria (CBN), (1973-1985), for government revenues.

The significance of the oil boom for government revenue is illustrated in column (5) of Table 2. Total government revenue became more and more dependent on the oil sector after the first price shock of 1973. For more than half of the period covered by the data the oil sector accounted for more than 70 per cent of government revenue. For the other years its share was more than 50 per cent. On the average, oil revenue contributed 73.6 per cent of total government revenue between 1973 and 1984 as compared to 54.4 per cent in 1972.

III. Macroeconomic Policy Responses to the Oil Boom: Issues and Choices

Although the oil boom and the consequent growth of public revenue relaxed the financial constraint on development, the situation confronted the authorities with new problems. Basically, the problems were those of how best to employ the newly acquired wealth in order to successfully bring about a 'take-off' towards self-sustained development. A range of policy options were opened to the government. It could use the additional revenue to increase current expenditure, to increase expenditure in the future or, it could spread the increase in expenditure over time. In the light of the possible negative spending and inflationary effects of an export boom discussed in the introduction the need for a well articulated policy package with respect to the use of the new revenues became paramount.

A desirable policy package would include the following key elements: (1) an optimal pattern and rate of growth of public expenditure based on a feasible rate of development; (2) an appropriate exchange rate regime and domestic price level which would protect the balance of payments against external disturbances; and (3) an appropriate policy in respect of the flow of oil revenue into the private income stream so as to moderate the growth of private expenditure and to ensure that aggregate demand did not expand at too fast a rate for the attainment of internal and external stability.

These elements of a 'good' policy package are closely linked. The optimal public expenditure pattern and growth depends on the capacity of the economy to absorb the increased expenditure without overheating. This would require that the pattern of public expenditure be such as would direct aggregate investment into the directly productive sectors where their impact on the general price level would be minimised. The extent to which the financial resources at the disposal of the government could be injected into the private income stream would depend on the rate at which government expenditure was allowed to expand. If the growth of private income due to public sector spending is not matched

by the growth of domestic production of real goods and services, inflation would follow. The appropriate exchange rate policy, which would protect the balance of payments, would be a function of the domestic rate of inflation and the impact of the growth of aggregate expenditure on relative prices.

An examination of the various economic policies adopted during the period does not reveal an awareness on the part of policy makers of the interaction between government fiscal response to the oil boom on the one hand and internal and external stability of the economy on the other. Prior to the oil price escalation, economic policy was directed towards the achievement of price stability, the protection of the balance of payments position and the expansion of infrastructural facilities and domestic production capacity. However, with the advent of the oil boom, the control of inflation became the major policy concern. While this might have been viewed as a legitimate policy objective which could have aided the achievement of internal and external stability, it was pursued with inappropriate policy instruments. During the period of 1974–1977, policy makers believed that the inflationary pressure on the economy could be relieved through imports. This belief was pursued without regard to its effect on the balance of payments. A policy of import liberalization and exchange rate appreciation was adopted both as a means of relieving the supply constraints and moderating the effect of imported inflation. It was not until mid-1977 that the protection of the balance of payments position became a policy objective, but this was abandoned by early 1980, [see, Nigeria, (1973–1985 issues)].

The anti-inflationary policies adopted appeared to have been based on two presumptions. The first was that foreign exchange inflow from oil exports would continue undisturbed for the foreseeable future. The second was that inflation in the Nigerian economy was largely of foreign origin. The correct policy would have been a drastic reduction in the rate of growth of public expenditure along with an appropriate rate of depreciation of the naira. This would have ensured that the rate of inflation is moderated and that the real exchange rate did not appreciate. The stability of the real exchange rate would have prevented any resource pull from the non-oil tradable sectors which would in turn have been able to increase the supply of domestic goods and services and help in reducing the inflationary pressure.

On the contrary, public expenditure was allowed to expand and the nominal exchange rate of the naira was appreciated throughout the period. Between 1972 and 1981 government spending experienced sharp increases as a result of the oil revenue boom (Table 3) and was more than doubled

in each of the two years following the 1973 oil price increase. In 1980, after the second price shock government spending increased by about 90 per cent. In the other years during the period 1972–1981 the rate of growth of public expenditure was fairly high. Even though it fell each year from 1982 to 1984 its average annual rate of growth between 1972 and 1984 was a little over 30 per cent. Thus by 1984 government spending had risen to Nairas 13,854.2 million from its 1972 level of Nairas 1,123.9 million.

The significance of this expansion in public spending can be illustrated by relating government expenditure to some measure of the output of goods and services in the economy during the period under review. In this regard, the appropriate measure of output of goods and services in the economy would be the level of economic activity in the non-oil

TABLE 3

Trends in Government Expenditure in Nigeria: 1972–1984

Year	Government expenditure (Nairas million)	Annual growth rates (%)	GE NOGDP (%)
	(1)	(2)	(3)
1972	1123.9	—	17.2
1973	1233.1	9.7	15.2
1974	2740.6	122.3	20.7
1975	5942.6	116.8	35.7
1976	6963.7	17.2	33.3
1977	8894.5	27.7	35.7
1978	9637.1	8.3	32.2
1979	10068.6	4.5	30.6
1980	19195.0	90.6	53.8
1981	21238.8	9.6	51.9
1982	17040.1	-19.8	25.6
1983	15789.1	-7.3	23.2
1984	13854.2	-12.3	29.1

Note: Column (3) shows the share of government expenditure in non-oil GDP.

Source: CBN (1973–1985 issues) for government expenditure and IMF (1987) for non-oil GDP at current prices.

sectors.² As a proportion of non-oil GDP, government expenditure averaged 32.7 per cent over the period 1972–1984. It accelerated from a low level of 17.2 per cent in 1972 to 35.7 per cent in 1975. For nine years out of the thirteen, covered by the data in Table 3, it was above 30 per cent of non-oil GDP. In 1980 and 1981 it was a little over 50 per cent.

The financing of such rapid expansion in public expenditure, with revenues from a resource boom, was bound to have undesirable implications for the domestic price level and the real exchange rate. As Table 4 shows the consumer price index rose from a low of 28.4 in 1972 to a high level of 223.8 in 1984. This is nearly a six hundred per cent increase. While the inflation must have been caused by both the spending and the monetary effects of the boom, the enclave character of the oil sector in the Nigerian economy was such that the occurrence and extent of these effects largely had to depend on the government's fiscal response to the oil revenue boom.

Domestic inflation would, by itself, have led to a real appreciation of the naira;³ but this tendency was further reinforced by the exchange rate policy pursued as an anti-inflationary tool. The nominal exchange rate of the naira was appreciated deliberately during the period. Between 1973 and 1976 the naira appreciated by about 16 per cent against the currencies of key trading partners.⁴ Even at the time when the protection of the balance of payments position was a policy objective (i.e., 1977–1979), the domestic currency depreciated by only 12 per cent. Thereafter it appreciated and by 1984 its value *vis-à-vis* key trading partner's currencies had risen by a little over 11 per cent over its 1973 value [Table 4, column (1)].

The policy of raising the exchange rate of the naira appeared to have been based on the overall balance of payments position as a guide. A comparison of the total current account balance in one year [Table 8, column (3)] with the change in the nominal exchange rate in the following year [Table 4, column (1)] supports this conclusion. The overall balance of payments position was a wrong guide for exchange rate policy, in the con-

² For the Nigerian economy it is the non-oil sectors which had to absorb the impact of government spending. The oil sector has little domestic value added and, as such, does not contribute directly to the supply of goods and services.

³ Because the prices of tradables are fixed on the world market, increases in the domestic price level would be reflected mostly in higher non-tradables prices and would therefore lead to a real appreciation.

⁴ France, West Germany, Italy, Japan, the U.K. and the U.S.A., all of which accounted for a little over 73 per cent of Nigeria's imports in 1980.

text of the Nigerian economy, during the period of the oil boom. A reliance on this measure as the indicator of the required direction for exchange rate changes led to a dependence on imports by the rest of the economy that could only be sustained as long as oil exports remained buoyant. The appropriate indicator for the required exchange rate changes should have been the balance of payments position of the non-oil sector. If this had been the case the nominal exchange rate would have been depreciated during the period.

TABLE 4
Real Effective Exchange Rate for Nigeria:
1972-1984 (1980 import weight).

Year	Index of nominal exchange rate 1980=100	Index of foreign prices 1980=100	Index of domestic prices 1980=100	Index of real effective exchange rate 1980=100
	(1)	(2)	(3)	(4)
1972	115.57	44.50	28.40	174.82
1973	114.75	49.23	30.01	188.24
1974	107.75	60.38	33.77	192.65
1975	104.37	65.20	45.12	150.82
1976	96.51	70.85	55.07	124.16
1977	99.25	76.84	66.88	117.00
1978	108.36	80.54	81.40	107.22
1979	108.62	88.41	90.93	105.61
1980	100.00	100.00	100.00	100.00
1981	98.84	108.79	120.81	89.01
1982	97.91	115.95	130.11	87.18
1983	99.10	120.60	160.31	74.55
1984	96.50	127.13	223.77	54.82

Notes: Column (1) is an index of the weighted average of the naira exchange rate *vis-a-vis* the currencies of six trading partners. The six countries (France, West Germany, Italy, Japan, U.K. and U.S.A.) accounted for 73.4 per cent of Nigeria's imports in 1980. Column (2) is an index of the wholesale price index for the six trading partners. The weights for both series is the 1980 imports. Column (3) is the consumer price index for Nigeria. The construction of the real effective exchange rate index is explained in the text.

Source: The bilateral exchange rates of the naira *vis-a-vis* trading partners' currencies were derived from IMF (1987). The wholesale price indices and Nigeria's consumer price index are also from the same source. The import shares are from the 1984 issue of Nigeria (1973-1985 issues).

IV. Macroeconomic Implications of Policy Responses to the Oil Boom

It is obvious from the discussion in the last section that the major policy response to the oil boom was the rapid expansion of public expenditure. It was only through this channel that the effects of the oil boom were transmitted to the rest of the economy. However in order to properly identify the transmission channel we must distinguish among three types of government expenditure: (1) those expenditures on foreign goods financed with oil revenue; (2) those expenditures on domestic goods financed with revenues from the non-oil sectors of the economy; and (3) those expenditures on domestic goods financed with revenues from the oil sector. The first two types of government expenditure could not have served as the transmission channels for the impact of the oil boom. They either had their impact abroad and they were financed with externally generated revenue or they had their effects on the home economy but they were matched by withdrawals from the domestic private income stream. It was through the third type of government expenditure that the oil boom had its impact on the economy. The spending of oil revenues on domestic goods and services would have raised government expenditure on home goods above government revenues from domestic sources. The gap between 'domestic' expenditures and 'domestic' revenues is the domestic budget balance [Morgan (1979), Aghevli and Sassanpur (1982), and Olopoenia, (forthcoming)].

The domestic budget balance is an indicator of the extent to which the government allowed the oil revenue to impact on the domestic economy through its fiscal operations. It measures the initial spending effect of the oil boom. It is also the channel through which the monetary effect of the boom could be transmitted. This is due to the fact that the foreign exchange effect of the boom was transmitted through government's oil revenues. Foreign exchange from oil accrues to the government and is deposited in the central bank. If the government does not spend any part of these foreign assets on domestic goods there would be no increase in domestic liquidity unless there is a net increase in credit to the private sector. However, if part of the oil revenue is spent on domestic goods it would increase the money supply [Stillson (1976), Dornbusch (1980), Chapter 2].

In estimating the domestic budget balance for the purposes of this paper it would have been ideal to have information on government expenditures on foreign goods and on domestic goods. The lack of data prevents such a breakdown of government expenditures. Therefore all government spending has been treated as 'domestic'. Only the revenues from the oil

sector have been treated as foreign. The domestic budget balance is therefore estimated as the difference between total government expenditure and government revenue from the non-oil sectors. While this approach might have overestimated the actual domestic budget balance the degree of error is not likely to be significant in view of the fact that government spending on foreign goods and services tends to be a small proportion of total expenditure.

Table 5 shows the trend in the domestic budget balance and domestic liquidity between 1972 and 1984. The domestic budget balance was in deficit throughout the period. The deficit also increased rapidly from a level of Nairas 483.4 million in 1972 to Nairas 17623.1 million in 1981. Although it fell thereafter it was still nearly Nairas 11000 million in 1984. The magnitude of the deficit relative to the non-oil sector GDP is a good approximation of demand pressure exerted on the rest of the economy by the initial spending effect of the oil boom through the growth of government expenditure. Between 1972 and 1984 this ratio averaged 29 per cent. It rose from 7.4 per cent in 1972 to 29.3 per cent in 1977 and 45.7 per cent in 1980. In 1981 it declined only marginally by about three percentage points. Although it fell drastically in the next three years it still stood at an average of a little over 26 per cent in those years.

Columns (4), (5), (6) and (7) of Table 5 presents the evolution of the domestic budget balance and liquidity during the period. The domestic budget balance and the first differences in the stock of domestic liquidity, both expressed as percentages of non-oil GDP, follow similar patterns in their development. The coefficient of determination between them is 0.304. A closer association appears to have existed between the annual changes in the domestic budget balance and liquidity. If 1972 is excluded from the series, the coefficient of determination between them is 0.872. Because of the close association between these two variables and the rapid expansion of the domestic budget balance, domestic liquidity grew rapidly at an annual average rate of almost 28 per cent. This was a rather outstanding rate of monetary expansion even among OPEC countries during this period [Oke and Nwade (1977)]. There is no doubt that such rapid expansion of the stock of money was largely due to the rapid monetization by the government of its oil revenues. For instance it has been estimated that, between January 1973 and June 1977, 86 per cent of total primary money created in the economy was due to the government's fiscal activities [Oke and Nwade (1977)].

The Dutch Disease literature suggests that both the spending effect and the monetary effect of an export boom would lead to a real appreciation of the domestic currency [Harberger (1983), Edwards (1984) and

TABLE 5
Trends in Domestic Budget Balance and Money Supply in Nigeria: 1972-1984

Year	DBB Nairas million	DL Nairas million	NOGDP Nairas million (current prices)	DBB NOGDP (%)	DL NOGDP (%)	Annual changes in DBB (%)	Annual changes in DL (%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1972	483.4	1204	6526	7.4	2.4	198.800	15.5
1973	480.2	1508	8108	5.9	3.7	- 0.007	25.2
1974	1930.3	2730	13234	14.6	9.2	302.000	81.0
1975	4699.4	4177	16656	28.2	8.7	143.500	53.0
1976	5563.0	5843	20906	26.6	8.0	18.400	39.9
1977	7301.0	7813	24936	29.3	7.9	31.200	33.7
1978	7280.7	7521	29875	24.4	- 1.0	- 0.003	- 3.7
1979	8036.4	9849	32946	24.4	7.1	10.400	31.0
1980	16314.8	14390	35706	45.7	12.7	103.000	46.1
1981	17623.1	15239	40902	43.1	2.1	8.000	5.9
1982	13764.0	16694	46513	29.6	3.1	- 21.900	9.5
1983	12533.4	19035	47499	26.4	4.9	- 8.900	14.0
1984	10870.1	21243	47544	22.9	4.6	- 13.300	11.6

Note: DBB is the domestic budget balance. It is the difference between government expenditure and government revenue from the non-oil sector. DL is domestic liquidity, i.e., money plus quasi-money and NOGDP is non-oil GDP. Source: DBB is from Tables 2 and 3; DL and NOGDP are from IMF (1987).

(1985)]. It has already been suggested above that the spending effect transmitted through an expansion of government expenditure increases domestic demand pressure by increasing the domestic budget balance. The effect of the domestic budget balance on money supply will further increase demand pressures by pushing up private expenditure. Increases in government expenditure would have raised domestic real income. However, if the associated increase in demand for real balances is less than the increase in money supply private expenditure would rise. This is usually the case immediately after an export boom [Pinto (1987)].

If the economy has excess capacity before the boom the growth in aggregate expenditure could lead to the growth of real output. However if domestic production failed to respond to the increase in aggregate demand, inflation would follow. Since the prices of tradables are determined by the world market and the nominal exchange rate only, the prices of non-tradables would rise, leading to a real appreciation. This was the situation in Nigeria during the oil boom period. While private expenditure grew at an annual average rate of about 20 per cent between 1972 and 1984 real GDP in the non-oil sector failed to respond, (Table 6). Private expenditure only grew at an annual average rate of 0.7 per cent throughout the period and indeed its value in 1984 was less than what it was at the beginning of the period, (see Table 1 and Table 6). This partly explains the two-digit rate of domestic inflation reported in the previous section.

The inflationary pressure and the exchange rate policy of the authorities combined to give rise to a real appreciation of the naira. Table 4, column (4) gives the index of the real effective exchange rate for the naira from 1972 to 1984. It was computed with the formula⁵

$$REER_t = \frac{\sum_{i=1}^n \alpha_i R_{it} \cdot \sum_{i=1}^n \alpha_i P_{it}}{P_{nt}}$$

where α_i is trading partner i 's weight; R_i is the exchange rate of the naira *vis-a-vis* trading partner i 's currency; P_i is the wholesale price index (WPI) in country i ; P_n is the consumer price index (CPI) for Nigeria; and t is the year. The weights are 1980 import shares and the sum of the α_i 's is unity [Edward (1984), p.27]. The WPI of the trading partners has been used

⁵This formula is different from the one given in Pinto [(1987), footnote 6 p. 426]. The index of real effective exchange rate reported in Table 4 is, however, only slightly different from the one in Table 2, column (5) of Pinto (1987). The difference in the real appreciation of the naira between 1973 and 1984, as indicated by the two series, is only 3.7 per cent.

because it is closer to the prices Nigeria would have paid for imports. It is therefore a better measure of the foreign prices which Nigeria faces for her imports. The consumer price index in Nigeria is a good measure of the prices of nontraded goods which form a substantial proportion of the goods used in constructing this index.

REER is therefore a weighted average of foreign prices (expressed in domestic currency) relative to domestic prices. A fall in the index of REER implies a real appreciation of the domestic currency. The data in Table 4, column (4) indicate that the real exchange rate for Nigeria appreciated by about 71 per cent between 1973 and 1984. In the context of the Dutch Disease models such a real appreciation would be expected to have negative repercussions on the non-booming tradables

TABLE 6

Indicators of Demand and Inflationary Pressures in Nigeria: 1972–1984

Year	Private expenditure nairas million	Change in private expenditure (%)	Change in real NOGDP (%)	Change in consumer prices (%)
	(1)	(2)	(3)	(4)
1972	5267	—	—	—
1973	6018	14.30	17.6	6.0
1974	10962	82.20	45.0	12.5
1975	13689	24.90	— 5.8	33.6
1976	16297	19.10	2.8	22.1
1977	18824	15.50	— 1.8	21.4
1978	23083	22.60	— 1.6	21.7
1979	25928	12.30	— 1.3	11.7
1980	30601	18.00	— 1.5	10.0
1981	35870	17.20	— 5.2	20.8
1982	40621	13.20	5.6	7.7
1983	40271	— 0.10	—17.1	23.2
1984	40129	— 0.04	—28.3	39.6

Note: Private consumption expenditure has been used as a proxy for private expenditure in this table because of a lack of data on private investment expenditure.

Sources: Private expenditure is from IMF (1987); Changes in real NOGDP is from Table 1; and Changes in consumer prices is from Table 4.

sectors. In the Nigerian case the resource-pull effect of a real appreciation are likely to be felt most by the agricultural sector.⁶ Thus, it would be expected that agricultural output and exports would decline. In a growing economy such a decline might take the form of a fall in their relative shares in total economic activities. However, in the Nigerian economy in which non-oil GDP achieved only a 0.7 per cent average annual growth rate agriculture was likely to have fared much worse. In addition, imports are likely to have risen because of the fall in their relative prices in the domestic market.

Table 7 presents data on the real effective exchange rate, agricultural real output, the quantum of agricultural exports, and the values of the exports and imports of the non-oil sectors. There is clear evidence of de-agriculturalization. Both the total real output of the agricultural sector and the volume of agricultural exports suffered during the period. Agricultural output fell at an annual average rate of 1.2 per cent while the quantum of agricultural exports fell by an average annual rate of 9.1 per cent. By 1984 agricultural exports were only 30 per cent of the 1970-71 average volume. Output of agricultural goods was about 84 per cent of its 1970-71 average value by 1984. Although the value of non-oil exports rose at an annual average rate of 7.2 per cent this must have been mostly accounted for by price changes. In spite of such favourable price movements the value of non-oil exports still fell in 1979 and between 1980 and 1984.

While the exports of the non-oil sectors was rising during the period their import increased at an even faster rate of about 21 per cent per year. Although no meaningful association can be observed between the value of non-oil exports and the real exchange rate the coefficient of determination between the latter and the index of non-oil import (with 1970-71 average = 100) is -0.85 . Its size and sign indicate that the real appreciation had the expected effect on non-oil imports.

To evaluate the contribution of real exchange rate changes to the developments in the agricultural sector, the coefficients of determination between the real effective exchange rate and the indices of agricultural output and exports were computed. Although the value of the coefficient for agricultural output is low (0.13) its positive sign is an indication that the

⁶ When manufacturing activities enjoy high rates of effective protection through tariffs and/or quotas their status as traded goods sectors becomes questionable because their domestic prices would bear no relationship to international prices [Roemer (1985)]. In Nigeria, during the oil boom and in spite of the policy of import liberalisation at the early stages of the boom, trade policy was more in the direction of high effective protection for manufactures *vis-a-vis* agricultural goods which faced stiff competition from imports.

TABLE 7
The Real Exchange Rate and the External Performance of the Non-oil Sectors in Nigeria: 1972-1984

Year	Index of real effective exchange rate 1980 = 100	Index of real agricultural ¹ output 1970-71 Av. = 100	Quantum index of agricultural exports 1970-71 Av. = 100	Non-oil exports (Nairas millions)	Imports of the non-oil (Nairas millions)
	(1)	(2)	(3)	(4)	(5)
1972	172.82	105.8	118.4	334.9	1250.5
1973	188.24	72.7	67.5	469.9	1720.6
1974	192.65	70.2	84.1	664.0	2776.5
1975	150.82	68.6	67.5	845.6	4795.2
1976	124.16	68.6	81.7	932.1	6373.1
1977	117.00	72.4	66.9	1119.3	8001.5
1978	107.22	69.1	54.8	1171.9	9038.0
1979	105.61	67.9	54.0	1142.8	8890.6
1980	100.00	65.8	45.2	1347.2	11496.1
1981	89.01	63.1	47.6	1221.2	14619.2
1982	87.18	78.9	40.6	578.3	12614.9
1983	74.55	80.3	35.1	579.8	10168.7
1984	54.82	83.8	30.0	516.0	8406.1

Sources: Real effective exchange rate is from Table 4. The index of real agricultural output and the quantum index of agricultural exports are constructed from Nigeria (1973-1985 issues) and Federal Office of Statistics (1985). Non-oil exports and imports of the non-oil sectors are from Nigeria (1972-1985 issues).

real appreciation could have affected the trends of agricultural output. The coefficient for agricultural exports is 0.82 which seems to confirm that the trend of agricultural exports was closely associated with the real exchange rate during the period.

Due to the imbalance between the rates of increase of the non-oil exports and imports, this sector's current account balance was in deficit throughout the period (Table 8). The deficit considerably improved through 1981 and then fell in the three subsequent years. The magnitudes of the deficit of the non-oil sector's current account balance were such that in spite of the oil boom the overall balance of payments was in deficit for more than half of the years and the economy accumulated a current account deficit of more than Nairas 6629 million over the period. In the circumstances in which the non-oil sector became a massive net user

TABLE 8
Balance of Payments of Nigeria: 1972-1984 (Nairas millions)

Year	Oil sector current account balance	Non-oil current account balance	Total current account balance
	(1)	(2)	(3)
1972	612.3	- 915.6	- 303.3
1973	1338.8	- 1250.7	88.1
1974	5057.1	- 2112.5	2944.6
1975	4069.0	- 3949.6	119.4
1976	5279.5	- 5441.0	- 161.5
1977	6344.4	- 6882.2	- 537.8
1978	5649.8	- 7866.1	- 2216.3
1979	8987.9	- 7747.8	1240.1
1980	12814.2	- 10148.9	2665.3
1981	10029.6	- 13398.0	- 3368.4
1982	7446.5	- 12036.6	- 4590.1
1983	6736.8	- 9588.9	- 2852.1
1984	8232.7	- 7890.1	342.6

Sources: Oil sector current account balance is from Nigeria, (1973-1985 issues). Non-oil current account balance is computed from Table 7.

of foreign exchange during the oil boom the foundations for a balance of payments crisis were being laid. A disturbance in the world oil market was bound to have repercussions for the balance of payments and the non-oil sectors of the economy. It was therefore not surprising that after the 1982 oil market collapse Nigeria found herself unable to service her external debts.

V. Summary and Concluding Remarks

This paper tries to explore the origins of the current economic crisis in Nigeria. The analysis has focussed on the contributions of the policy makers' actions to the crisis. From an examination of the policy options and choices during the oil boom it was clear that policy responses to the boom were not based on a correct understanding of the peculiar characteristics of a natural-resource-based export boom. As a result of this failure government expenditures were allowed to expand rapidly in response to the boom in the government's oil-revenues. In the attempt to attack the inflationary impact of this growth of public expenditure the wrong policy was adopted. The appreciation of the nominal exchange rate could only have worsened the real appreciation and the other distortions which the expansion of government expenditure had initiated. The end results were de-agriculturalization, increased dependence on imports, a balance of payments crisis and an accumulation of foreign debt. Given the nature of its causes, the only solution to the current problem is a medium to long-term policy of structural adjustment which would require a capacity on the part of the citizens to sacrifice plus a high degree of economic management.

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