

THE ECONOMIC IMPACTS OF THE OIL SECTOR
ON NIGERIAN ECONOMY

by

DANIEL ADEJOH ITODO

N.C.E., Advanced Teachers' College, Katsina-Ala, Nigeria, 1979
B.Sc., Elizabethtown College, Elizabethtown, Pennsylvania, 1983

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Major Professor

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CHAPTER ONE

INTRODUCTION

This study examines the economic impacts of the oil sector on Nigeria's economy. At the present time petroleum is the most important source of energy in the world. It also affects economic policies of a producing nation as well as being a useful instrument in domestic and international politics. In this regard, its discovery in any country links that country almost automatically to the rest of the world. This study will show how the Nigerian government programs have been affected by the oil sector, especially, in light of recent government's heavy share and dominant control of the oil sector. The data for this study are taken from 1955-83.

Before the discovery of crude petroleum oil in Nigeria in 1937 and its subsequent commercial confirmation and production in 1957, Nigeria basically had an agrarian economy. At that time, Nigeria depended mainly on exports of cocoa, coffee, palm products, groundnuts, rubber, and a few metal products (mining) for her foreign exchange earnings. Also, prior to 1970, agriculture alone provided over 50 percent of Nigeria's gross domestic product (GDP). Additionally, the debt burden was light. By the 1970s crude oil exports accounted for 70 to 80 percent of the country's foreign trade, and then the debt problem began to gather momentum. Petroleum became a tangible collateral security on which bankers and lenders based Nigeria's credit worthiness.

The advent of petroleum business opened a new chapter in Nigeria's foreign trade, and soon crude oil became the most important single export factor in Nigeria's external trade. Much of the transformation was as a result of the dramatic worldwide oil price increase in 1973/74. Whereas

this shock was a curse for many oil importing countries, it was a dramatic blessing that improved Nigeria's terms of trade, export purchasing power, and her general spending ability by more than three times that of the pre-1970 era. As Omoruyi has pointed out in his least squares analysis of the patterns of Nigeria's current expenditures,¹ many of the changes in expenditure patterns resulted from Nigeria's stages of development; thus, current expenditures in 1973/74, and 1974/75 conspicuously reflected the great impacts of the oil sector when compared with pre-1970 expenditure.

What is most important to Nigeria is not just the oil revenue per se, but how it is used in her effort to transform and diversify the economy toward the fulfillment of the national goal of "self-reliance," (especially in food production as set by the Federal Military Government in 1976/77 budget statement), before the stock wealth is exhausted. As Madujibeya has pointed out:

What is more, it places enormous responsibilities on the Nigerian government and people, because the way the oil wealth is used will be decisive in determining the rate of the country's economic and social progress in the years ahead. ...We must learn from experience in Venezuela and the major producing countries of the Middle East where, after decades of large-scale oil exploitation, effective economic development, especially the large-scale development of industry, has remained an ambition.²

¹S. E. Omoruyi, "Patterns of Current Expenditures in Nigeria 1950/51 - 1974/75" Central Bank of Nigeria Economic and Financial Review 17:2 (December 1979):28-35.

²S. A. Madujibeya, "A Review of Nigeria's Petroleum Industry," Standard and Chartered Review, May 1975, p. 9.

The Nigerian Government plans to utilize the oil revenue to transform agriculture so that Nigeria can produce her staple food without relying much on importation of such items. Self-sufficiency in staple food for the nation was the goal of "Operation Feed the Nation" and Green Revolution" of the military and civilian governments through 1983. The present Nigerian government is also aiming for self-reliance in food and some other manufactures. See West Africa, "Aiming for Self-Reliance" No. 3482, 14 May 1984, pp. 1009-11.

As a matter of policy (as it will be shown later) the Nigerian government is fully aware of its responsibilities and has mobilized her policies to rapidly transform the economy (with the use of the oil wealth) into a modern state, technologically and industrially, and to ensure that the rise in prosperity is equitably distributed throughout the population. However, for Nigeria, like many other oil exporting countries, much of the anticipated oil revenue can not be internally determined accurately. The oil market is subject to lots of factors outside Nigeria's control; hence, it creates a problem for her since she relies heavily on oil yield to fuel her recurrent and capital commitments. Because of increases in oil prices, oil consumers in developed countries (DCs), such as the U.S.A., which is Nigeria's number one buyer, have, by congressional and presidential economic policies, pursued energy conservation programs aimed at cutting down on oil consumption and importation.³ (The political action is necessitated by economic factors - that is, cost of imported energy which generates domestic inflation and even increases trade deficits for the United States.) For instance, oil consumption in the U.S.A., Canada, Western Europe, Japan, and Oceania has been forecasted to drop from 41 million barrels per day to 36 million barrels per day in the years 1978 and 2000 respectively.⁴ This implies a threat to Nigeria's oil market; therefore, she has to intensify a search for marketing her crude oil output.

³Bettina Silber and Elihu Bergman, eds. New Perspectives on the International Oil Supply (Washington D.C.: Americans for Energy Independence, 1979).

⁴Van A.P.H. Meurs, Modern Petroleum Economics (Ontario: Van Meurs and Associates Ltd., 1981), p. 788.

Efforts have been made throughout this paper to demonstrate quantitatively and graphically the impacts of the oil sector on various phases of Nigeria's economy. But lack of data remains a problem for this study as well as others on the Nigerian economy. This latter scenario has also been emphasized by Stolper when he pointed out that the issue of lack of data,⁵ that is, information in usable form, is well known in Nigeria.

In what follows, the study is organized in the following order. Chapter Two deals with the background information with respect to the development of petroleum in Nigeria. The historical development of Nigeria's oil industry is exploited; and how competing oil companies search and develop crude oil is discussed. A brief study of government oil policies and those of the companies are examined; it is concluded here that there always are clashes of interest between the government and the oil companies in terms of short-term and long-term goals. This scenario also has been theoretically demonstrated in the works of Palmer,⁶ and in the authoritative works of Meurs.⁷ The chapter further exploits the advantages of Nigeria's oil, the trends in Nigeria's oil output, the area of crude oil production, the size and reserve projections of crude oil and gas deposits, and the direction of trade since 1970-1981.

⁵Wolfgang F. Stolper, Planning without Facts - Lessons in Resource Allocation from Nigeria's Development (Cambridge, Mass: Harvard University Press, 1966).

⁶Keith P. Palmer, "Mineral Taxation Policies in Developing Countries: An Application of Resource Rent Tax," International Monetary Fund Staff Papers 27:3 (September 1980):517-38.

⁷Meurs, pp. 6-33.

Chapter Three analyzes the economic impacts of the oil sector on Nigeria's economy. It is shown here that crude oil changed the previous reliance on agricultural resources and trade to a reliance on crude oil exports and yields. Oil, the government's major source of revenue, is the backbone of Nigeria's economy; thus, the full fledged dynamic federal government involvement is a sine qua non. It is argued that the federal government involvement has spurred the growth and expansion of backward and forward linkages which had been relatively limited.

Chapter Four is a further exposition on the critical impacts of the oil sector on the Nigerian economy. It is concluded here that the over dependence on the oil sector is responsible for much of Nigeria's cash flow problems. The disturbing development in Nigeria's economy is a product of developments in the international oil market, namely, oil glut, and low oil prices. This situation disrupted Nigeria's fourth development program 1980-85, thereby bringing the execution of many capital projects to a standstill, and in several respects, generating social squabbles and political problems that partially culminated in an unconstitutional change of a "democratically" elected government on December 30, 1983. A series of instabilities registered on Nigeria's economy could be attributable to the oil slump which worsened in the early 1980s, and the situation is not any better now compared with the situation in 1981-1983.⁸

⁸Babatunde A. Adeyomi, "Current State of Our Economy Seen Through Dependence on Oil," Business Times, 25 April 1983, p. 13.

The barrel price of Nigerian oil is \$30.00 at present. Data on 1984 monthly oil production is lacking, hence there is no current oil revenue data. Reports confirm that the economic situation has not improved significantly since the military coup of December 1983.

How the country would triumph over her external and internal operators shaping her economic outlook is a task of the 1980s which needs both dynamic, well-intended and well-executed policy, to put Nigeria on a more solid ground!

Chapter Five is a summary and conclusion, presenting a panoramic exposition of the study in a condensed style. It concludes that the now "on-going" process of diversification should be pursued vigorously by reorganizing the national priorities. It suggests that a more systematic approach can prove successful; provided the projects are well executed, those projects completed would not only finance their costs but would finance the completion of further projects. To this end, a basic-need model of development may prepare the nation for further achievement in science and technology rather than the present massively ambitious and capital-oriented projects,⁹ which now explain much of the national capital shortage, foreign debts, and the burgeoning trade deficits.

Although there has been several studies on Nigeria's oil and its development, the present study is different in that attempts have been made to organize information and data that were previously scattered. Some new ideas have also been introduced, for instance, the case of inflation and city growth.

Nevertheless, the oil sector and Nigeria's economy is so broad for such a work as this. The focus of this study is to analyze how the oil sector explicitly or implicitly affect the Nigerian economic development. Thus, this work is not an exhaustive study of Nigeria's oil development.

⁹Basic-need model would focus on labor intensive projects, education, health, and technical training as a way of moving the poor and the low class workers upward thereby improving their productivity, hence, GNP also increases.

For instance, the study does not delve into much of the pricing strategies and marketing procedures. In short, the study basically is concerned with internal impacts of the oil sector with respect to endogenous and exogenous variables, namely, oil output, oil revenue, and oil price per barrel.

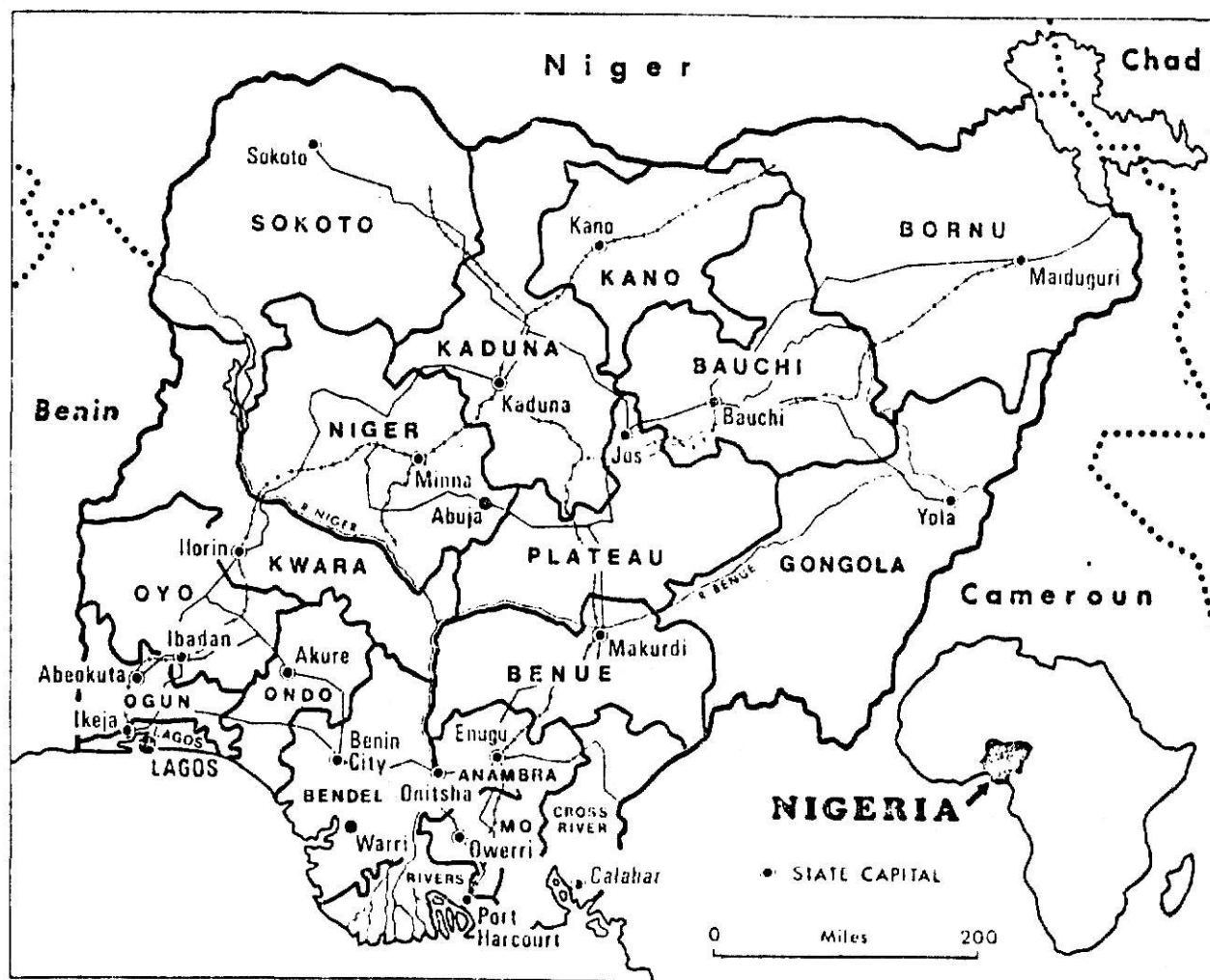


Figure 1. Map showing political boundaries of the Federal Republic of Nigeria. New state boundaries and state capitals shown.

Source: Arthur Whiteman, Nigeria: Its Petroleum Geology, Resources and Potential, Volume 1, p. 2.

CHAPTER TWO

BACKGROUND INFORMATION

2.1 Historical Development of Nigeria's Oil Sector

Earliest petroleum prospecting began in 1908 by a German company known as "Nigerian Bitumen Corporation." The company drilled 14 wells in what is today called Lagos - the Federal Capital of Nigeria.¹ As a result of the advent of World War I, operations had to cease.²

Interest was again revived in 1937 by Shell D'Arcy, a consortium jointly owned by the Royal Dutch Shell and the British Petroleum on a 50-50 basis; the company was to be known later as Shell-BP Petroleum Development Company of Nigeria Limited. The history of oil exploration in Nigeria is thus largely that of Shell-BP Petroleum Development Company of Nigeria.

As a result of foreseen and unforeseen uncertainties, the company was able to have a favorable bargain with the federal government of Nigeria with respect to rent. By 1938, Shell-BP Petroleum Development Company of Nigeria received an oil exploration license covering the entire country. By 1957, the company narrowed the exploration acreage to 40,000 square miles of oil prospecting licenses.

Within the greater part of the two decades 1937-57, the company focused exploration activities in the cretaceous area around the Niger

¹Lagos has been the capital of Nigeria since the amalgamation of the North and the South Protectorates in 1914. A new Federal Capital Territory (Abuja) is being developed. The new plan began in 1976; as of 1983 certain arms of the federal departments had already moved to Abuja. See Figure 1.1.

²Scott R. Pearson, "Nigerian Petroleum: Implications for Medium-Term Planning," in Carl F. Eicher and Carl Liedholm, ed., Growth and Development of Nigerian Economy (East Lansing: MSU Press, 1970), p. 352.

Delta. The result was almost an absolute frustration. Nevertheless, there was a ray of hope when "on January 16, 1956, an exploration well at Oloibiri found commercially exploitable oil at a depth of 12,008 ft."³ This time, it was the Niger Delta area that yielded the great and promising result; this latter scenario was a great source of motivation for continued exploration activities. Figure 2.1 is a map of the Delta area showing oil and gas fields. The figure shows that oil and associated gas deposits are concentrated around the Niger Delta.

By 1960-62, Shell-BP converted 15,000 square miles of her oil prospecting license into "oil mining leases." Consequently, Shell-BP had to give up the residual to the federal government of Nigeria upon conversion of its concession into oil mining leases (OML).⁴

As a result of rigorous exploration ventures following the Oloibiri discovery, there was another finding at Afams in November 1956. Other oil wells were sunk in the locations of the Niger Delta considered promising by the oil company's geologists. Thus, important oil fields, including Bomu and Imo River, were discovered within the next five years after the Oloibiri discovery.

Between 1958 and 1959, a total of 19 new oil fields were discovered. As a result, the oil company was bold and happy to announce the discovery of oil in commercial quantity in Nigeria. The announcement of the oil deposits attracted other new oil companies just as the basic

³S. A. Madujibeya, "Nigerian Oil: A Review of Nigeria's Petroleum Industry," Standard and Chartered Review, May 1975, p. 2.

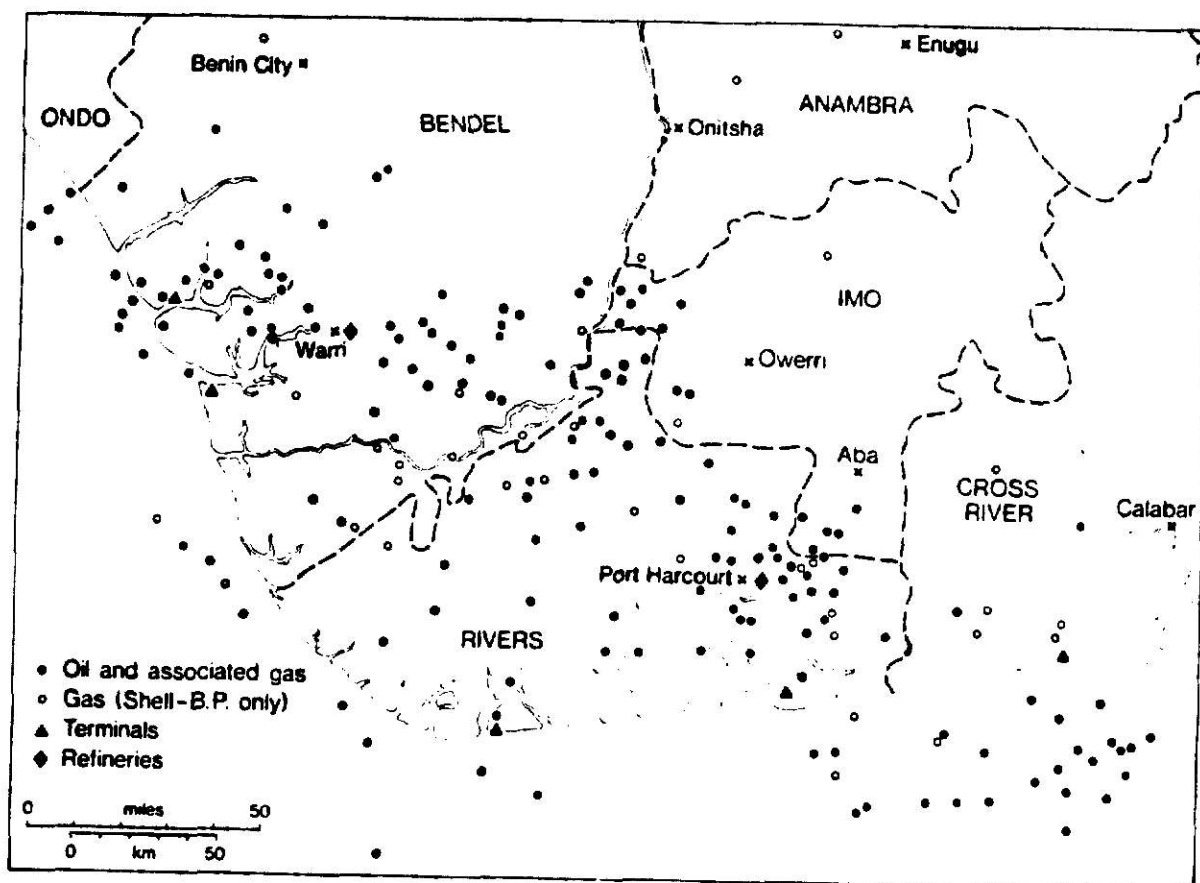
⁴Scott R. Pearson, pp. 352-3.

This was a blessing in disguise for Nigeria since it was a clear opportunity to invite other oil companies into the region so as to stimulate competition. This would permit more efficient exploration and development activities. Most importantly, Government's bargaining power would improve.

**THIS BOOK
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NUMEROUS PAGES
WITH DIAGRAMS
THAT ARE CROOKED
COMPARED TO THE
REST OF THE
INFORMATION ON
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**THIS IS AS
RECEIVED FROM
CUSTOMER.**

Fig.2.1: Oil and Gas Fields



Source: Victor A. Olorunsola, The Soldier and the Oil,
p. 355.

microeconomic theory of a perfect competition would suggest. The inflow of new oil firms stimulated further exploration activities with firms making record successes of oil well discoveries. The detail will be examined in the rest of this work; suffice to note here that oil export commenced in 1958. Figure 2.2 illustrates the efforts the oil sector has made to distribute refined petroleum to major areas of Nigeria via pipeline network, depots and pumping stations. This project is made possible because of relatively large oil reserves and the previous income yields of petroleum.

2.2 Oil Companies Operating in Nigeria

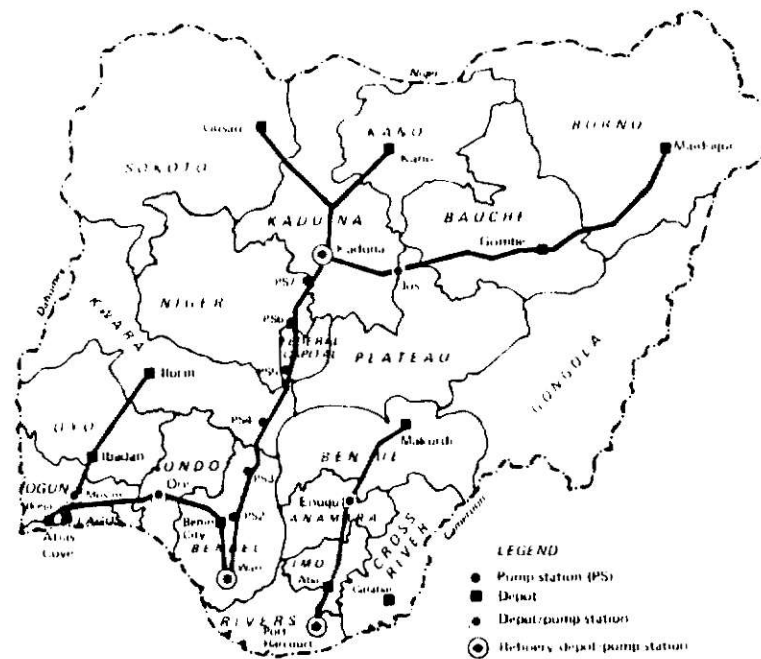
The success of the pioneer oil company (Shell-BP) attracted many oil companies in the western world in the search for oil in Nigeria. The companies increased in number to about 19, and the exploration activities became more intensified.

As Usoro has pointed out, the world oil industry is heavily dominated by the seven international oil companies usually referred to as the "international majors."⁵ The "international majors" (also called the "big seven") control over 70 percent of all western world oil production; about 60 percent of total refining capacity, and over 50 percent of the tankers tonnage operating internationally are owned and controlled by the "majors."

Of the seven "international majors," five have their headquarters in the U.S.A.; the majority of the share holders in these five companies are also Americans, and they provide the high management for the

⁵Eno J. Usoro, "Foreign Oil Companies and Recent Nigerian Petroleum Oil Policies," The Nigerian Journal of Economic and Social Studies 14:3 (November 1972):301-14.

Figure 2. 2 NNPC Refineries, Products Pipeline Network, Depots and Pumpstations



Source: J.K.Onoh, The Nigeria Oil Economy, p.52.

international majors. Standard Oil of New Jersey (now Exxon) is the largest of the "majors" and the rest are arrayed in the following order of size and significance: Royal Dutch Shell Group, British Petroleum, Gulf Oil Corporation, Texaco, Standard Oil of California, Standard Oil of New York (now Mobil Oil). The Shell and British Petroleum Companies are the only non-U.S. oil companies of the "majors".⁶

All the "international majors" are involved in exploration, drilling, and marketing of crude oil in Nigeria either under the original parent trade name or under a different trade name. About 19 oil companies operate in Nigeria and they are tabulated in Table 2.1.

Shell-BP is the largest in Nigeria in terms of size of operation or financial capability. This might be because the company is a pioneer oil company coupled with the fact that the company came to Nigeria at a period when Nigeria was still under a colonial master: Britain. Thus, it succeeded in the initial bargains with the government, and always has remained a champion relative to the other oil companies operating in Nigeria.

From the above discussion, it can be concluded that British and American interests dominate the oil scene in Nigeria, however, France and Italy also exact influence. This conclusion explains the initial direction of trade as will be seen shortly. The pattern of trade reflected the companies' desire to meet the needs of their parent

⁶ Ibid., p. 303.

Before nationalization in 1979, the Shell Component of the share was dominantly owned by the British Government; that of the Royal Dutch was mainly owned by other nationals, for instance the U.S.A. and the Netherlands possessed about 62% of the share as of 1966.

Table 2.1: Oil Companies Operating in Nigeria

COMPANY	PARENT COUNTRY	WHETHER INDEPENDENT OR STATE CONTROLLED
Ashland Oil Co. of Nigeria	U.S.A.	Independent ^a
Delta Oil Company ^b	Nigeria	Independent
Deminex Oil Company*	Germany	---
Great Basin Petroleum Company	U.S.A.	Independent
Henry Stephens and Sons	Nigeria	Independent
Japan Petroleum Company*	Japan	Both
Mobil Producing Company	U.S.A.	Independent
MonSanto Oil Company	U.S.A.	Independent
Niger Oil Resources Ltd.	Nigeria	Independent
Nigerian Agip Oil Company	Italy	State
Nigerian Gulf Oil Company	U.S.A.	Independent
Occidental Petroleum Company*	U.S.A.	Independent
Philips Petroleum Company	U.S.A.	Independent
Safrap (Nigeria) Ltd.	France	Both
Shell-BP Petroleum Company ^c	British-Dutch	Both ^c
Tenneco Oil Company of Nigeria	U.S.A.	Independent
Texaco Overseas Petroleum Company	U.S.A.	Independent
California Asiatic Oil Company	U.S.A.	Independent
Pan-Ocean Oil Company	U.S.A.	Independent
Nigerian National Petroleum Corporation ^d	Nigeria	State

^aIndependent should be interpreted to mean private ownership.

^bDelta Oil Company Ltd., owned by Mr. Godfrey Amachree, a Lagos lawyer. This was the first Nigerian owned company; it was the first positive show of interest by a Nigerian company in the Nigerian oil developments. For details, see Arthur Whiteman, Nigeria: Its Petroleum Geology, Resources and Potential, Volume 2 (London: Graham & Trotman Ltd., 1982), p. 342.

*These companies recently pulled out of Nigeria. See Whiteman, Volume 2, p. 322.

^cThe company was formerly owned by British and the Dutch, but was fully nationalized by Federal Government of Nigeria after getting British permission in 1979.

^dThis is a new creation to oversee and also to explore and market crude petroleum. It is a Government wholly owned oil company.

Source: Compiled from:

(1) Standard and Chartered Review, May 1975, p. 2

(2) The Nigerian Journal of Economic and Social Studies, 14:3 (November 1972):302-3.

countries before seeking any new market. In addition, Nigeria is politically alligned to the west even though she is a nonaligned nation.

2.3 The Government Oil Policies Versus the Oil Companies' Goals

Both the government of Nigeria and the oil companies wish to maximize the returns to oil exploration, that is, rent. As Palmer,⁷ and Meurs,⁸ theoretically demonstrated (and in actuality in the case of Nigeria's experience), there was bound to be a clash of interest among the two parties.

Like many other oil exporting countries in the Third World (at the initial exploration activities), Nigeria lacked effective integration between the oil industry and the local economy. This was the experience of countries such as Iran or the Middle East, the Caribbean, or even Venezuela. A special case of Venezuela was expressed by Petras et al:

Despite the increase in government revenue and national income resulting from British and North American investment in petroleum, this growth had a negative impact on the productive structure of the Venezuelan Social formation. In general, the foreign-owned oil export sector rapidly became an enclave, much more disarticulated from the rest of the economy than commercial agriculture had ever been.

In short, the two main objectives of petroleum policy in Nigeria have been to "provide conditions calculated to attract those sums of risk capital which are required to search for and to develop our oil

⁷Keith F. Palmer, "Mineral Taxation Policies in Developing Countries: An Application of Resource Rent Tax," International Monetary Fund Staff Papers 27:3 (September, 1980):517-42.

⁸Van A. P. H. Meurs, Modern Petroleum Economics (Ontario: Van Meurs and Associates Ltd., 1981), pp. 8-33.

⁹James F. Petras et al, The Nationalization of Venezuelan Oil (New York: Praeger Publishers, 1977), p. 5.

resources" and to obtain for the country as much of the benefits of oil operations as possible. This policy implies an internal conflict and how the conflict is resolved will be shown shortly.

The lack of observed linkages could be explained by two major factors: market forces, and political instability (Nigeria has a history of military coups). Linkages could develop if market forces would lead to activities where benefits exceeded costs. But even if this was feasible, developing linkages entailed heavy overhead cost (which may only be recovered in the long-run). The fear of political instability (since most, if not all, the oil companies are foreign) could have been a factor that hampered rapid growth of linkages in the oil sector. Thus, Nigerian government began to enter into partnership with the oil companies, and then designing policies to stimulate linkages. The need for government involvement is a result of Nigeria's weak private sector. (That is, the private sector lacks the capital, education and entrepreneurial skill to exploit the oil resources). The detail about linkages will be extensively discussed later; for now, I will discuss the government policies to resolve the internal conflict, and the responsiveness of the oil companies. Before going into the policy issues and conflicts three qualifying statements about mineral ownership in Nigeria must be mentioned.

First, all mineral resources belong to the federal government, and no one can exploit it without permission from the government authority. Even the state governments have no power over minerals in their territory; only the federal authority has power over minerals.

The entire book is an embodiment of detail on oil industry and the national government.

Second, because of lack of "technical know-how" common to less developed countries (LDCs), the exploitation of mineral resources in Nigeria has remained largely in foreign hands. Consequently, Nigeria could not benefit as much as she could have benefitted had Nigerians secured a substantial share of the investment in oil venture. It was against this background (that is, Nigeria's weak private sector) that the federal government began to involve herself in the oil venture. It also has been charged that certain oil companies are occupying a position of power through bribery and other forms of corrupt practices (e.g., paid overseas leave). Recent examples of corrupt practices involving Nigerian officials and certain multinationals include the Crude Sales Oil Tribunal Scandal of 1980, the Lockheed Plane Scandal and the Multimillion Naira Swiss-bus scandal, etc. In most respects the multinationals always have outwitted the host country, for instance in areas of contract and agreement preparations.¹⁰ Third, a greater proportion of crude oil output is exported; only a small proportion is refined locally so that linkages are very limited. As charged by Onoh,¹¹ the lack of linkages is complicated with the use of local officials or workers to cheat the economy (by not submitting correct income statements, and therefore, not paying correct tax).

¹⁰For example, Langley discussed the use of "transfer price", which over-estimates the significance of the oil sector. See Kathleen M. Langley, "The External Resource Factor in Nigerian Economic Development. The Nigerian Journal of Economic and Social Studies, July 1968, p. 160. Despite the benefits of MNCs, they may collude with few elite of the host country to the detriment of the masses. See, for example, E. W. Nafziger, The Economics of Developing Countries (Belmont, California: Wadsworth, 1984), pp. 401-408. Certain Nigerians engage in this form of collusion; for example, the case of "4-1 NNPC Officials Saileed" as reported in National Concord, May 1984, p. 13.

¹¹J. K. Onoh, The Nigerian Oil Economy: From Prosperity to Glut (New York: St. Martin's Press Inc., 1983), p. 17.

The direct government involvement in oil exploration and development activities has been justified in the hope that the government will be more able to respond to the needs of her citizens with respect to the utilization of the oil proceeds than the multinationals. Some criticize this claim by arguing that the Nigerian-owned oil company, NNPC, has been charged with some corrupt practices: the Crude Sales Oil Tribunal scandal of 1980. Despite this weakness, most Nigerians favor direct government involvement. The Nigerian citizens have acquired a lot of training and experience from the multinationals and it is hoped that things will get better when compared with the 1950s and 1960s.

In any event only the federal government has the power and resources to negotiate with the oil companies whether legally, diplomatically or otherwise.

2.3.1 The Government Oil Policies

Because Nigeria was drawn into petroleum policies even when she was a colony, most of the petroleum legislation favored British interests. The Nigerian government was in a weak bargaining position because of four further factors: viz, confined international horizon, lack of administrative and business know-how, lack of education, and of course, the liquidity problem.¹²

¹²Stephen Hymer, "The Efficiency (contradictions) of Multinational Corporations," in Robert E. Baldwin and David J. Richardson, eds., International Trade and Finance: Readings, 2nd ed. (Boston: Little Brown, 1981), pp. 304-6. E. W. Nafziger, The Economics of Developing Countries (Belmont, California: Wadsworth, 1984), pp. 406-8.

I have applied the factors responsible for the poor bargaining powers of the LDCs with the MNCs as discussed by these authorities to the special scenario of Nigeria at the inception of the oil business.

As stated earlier, Shell-BP is the pioneer oil company; for reasons expressed, almost the whole land area of Nigeria was initially surrendered to her by means of an "Oil Prospecting License" which allowed the company to exploit the oil resources for 30 years, and also to automatically renew the license. At such an early stage, it was also necessary for the government to provide conditions calculated to attract those sums of risk capital which were required to search for and to develop resources. Following this simultaneously was the questions of how to get the most sizable revenue from oil for the government programs.

After 1968 there was a feverish activity exploring for oil in Nigeria. Four main reasons explain this rush for exploration activities:¹³

- (a) The attractive petroleum legislation of 1959 relative to the harsh Middle East policies as of the time hence, the "Petroleum Tax Ordinance of 1959" was an invitation package.
- (b) There were political conflicts in the producing areas of the Middle East.
- (c) There was the advantage of Nigeria's geographical location vis-a-vis the world market (see Figure 1); this may as well be called the Atlantic factor.
- (d) The quality of Nigeria's oil implies fewer expenditures on pollution or mandatory investment in consuming countries; the oil has low sulfur content, hence, low rate of environmental pollution.

¹³For details on these factors, see L. H. Schätzl, Petroleum in Nigeria (Ibadan: Oxford University Press, 1967), pp. 46-97. Also see Usoro, pp. 310-13.

Available information did indicate that the oil companies accepted the offers of the petroleum tax ordinances of 1959. The government allowed a high capital depreciation allowance, etc. to off-set the initial cost of investment. For instance, Shell-BP paid tax on profit for the first time in 1964.¹⁴

But, over time the Nigerian government started emphasizing the policy of state participation. There was a fairly radical adjustment of capital depreciation allowance which was reduced in 1966 under the 1966 income tax (amendment) decree, petroleum profit tax (amendment) decree (1967), and by 1969 petroleum decree. The government provided for a compulsory 51 percent state participation. The duration of oil lease was reduced from a maximum of 60 years and 80 years on land and sea respectively, to 20 years with provision to relinquish 50 percent of the lease after producing for 10 years.¹⁵ Petroleum profit tax also was to be based on posted prices; tax rate was then on the rise as illustrated in Table 2.2 below.

Table 2.2: Trend in Petroleum Profit Tax Rates

From Inception	- 19 March 1971	50%
20 March 1971	- 30 September 1974	55%
1 October 1974	- 30 November 1974	60.78%
1 December 1974	- 31 March 1975	65.75%
1 April 1975	- 31 March 1977	85%

Source: Onoh, The Nigerian Oil Economy, p. 74.

¹⁴Kathleen M. Langley, "The External Resource Factor in Nigerian Economic Development," The Nigerian Journal of Economic and Social Studies, July 1968, p. 161.

¹⁵Madujibeya, pp. 6-8.

Nigerian policy makers and economists have justified the government action on the following grounds:

- (i) that oil is too fundamental a part of natural resources to be entrusted in the hands of mistrusted private foreign enterprises, that government would promote overall economic development than the mistrusted enterprises,
- (ii) nationalism, that is, there is the need to optimize the oil rent so as to standardize the welfare of the nation and also to overcome the imperfections in international petroleum market,
- (iii) the desire to obtain a fair share of the proceeds from foreign companies whose activities in the industry were not clear.

These goals were geared toward Nigeria's political objective, and her future economic independence. Unfortunately, the goals are incompatible in both the short and long run. In a bid to maximize oil revenue, the government announced in 1970 her intention, not only to receive rents and royalties or taxes, but also to enter into active partnership arrangements in exploration, production, and to downstream operations. This marked the conversion of "contract policy" into "partnership affair," for example, Nigerian government and Safrap, and some other companies which were new comers.

The federal government embarked on dual effective oil policies -- concession with the international majors which were older, and partnership with the new oil companies (the new comers). Nigeria's strategy in this case reflects her objective. Whereas "concession" with the international majors provided the short run needed revenues,

"partnership" with the new comers was a proxy and a nexus for achieving the long-term objective of "economic independence."

Nigeria's membership of OPEC in July 1971 enabled her to reap the revenue drama of OPEC price shock which hit the western world, and the rest of the globe. In compliance with OPEC guide posts,¹⁶ Nigeria moved further to establish Nigerian National Oil Corporation (NNOC) in July 1971 to oversee her oil sector. By January 1974 Nigeria had raised her posted price by almost four times from \$3.56 per barrel to \$14.96. Concomitantly, profit tax rate was raised from 50 percent to 55 percent in October 1974, and then to 65.75 percent in December 1974 (see Table 2.2). Royalties also increased from 12.5 percent to 16.75 percent. From a pre-1974 equity participation rate of 33 1/3 percent to 35 percent in the oil companies, the participation rate of the federal government escalated to 55 percent to 65 percent by 1974. NNOC held all the shares of the federal government in the oil companies. The former also was to engage in oil exploration, development, transportation and marketing, whether singly or with associates. NNOC was renamed Nigerian National Petroleum Company (NNPC) in 1977, and it basically carried out the same functions, but this time with greater vigor as learned from countries such as Iran and Venezuela, where national oil companies were in greater control of the economy hence improved revenues.¹⁷

¹⁶Leslie E. Grayson, National Oil Companies (New York: John Wiley and Sons, 1981), p. 6-22.

This book also deals with the development of national oil companies in major western countries, e.g. Italy, France, West Germany, and Britain.

¹⁷S. A. Madujibeya "Oil and Nigeria's Economic Development" African Affairs 75:300 (July 1976):301-3.

With the Enterprise Promotion Decree of 1972, and later to be revived in 1977 as Nigerian Indigenization Decree, the government made it mandatory for the oil companies to Nigerianize the employment as much as possible.

Thus, through a combination of policy instruments, namely, concession and participation policies, Nigeria gained tremendously from her oil sector in recent time. From a share of 80 percent in Shell-BP in the middle of 1970 the government wholly nationalized it in 1979; at the same time, the federal government holds at least 60 percent to 65 percent share in other oil companies. This scenario puts the government in good revenue shape.

2.3.2 The Oil Companies' Policies

As a matter of goals and objectives, there was a conflict between the multinational oil companies and those of the federal government as pointed out earlier. In the particular case of Nigeria, negotiations, policies, and executions were rather gradual and very friendly so as to promote a working agreement between the government and the oil companies. Nevertheless, conflict of interest existed since the oil companies were basically interested in variables that affected concession, production, profit sharing, and participation by the state.

On the issue of concession Shell-BP made the best deal with the Nigerian government as British oil companies did in the Middle East. Areas of concession include liberal capital depreciation allowances, tax holidays, long duration of oil exploration license, mild petroleum profit tax, and some others. As was suggested earlier, these buoyant promises started crumbling not too long after new oil companies infiltrated into the oil venture in Nigeria.

From the companies' perception production level was a product of pure economic and political forces. The economics would concern cost-benefit analysis because investors are assumed to be profit maximizers. The political consideration comes in because of the significance of government authority. In short, output is a function of the interaction between the government policies and those of the companies' interests. An example was cited in a case in Iran when there was a conflict between the British Petroleum Company and the Iranian government. Following the sharp discord, Iranian oil output fell while that of Saudi Arabia rose smoothly.¹⁸ Production or output is an important variable because revenue of both the State and the companies is a partial function of output. The international majors' production policy of basing output in each country upon conditions favorable to them also affected Saudi Arabia and Kuwait between 1961 and 1965, with the rise in production from Libya under a new favorable concession arrangement. (Economic consideration of cost and benefit is the major factor determining crude oil output. A reduction in crude oil sales by Nigeria was due to an increase in price of OPEC oil which reduced oil consumption in major consuming countries such as the United States. In addition, increase production of energy substitutes, and increase in the supply of non-OPEC oil are glaring economic factors that explain the reduction of oil sales by Nigeria. These factors will be discussed in detail later.)

Although the declining oil output in the case of Nigeria is explained by the worsening oil market, it is probable that the oil

¹⁸Usoro, p. 304-9.

companies have been dissatisfied with the rapid gain in bargaining power and authority of the Nigerian government over the oil resources and benefits. This proposition will be further elucidated when the factors that explain the falling trend in Nigerian crude petroleum production and marketing are discussed. Suffice to recollect that Shell-BP was wholly nationalized in 1979, that the federal government now has at least 60 percent to 65 percent participation rate in all other companies, and that 1979 was the government's oil revenue and production peak.

On the issue of profit sharing, most host countries had no say until after the formation of OPEC in 1960. OPEC has been an instrumental factor in the manner that her members have been able to get a favorable bargain as compared to the pre-OPEC bargaining power of states over their oil resources.

In the case of participation, it is a form of association which is viewed with mixed feelings especially by the company. First, it is an added source of capital for further exploration and investment. At the same time, it is viewed as a source of undue and unforeseen or foreseen consequences of government intrusion with her mighty political and legal powers.

From the government point of view, joint participation constitutes a net investment because the companies bring in capital from abroad. It also paves the way for improved sharing of oil benefits, and also a source of technical and entrepreneurial education for the nationals. It also was a step in the right direction toward nationalization.

Before concluding this sub-section, it is pertinent to point out Usoro's prediction in 1972 about the adverse effect of government domination of the oil industry which seems to be fulfilling today.

....This in essence suggests a possible future policy of retaliation in areas where the oil companies still have a major control. One such area is in the marketing and the fixing of prices of surplus crude oil....in the world market, which the international majors control...International oil companies' policy on participation may thus have to wait until such time as national companies enter world markets, when the inevitable conflict between state companies and their concessionaries is likely to depress the price of oil, resulting in a possible adverse effect on host countries' revenue.¹⁹

The relevance of this forecast could be confirmed in light of the present oil market condition(s): declining prices and falling revenues following the advent of host countries' national oil companies in the market. More will be discussed on this matter later.

2.4 Advantages of Nigerian Oil

Before the advent of Nigeria in the European oil market, the two main competitors were the Persian Gulf and the North African producers, especially Libya. The latter had two advantages of strategic location and a rapidly falling production cost. In the face of these market conditions, Nigeria, even though an infant oil producing state, could compete because of the particular characteristics of her own oil. These particular characteristics are discussed below.

First, the Nigerian oil is of a very high grade in terms of quality; it is generally sulfur free relative to the sulfur contents of about 3.86 percent to 4.47 percent in many Middle East crude oil and about 5.08 percent in some Canadian crudes.²⁰ On the average, Nigeria's oil has 34°API,²¹ and individual oil field has between 23°API in Oloibiri to

¹⁹ Ibid., pp. 309-10.

²⁰ Madujibeya, Standard and Chartered Review, May 1975, p. 6.

²¹ API means American Petroleum Institute. Crude oil quality is measured and ranked according to degree of API which indicates a measure of sulphur content, viscosity or gravity. A higher degree of API implies a low gravity or a light crude which is a good quality.

light 46°API in Afam. Because of the low sulfur content, the gas could be ignited directly without refining.

Except for the general depression in the manufacturing sectors of the DCs which also substantially contributed to the downward trend in oil demand and prices, Nigerian oil would have been in a good market demand position. This proposition emanates from the fact that the sulfur free characteristics implies little or relatively no pollution. The "sulfur free" is a precious characteristic when viewed against the background in DCs where antipollution measure or research is mandatory so as to combat external disutility of pollution.

Second, there is the transportation advantage for the Nigerian oil by virtue of her geographical location on the west coast of the Atlantic (see Figure 1.1 and Figure 2.1). Her location also makes her close to the western markets, particularly in Europe and North America.

Third, Nigerian oil fields are close to the coasts and to the export terminals so that the cost of production is also relatively cheap (see Figure 2.1 in particular).

Fourth, the West African market is virtually a bonus zone for Nigerian oil as can be seen in Figure 1.1. It will be uneconomic for West African nations to import petroleum oil from Libya, Algeria, Iran or Saudi Arabia if we assume that the price per barrel of oil is the same.

In the face of these advantages it should be pointed out that there is the big exploitation or development cost arising from lack of intergrated communication networks. In most cases, the companies had to construct their own roads, install their own radio communications, build their own airstrips, and also import a lot of capital and human resources. Another contributor to huge development cost is the fact that

there are many oil fields but relatively small on unit basis. The scattered nature of the oil fields occurrence is illustrated in Figure 2.1. Finally, the huge cost is aggravated by the geography of Southern Nigeria. The oil belt is swampy and deltaic with tall-thorny mangrove trees. This partly makes the transportation more difficult and expensive.

2.5 Trend in Oil Output in Nigeria

According to Oil and Gas Journal, December 1980, daily oil production for the first six weeks of 1979 stood at 2.173×10^6 barrels and cumulative production was at 8.044×10^9 barrels per annum. Production capacity was estimated to rise to about 3.3×10^6 barrels per day for the 1980s but was more likely to remain between $2 - 2.5 \times 10^6$ barrels per day for the next 10 years. In view of the present oil market condition the projection is now too high.

In short, the picture of crude oil production is illustrated in Figure 2.3 which is derived from Table 2.3. Oil output rose smoothly until 1966, and then declined between 1966-68. This sharp drop was as a result of Nigerian Civil War between 1967-1970. Figure 2.4 shows the pattern of rates of change in output since 1958 to the first half of 1983. It is an illustration of registered instabilities over time. The sharp drop between 1966-68 can be explained by the civil war factor; the rest of the shocks are attributable to oil market conditions, for example, price changes in the world oil market.

There had been a rise in output resulting from favorable world market conditions and prices. From a rational point of view, and assuming there are no wars nor other political discord, and given the

Table 2.3: Petroleum Production 1958-1982

YEAR	CRUDE OIL OUTPUT (Thousand Barrels)	PERCENTAGE CHANGE ²²
1958	1,876	--
1959	4,096	118.3
1960	6,367	55.4
1961	16,802	163.9
1962	24,624	46.6
1963	27,913	13.4
1964	43,997	57.6
1965	99,853	127.0
1966	152,428	52.7
1967	116,525	-23.6
1968	51,907	-55.5
1969	197,204	279.9
1970	395,905	100.8
1971	558,828	41.2
1972	665,286	19.0
1973	749,820	12.7
1974	823,064	9.8
1975	650,885	-20.9
1976	756,449	16.2
1977	761,062	0.6
1978	692,405	-9.0
1979	840,320	21.4
1980	753,228	-10.4
1981	525,457	-30.2
1982	472,231	-10.1
1983 (first half)	206,908	-28.0

Sources: (1) African Affairs, July 1976, p. 313
 (2) Petroleum Economist, November 1983, p. 448.

²²To calculate the percentage change for each year's output, use the formula

$$\Delta y = \frac{Y_c - Y_{-1}}{Y_{-1}}$$

where Y_c = current output

Y_{-1} = previous year's output

Δy = percentage change in output for a given year

All calculations correct to one place of decimal.

Figure 2.3 is a picture of the trend in oil production.

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FIGURE 2.3
PETROLEUM PRODUCTION FROM 1958-83

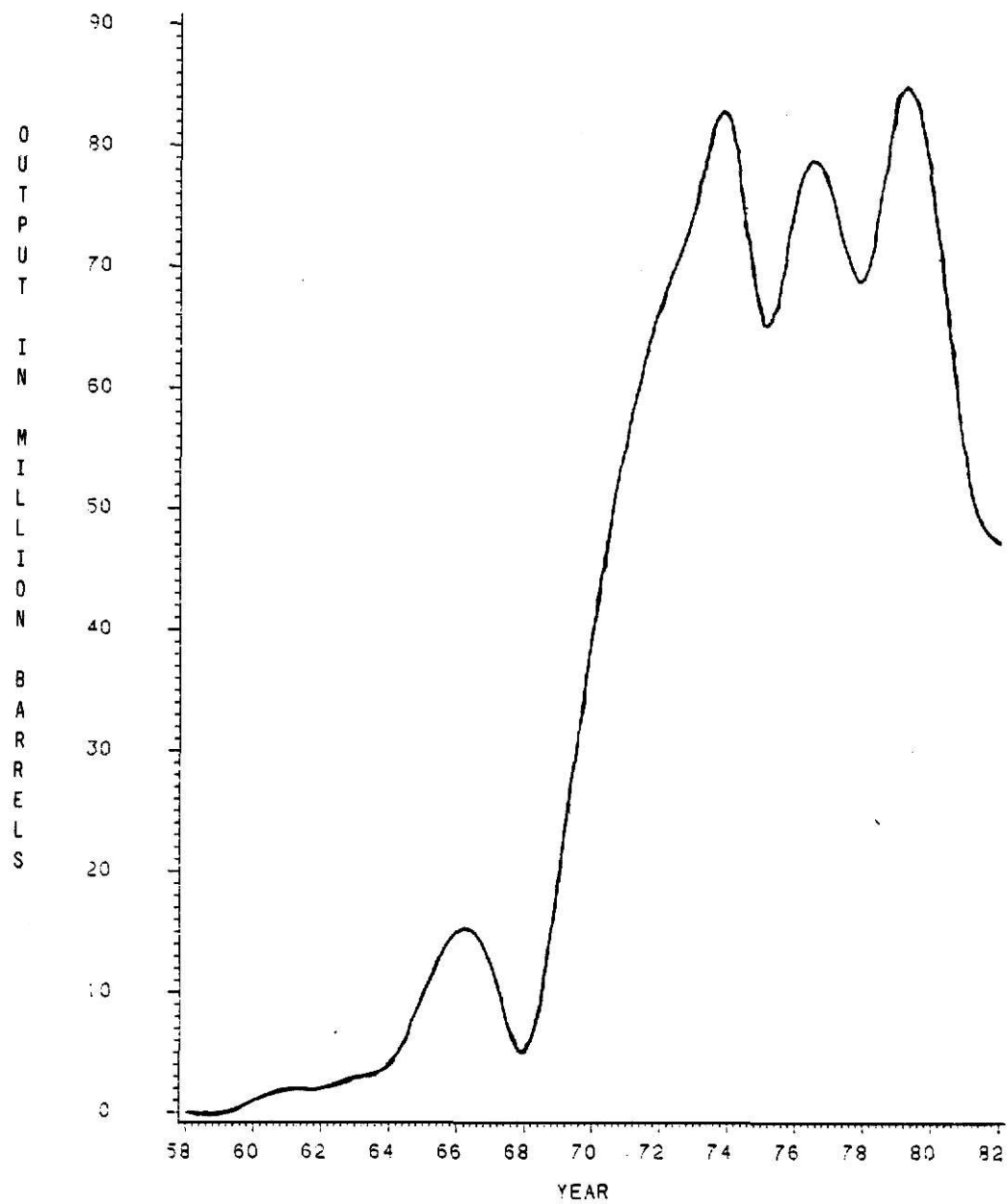
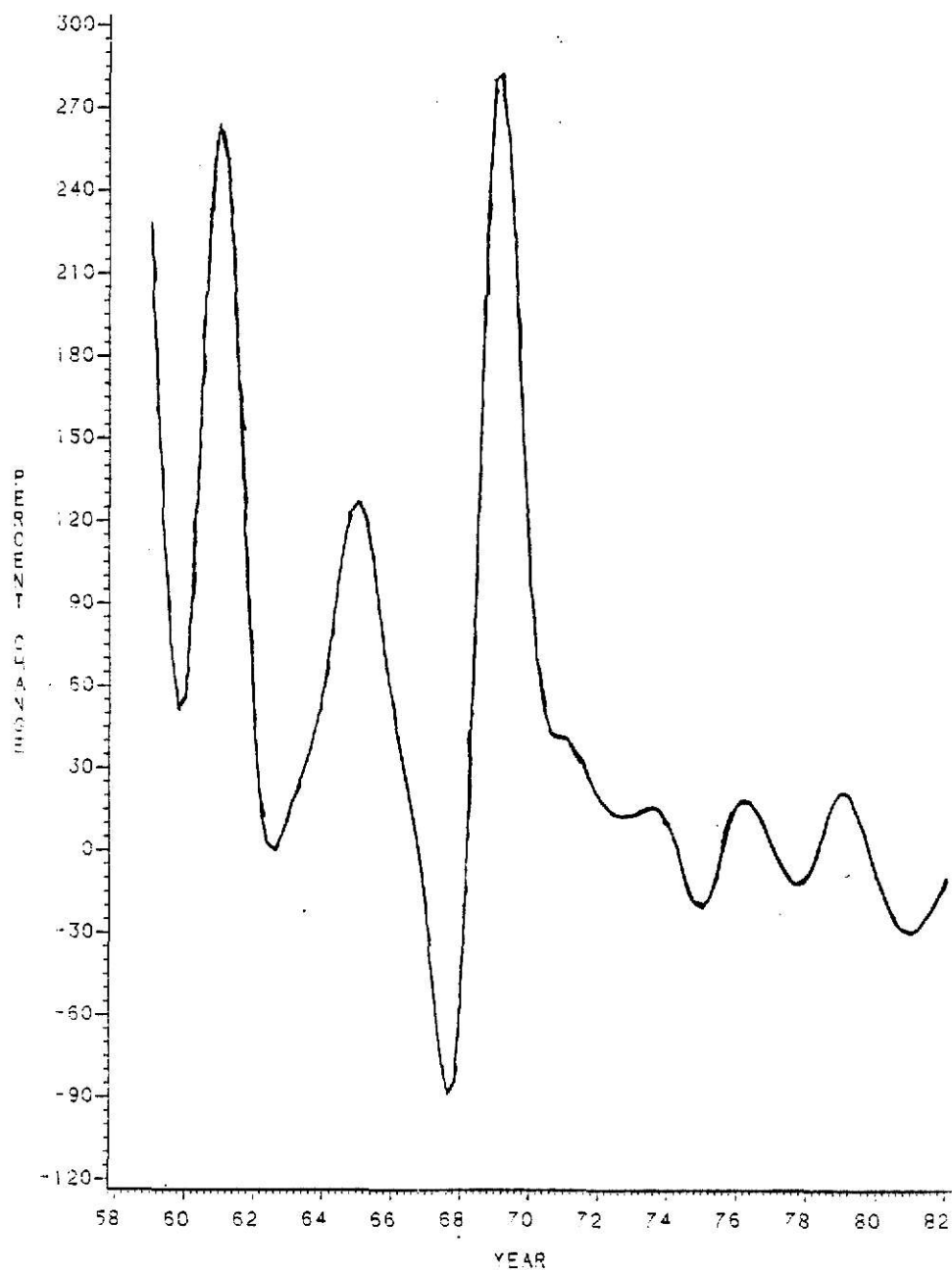


FIGURE 2.4
PERCENT CHANGE OF PETROLEUM PRODUCTION FROM 1959-82



supply conditions, it can be hypothesized that the higher the level of oil prices the greater will be the proportion of crude oil that can be recovered economically from existing fields. This implies that the supply of oil is a positive function of prices so that

$$\frac{dq}{dp} > 0$$

The high peak in 1973-74 is an outcome of the cartelistic price manipulation by the OPEC which was a shock to the western world. Nevertheless, there were registered mild instabilities in the 1970s as can be inferred from Figure 2.3 and Figure 2.4; these instabilities have continued in a more serious magnitude in the early 1980's as shown. The issue of instability can even be argued to be a short-run and long-run problem. For instance, its frequency is noted since 1974. A number of factors (externally and internally) account for the instabilities and the slump. These factors will be analyzed in Chapter Four.

2.6 The Geographical Area of Crude Oil Production

Without going into the geology of Nigeria, Figure 2.1 is a portion of the country showing the oil belt. The onshore and offshore petroleum and natural gas fields in Nigeria are located in an area south of a line that can be drawn through Benin-City in Bendel State to Owerri in Imo State, down to Calabar in Cross River State. The greater part of this area is occupied by the mangrove swamps, and the tropical rain forest. The states within this belt are, Bendel, Anambara, Imo, Cross River, and Rivers. The major areas of heavy concentration of drilling operations are the Port Harcourt area in River State, and the Escravos of Bendel State (around Ughelli - Warri area).

The sedimentary basins where oil-bearing rocks are most likely to be found form the basic features of the above areas. No wonder that in a 1972 report by the International Management and Engineering Group to the British Government, "the offshore Niger-Delta of Nigeria was indicated as one of the most prolific oil-producing prospects in the world"²³ with a high-quality oil and its marketing economies.

As indicated earlier on, marketing economies arise because of Nigeria's relative proximity to markets in Western Europe, North and South America, and of course, West African countries. Furthermore, the main oil wells discovered so far are either very close to the sea coast or are offshore, thereby making transportation much easier. For instance, most of the oil wells in Rivers State, which produces more than 50 percent of the total crude oil, are located in the swamps -- 25-mile radius from Port Harcourt. The Escravos is the major oil field in Bendel State and it is located offshore of the Warri River.

As of recent time, the oil companies and the NNPC have embarked on inland search for petroleum. States, including Benue and Kwara, and areas along the Niger-Benue Trough are all potential areas of crude oil operation as suggested by the fact of similar geologic features.

2.7 The Size and Reserve Projections of Nigerian Crude Oil Deposits

To start with, it is pertinent to define the various natural resource terminologies used in projecting size of deposits according to geologists/natural resource economists.

²³ Roland E. Ubogu, "The Oil Industry and Nigeria's Economy," presented at the Joint Annual Meeting of the African Studies Association (Twentieth Meeting) and Latin American Studies Association (Seventh Meeting) (Houston: November 2-5, 1977), pp. 3-4.

2.7.1 Basic Terminologies²⁴

The basic terminologies (resource concepts) are illustrated in Figure 2.4b.

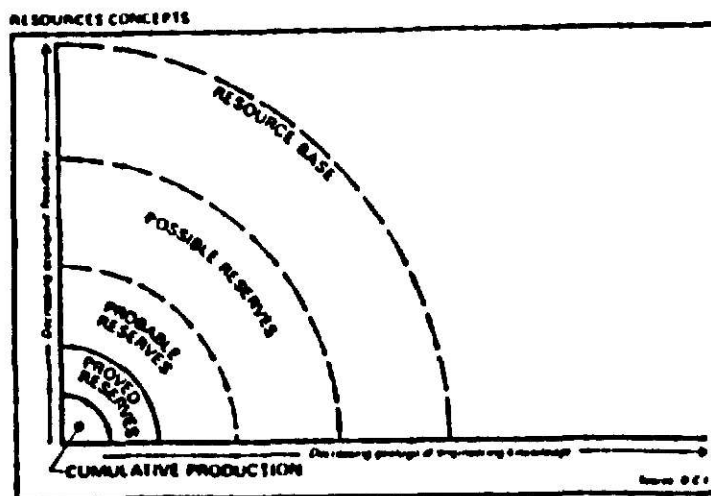


Figure 2.4b: A Diagrammatic Illustration of Resource Concepts
Source: Whiteman, Volume One, p. 8.

2.7.2 Definitions

- Resource base:** The total amount of the energy source occurring in the world in commonly recognizable form. In the case of renewable energy resources, a time factor is added to allow quantification.
- Resources:** The total amount of the resource base which is estimated to be probably recoverable for the benefit of man. It is a very imprecise term, but based on both knowledge and reasonable conjecture regarding location and technology.
- Reserves:** The total amount of the resource which can be defined as recoverable in stated terms of economic and

²⁴Whiteman, Arthur; Nigeria: Its Petroleum Geology Resources and Potential (London: Graham and Trotman Ltd., 1982), Vol. 1, p. 8.

operational feasibility. Reserve may then be qualified as possible, probable or proved reserves.

Possible Reserves: The amount about which geological knowledge is insufficient to give any but most vague recovery costing or optimum recovery method, yet are still within the range of possibility; it is also imprecise, and it depends, to some extent, on individual opinion(s).

Probable Reserves: The amount about which geological and engineering knowledge is insufficient for an explicit statement that it could be recovered under current economic and operating conditions but can be judged would become economically recoverable with only a slight increase in knowledge or either the deposit or operating techniques or both.

Proven Reserves: The amount that is reasonably certain could be produced in the future under current economic and operational conditions from deposits established on known geological and engineering data.

2.7.3 Crude Oil Production and Reserves²⁵

When compared with other oil-producing countries such as Saudi Arabia, Kuwait or Iran, the size of Nigeria's oil production and reserve is small. Compared to sub-Saharan Africa and the rest of the world, (excluding Libya) the size is enormous.

²⁵Ibid., pp. 5-6. See also Whiteman, Vol. 2, pp. 321-27. All data, whether actual or projected come from Whiteman.

Saudi Arabia has proven recoverable oil reserves of 148,800m/bbl, Kuwait (68,000m/bbl), Iran (64,500m/bbl) as of 1975, while that of Nigeria stood at about 20,200m/bbl at the same time. Table 2.4 shows actual production and projection 1960-79.

Table 2.4 implies that even with increasing cumulative production in thousands of barrels, the estimated reserves in million barrels, the ultimate recovery (in million barrels) continued to rise in volume up to 1979. This scenario could be attributed to a more organized and well-intensified exploration activities.

Although production capacity for the 1980s or the next ten years is estimated at 3.3×10^6 b/d and $2-2.5 \times 10^6$ b/d range,²⁶ it is very doubtful that this dream would materialize in light of the present oil market conditions.

Ranked in terms of recoverable reserves, Nigeria was ninth in 1975, stood second after Libya in oil and gas reserves on an African scale. At the end of 1978, Nigeria still stood ninth, and by 1979, Nigeria was sixth largest oil producer in the world. As already known, the trend of Nigeria's oil production and sales has not been very encouraging since 1979 (see Figure 2.6).

Figure 2.5 illustrates the data from Table 2.4. From Figure 2.5 it can be deduced that the annual production is very low compared with the reserve estimate and ultimate recovery. The steep trend of the reserve estimate and ultimate recovery curves reflect continued positive results from exploration activities. The seeming snake-like shape of these curves is explained by the fact that agencies and governments periodically

²⁶Whiteman, Vol. 2, pp. 321-22.

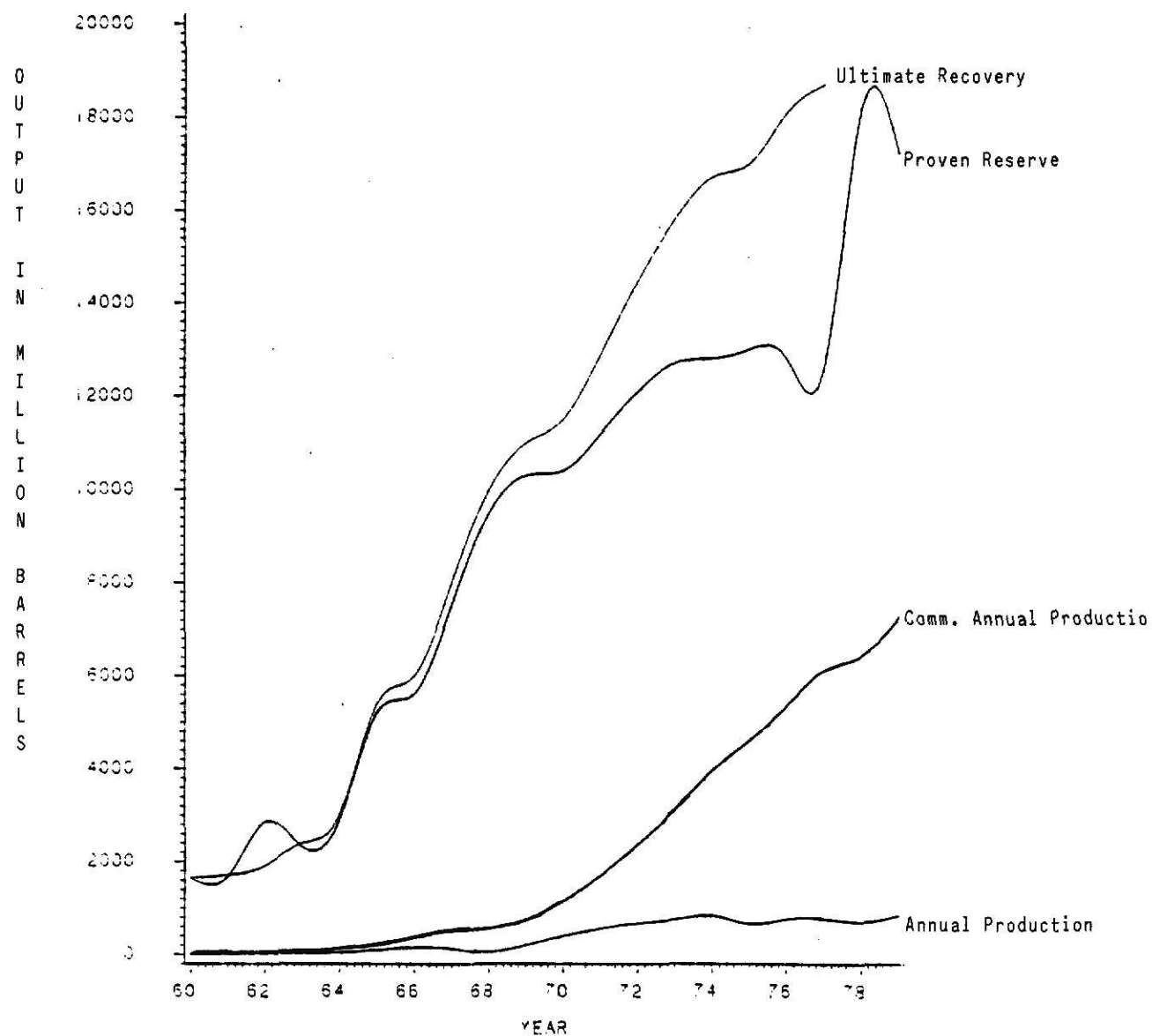
Table 2.4: Nigeria - Oil Production and Reserve Estimates 1960-79

YEAR	ACTUAL DAILY AVERAGE PRODUCTION (THOUSAND BARRELS)	ACTUAL ANNUAL PRODUCTION (THOUSAND BARRELS)	CUMULATIVE PRODUCTION (THOUSAND BARRELS)	ESTIMATED RESERVE (MILLION BARRELS)	ULTIMATE RECOVERY (MILLION BARRELS)
1960	17	6,337	12,351	1,640	1,650
1961	46	16,802	29,153	1,690	1,720
1962	67	24,642	53,777	2,870	1,920
1963	76	27,613	81,391	2,300	2,400
1964	120	43,997	125,387	2,900	3,000
1965	272	99,354	224,741	5,200	5,400
1966	418	152,425	377,166	5,600	6,000
1967	325	118,481	495,648	7,500	8,000
1968	142	51,906	547,554	9,500	10,000
1969	541	197,537	745,091	10,300	11,000
1970	1,084	395,761	1,140,851	10,400	11,500
1971	1,533	559,606	1,700,458	11,200	12,900
1972	1,821	666,623	2,367,080	12,100	14,500
1973	2,050	748,363	3,115,443	12,700	15,800
1974	2,255	823,104	3,938,547	12,800	16,700
1975	1,785	651,387	4,489,934	13,000	17,600
1976	2,068	756,797	5,346,731	12,800	18,100
1977	2,905	764,547	6,111,278	12,600	18,700
1978	1,671	697,227	6,416,807	18,200	--
1979	2,416	840,320 ^a	7,253,493	17,200	--

^aFigure comes from Table 2.2. This space is vacant in the original source.

Source: Nigeria: Its Petroleum Geology, Resources and Potentials,

FIGURE 2.5
OIL PRODUCTION AND (PROVEN AND PROBABLE) RESERVES
(1960-79)



revise their estimates depending on the interpretation of results of new studies.

2.7.3.1 Varied Reserve Estimates of Nigeria's Oil Resources

Systematic official reserve estimates do not appear publicly. Estimates also vary depending on whether it is a government or private sector estimate. This, of course, may be due to political and economic sensitivities that may arise in response to such an open declaration of crude certainty.

The Financial Times, 14 February 1977, estimated that Nigeria's reserves (proven plus as yet unassessed) could run as high as 50×10^9 bbl. There is a need for caution here because such figures can be highly speculative, and thus misleading.

As Whiteman has carefully documented, other less optimistic sources estimate the recoverable proven reserves of oil to be at 20.9×10^9 bbl., and that of gas to be at 44.3×10^{12} cuf. Others still gave differing figures. As at the end of 1980, the Oil and Gas Journal estimated 16.7×10^9 bbl. and 41.0×10^{12} cuf for oil and gas deposits respectively.

The NNPC recently estimated gas reserves to be 75×10^{12} cuf, of which 15×10^{12} cuf is classified as associated. In short, there is no one standard reserve estimate. Different interests give different estimates. The International Petroleum Encyclopedia (1976) gave Nigeria's gas production as 91.4×10^9 cuf. What this implies is that development of hydrocarbons will be in the best interest of Nigeria so as to utilize the heavy deposits of gas which is mainly flared even as of now. Only a small amount of gas production is consumed whereas more than 80 percent is flared.

This is the reason why the federal government has embarked on a Liquefied Natural Gas Project (LNG) expected to be completed before the end of 1985. There has been a great concern over possible market for the LNG. If nothing else, there is the domestic market. Whatever may be the market difficulty it is hoped that Nigeria may sell her LNG products in West Africa and even in the Western and Asian markets.

The summary and conclusion of this sub-sector analysis is that Nigeria has a huge deposit of oil and also a large deposit of gas. It is also hoped that with a continued research and exploration venture higher figures would arise. It also should be understood that, at the rate of 1979 annual production, the Nigerian oil would be available for about 25 years. Only a small proportion of the gas is consumed while the greater proportion is flared. With the LNG project expected to be completed shortly, and the development of Petrochemical complex, and so on, it is hoped that less gas would be wasted.

2.8 Trade in Crude Oil

2.8.1 Trend in Crude Oil Export

Not until the entry of other oil companies as competitors of Shell-BP did Nigeria sell all her oil to Britain. The advent of American oil companies extended the sphere of Nigeria's oil export to U.S.A., Canada, Italy, and so on. As a matter of historical development, the growth in crude oil exports closely follows the expansion of output as illustrated in Table 2.5. Figure 2.6 shows that a great proportion of crude oil production is exported. This is why the crude oil export curve moves very closely with the total crude oil production curve. The 1970s are characterized with fluctuations, whereas

there has been a persistent downswing in the volume of export and output explained by the OPEC restriction and the general oil market conditions. Figure 2.7 shows the value of export proceeds in million naira. The reasons for the relatively flat shape of the curve until 1972 is explained by relatively low nominal prices and low outputs of crude oil. The astronomic growth in the value of export as shown up to 1980 is attributable to rapid upward change in price and growth in the volume of output and export. The post 1980 indicates a downward trend because of declining price per barrel and the accompanied decline in the volume of crude oil output and export. As a matter of historical development of trade, five distinct phases of oil export trade can be identified.

The first phase is 1958-61, when all the entire oil export went to Britain and Holland, the home countries of Shell-BP.

The second phase, 1962-69, witnessed a considerable progress in geo-political diversification of market for Nigeria's oil, with shipment going to U.S.A., West Germany, France, Canada, Argentina, and Ghana. Nigeria also sold her oil in Japanese markets because of its high-quality, sulfur-free crude oil.

The third phase, 1970-74 (see Table 2.6), saw a great expansion of oil export to Japan, and the emergence of U.S.A. as the largest single buyer of Nigerian oil. The fourth phase, 1974-79, is characterized with instabilities. This was the period when Nigeria endeavored to keep to OPEC guidelines in output and prices. The "oil boom" came to a climax in 1979 (see Table 2.5 and Figure 2.6). The fifth and last phase is 1980-; this period witnesses a decline of prices and output. The impact of this period will be discussed in Chapter Four, and the reasons for the downswing will be thoroughly discussed. From Table 2.6, we can conclude

Table 2.5: Nigeria's Crude Petroleum Production and Exports 1958-1982 (Thousand Barrels)^a

YEAR	PRODUCTION	EXPORT	VALUE OF EXPORT (IN MILLION NAIRA)
1958	1,876	1,695	1.96
1959	4,096	4,065	5.40
1960	6,367	6,244	8.82
1961	16,802	16,506	23.09
1962	24,624	24,680	34.42
1963	27,913	27,701	40.35
1964	43,993	43,432	64.11
1965	99,853	96,985	136.19
1966	152,428	140,118	193.94
1967	116,525	109,057	144.77
1968	51,907	52,847	74.00
1969	197,204	197,246	261.93
1970	395,905	383,455	509.79
1971	558,828	542,545	953.03
1972	665,286	650,980	1,156.96
1973	750,609	723,314	1,893.48
1974	823,349	795,710	5,365.73
1975	650,885	630,426.1* (85539.5)	4,563.70
1976	756,449	706,576.6* (95872)	6,321.70
1977	761,062	741,400	7,072.80
1978	692,405	604,000	5,401.60
1979	840,320	803,400	10,166.80
1980	753,228	729,500	13,523.00
1981	525,457	438,600 ^P	10,280.3 ^P
1982	472,231	n.a.	

^aData came from varied sources because of changes in units of measurement. Nevertheless, it has been carefully studied to avoid any wide disparity, although slight variations may arise.

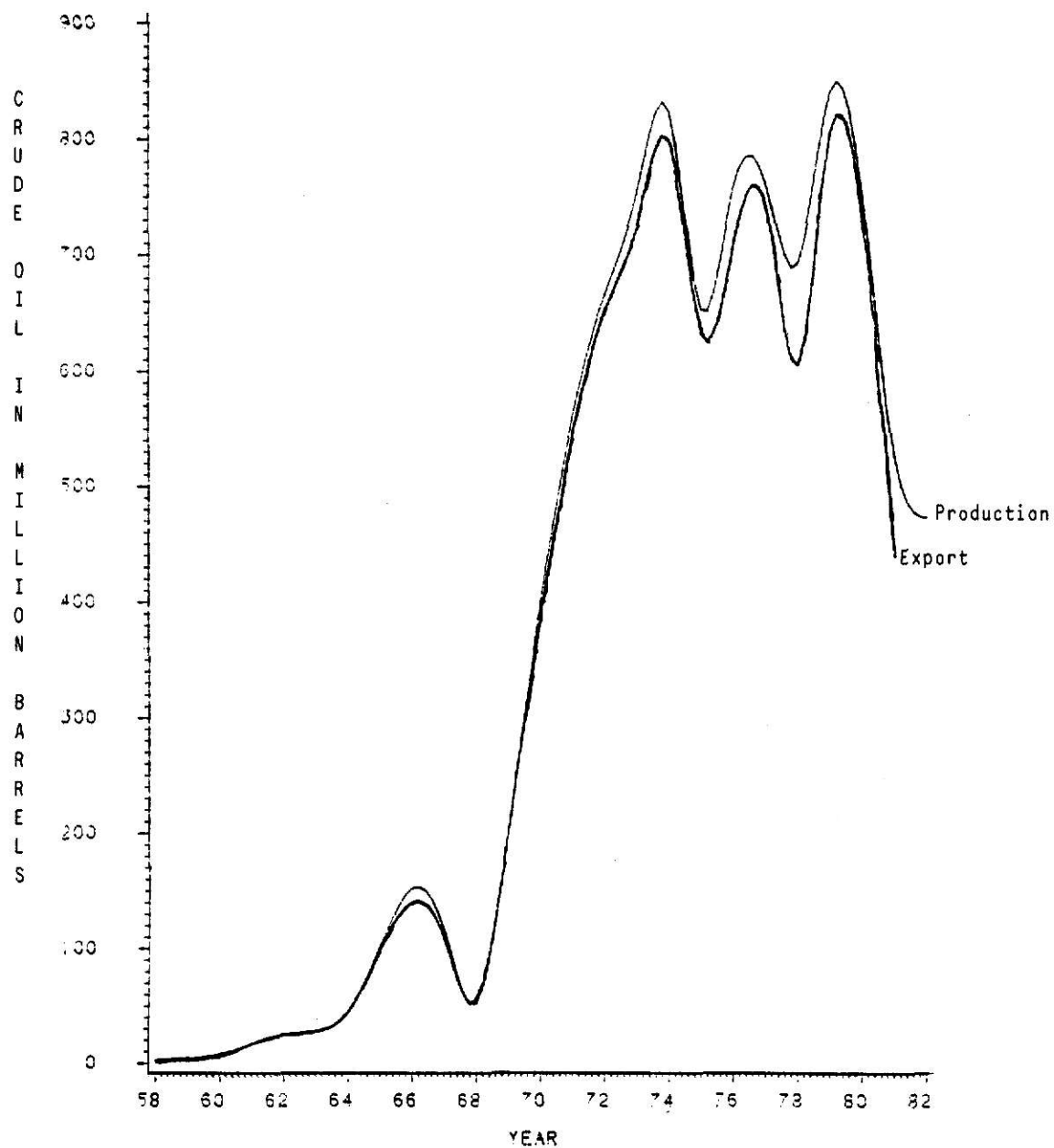
* Figures in parenthesis are in tonnes; export volume only exist in tonnes for these two years. Using a conversion approach, and given the average Nigerian oil of 34°API with .855 specific gravity: 1 tonne = 7.37 barrels. For details on conversion table, see, Petroleum Economist, February 1983. See also L. H. Schatzl, Petroleum in Nigeria, p. 38-41 or Standard and Chartered Review, May 1975, p. 7.

^PProvisional

n.a. - Not available

Sources: compiled from: (1) African Affairs, July 1976, p. 313; (2) Petroleum Economist, Nov. 1983, p. 448; (3) Central Bank of Nigeria Annual Report and Statement of Accounts, Dec. 1960-1981.

FIGURE 2.6
CRUDE PETROLEUM PRODUCTION AND EXPORT
(1958-81)

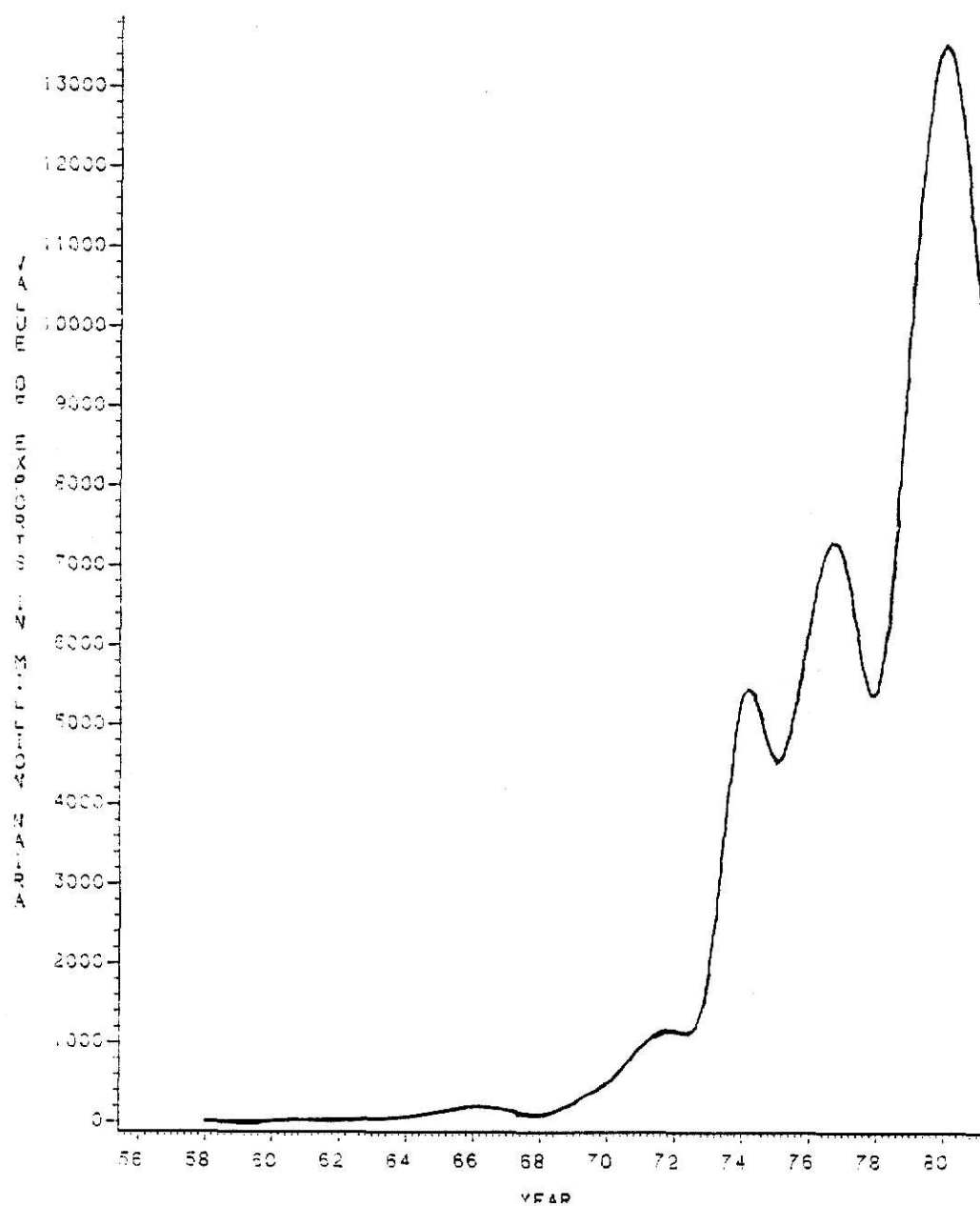


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FIGURE 2.7
VALUE OF CRUDE PETROLEUM EXPORTS
(1958-81)



that the western market remains the most important to Nigeria, whereas the eastern market is unimportant to her. Within the African continent, West African countries, especially the ECOWAS block is the only important market. Nigeria would not be able to compete against Libya to market her oil in North Africa or East Africa.

2.8.2 The Major Trading Blocks: Current and Estimated Future Oil Consumption

As shown in Table 2.7, and as said earlier, the U.S.A. had been the number one major consumer of Nigerian oil since 1974. Furthermore, the western block in general provides the most outstanding market for Nigeria's crude oil (America and Western Europe).

Recent developments in energy conservation policies pose a future jeopardy to effective marketing of Nigeria's crude oil in the western market. This fear is a warning deduced from Table 2.6 below. Nigeria's

Table 2.6: World Current and Estimated Future Oil Consumption
(Million Barrels per Day)

	<u>1978</u>	<u>2000</u>	<u>Percentage Change</u>
U.S.S.R., China, Eastern Europe, Vietnam	12	19	7%
U.S.A., Canada, Western Europe, Japan, Ocenia	41	36	-5%
OPEC	2	7	5%
Remainder of the world	<u>8</u>	<u>18</u>	<u>10%</u>
Total	<u>63</u>	<u>80</u>	<u>17%</u>

Source: Modern Petroleum Economics, p. 788.

Table 2.7 (continued)

Region/Country	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 ³	1980 ³	1981 ³
WESTERN EUROPE		650.3	727.4	985.5	2,782.3	2,229.4	2,346.3	2,311.3	2,227.0	3,843.1	5,044.1	3,967.7
Belgium (Lux.)	2.3	2.7	4.9	16.2	26.0	35.4	30.4	10.5	15.8	20.2	40.6	30.8
Netherlands	94.0	126.5	154.4	254.3	739.9	517.4	617.3	720.6	713.0	1,291.2	1,636.3	1,305.5
W. Germany	25.7	42.9	45.8	58.6	373.5	307.0	399.1	367.8	405.1	691.3	892.5	699.0
France	56.7	177.3	195.6	261.7	573.5	534.0	573.6	549.3	610.4	1,026.1	1,514.6	1,099.9
Italy	10.5	40.4	50.1	39.0	76.1	47.3	47.9	84.1	183.7	366.0	378.6	339.2
Norway	---	15.7	6.3	6.0	31.6	40.8	33.6	50.8	70.2	91.3	148.9	113.1
Sweden	---	17.2	20.3	25.3	38.8	58.7	38.0	62.5	43.2	71.2	121.7	82.2
Denmark	---	19.7	18.3	17.1	27.8	56.1	15.2	5.4	10.8	11.4	27.0	20.5
Austria	---	---	---	---	7.9	5.9	4.5	11.7	9.6	10.1	27.0	20.5
Switzerland	---	---	---	---	26.5	29.5	10.4	2.4	---	---	---	---
Ireland	---	---	---	---	---	---	---	---	---	---	---	---
Spain	---	32.3	16.9	0.3	3.6	3.4	---	---	24.0	50.8	67.6	51.4
UK	118.3	175.6	214.8	306.3	857.1	593.5	576.3	446.2	141.2	213.5	189.3	206.6
Greece	---	---	---	---	---	---	---	---	---	---	---	---
Others	---	---	---	0.7	---	---	---	---	---	---	---	---
Oceania	---	---	---	---	---	---	---	---	---	---	---	---
Others	47.9 ²	---	---	---	---	---	---	---	---	---	---	---
TOTAL	509.8	953.0	1,176.2	1,893.5	5,365.7	4,563.1	6,321.7	7,072.8	5,401.6	10,166.8	13,523.0	10,280.3

¹ Economic Community of West African States, formed in 1975² Aggregate export to other Common Wealth Countries excluding UK³ Figures are provisional⁴ Negligible

Source: Compiled from Central Bank of Nigeria Annual Reports and Statement of Accounts, December 1970 - 1982.

major oil consumers will, on aggregate, experience a major reduction in oil consumption (of about five percent between 1978-2000) because of conservation policies. How serious Nigeria will be affected is not clear, but the hand writing is on the wall that such a scenario will dislocate the Nigerian oil market. As a possible preventive measure, Nigeria may need to adjust the price of her high-quality oil and also to make diplomatic efforts to negotiate for markets. But Nigeria's role in OPEC makes her less flexible. In order not to ruin the OPEC, Nigeria needs consultation and enlightened diplomacy before effecting a price cut in her crude oil.

CHAPTER THREE

THE ECONOMIC IMPACTS OF THE OIL SECTOR

Nigerian planners expanded project plans following the inception of oil exploration, development and marketing in 1957. Today many Nigerians view the oil sector with mixed feelings. The negative feeling results from Nigeria's vulnerability in an unstable world oil market.¹

Despite the instability, the oil sector has contributed to the growth and economic development of Nigeria;² more so, the 1973/74 oil price shock brought in more revenue for Nigeria than she could immediately utilize. Nineteen-seventy-three and 1974 marked the beginning of the so called "oil boom", which many thought would continue indefinitely.

But the boom lasted only a few years. The DCs had learned their lessons and rationally embarked on energy conservation and substitution policies to slash down oil consumption and import.

The structure of the oil market is not perfect because of the role of the OPEC Cartel. Much of the oil price increase was due to direct actions by the OPEC with respect to pricing and output.

In light of the present energy policies of DCs and the weakening bargaining position of the OPEC, it is not certain what the trend in

¹F. S. Idachaba, "Instability and Diversification of Foreign Exchange Earnings: The African Experience," The Nigerian Journal of Economic and Social Studies 16:1 (March 1974):17-26.

²S. A. Aluko and M. O. Ijere, "The Economics of Mineral Oil," The Nigerian Journal of Economic and Social Studies 7:2 (July 1965):209-18. Since 1972, the oil sector has accounted for at least 66 to 85 percent of foreign exchange earnings which significantly determine Nigeria's import of capital and consumption goods. See Central Bank of Nigeria Reports and Statement of Accounts, December 1967-1982.

future oil markets will be. How long the present slump would last can not be determined by the OPEC members or even by the DCs. But because the high price of oil per barrel motivated increased exploration and development operations in the world oil industry in the late '70s, the depressing price per barrel may eliminate inefficient producers. This is because the production cost may exceed the revenue.

The focus of this chapter is on the positive impacts of the oil sector on Nigeria's economy; the next chapter deals with further analyses of the oil market condition as it affects Nigeria.

3.1 The Share of the Oil Sector in the Export Trade

Before the development of the oil sector in Nigeria, the country was predominantly an agricultural economy, exporting cash crops: cocoa, groundnut, palm products, sugar cane, cotton, rubber, and so on. In addition to those products, other primary commodities, for example, tin and columbite, zinc, and lead were also exported.

Crude oil was first exported in 1958. Between 1958 and 1969, the share of oil in export trade grew. The escalation of oil export tended to slow down the rate of growth in other export sectors, particularly, the agricultural sector. (Figure 3.8 confirms this proposition, and Figure 3.1 indicates that the growth of value shares of the oil sector dominates the foreign trade revenues.) The reasons for this scenario will be provided shortly. The position of the oil sector in Nigeria's external trade became more outstanding in the 1970s and 1980s when the oil sector alone accounted for about 58 percent to 94 percent of the total export trade. This fact is illustrated in Table 3.1. Figure 3.2 illustrates the nature of the rates of change. The change was very sharp between 1970-72, and 1973-74. The relatively sluggish growth rate after

Table 3.1: The Share of Oil in Nigeria's Export Trade
(Value in NMillion) 1970-1981

YEAR	OIL SECTOR (Crude Petroleum)	NON OIL SECTOR ^a	TOTAL EXPORTS	PERCENTAGE SHARE OF OIL *
1970	510.0	375.4	885.4	57.6
1971	953.0	340.4	1,293.4	73.7
1972	1,176.2	258.0	2,034.2	87.3
1973	1,893.5	384.9	2,278.4	83.1
1974	5,365.7	429.1	5,794.8	92.6
1975	4,563.7	362.4	4,926.1	92.6
1976	6,321.6	429.5	6,751.1	93.6
1977	7,072.8	557.9	7,630.7	92.7
1978	5,401.6	662.8	6,064.4	89.1
1979	10,166.8	670.0	10,836.8	93.8
1980	13,523.0 ^b	554.0	14,077.0	96.0
1981	10,280.3 ^c	189.8	10,470.1	98.1

* Rounded to once place of decimal

^a Includes all other exports except crude oil

^b Provisional

^c CBN estimate

Source: (1) Nigeria's Principal Economic and Financial Indicators 1970-78.

(2) CBN Annual Report and Statement of Accounts 1977-81.

FIGURE 3.1
THE VALUE SHARE OF OIL IN NIGERIAN EXPORT TRADE
(1970-81)

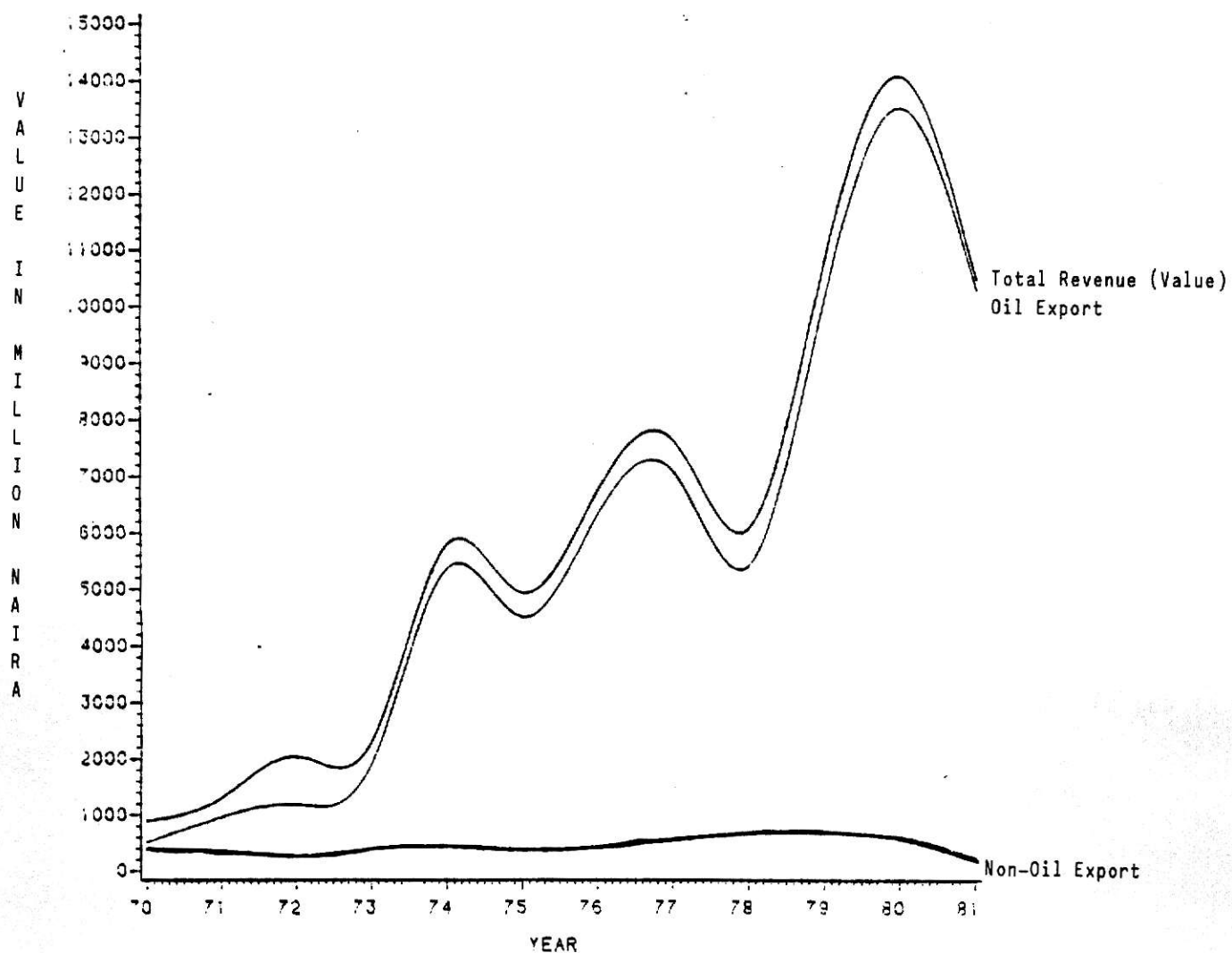
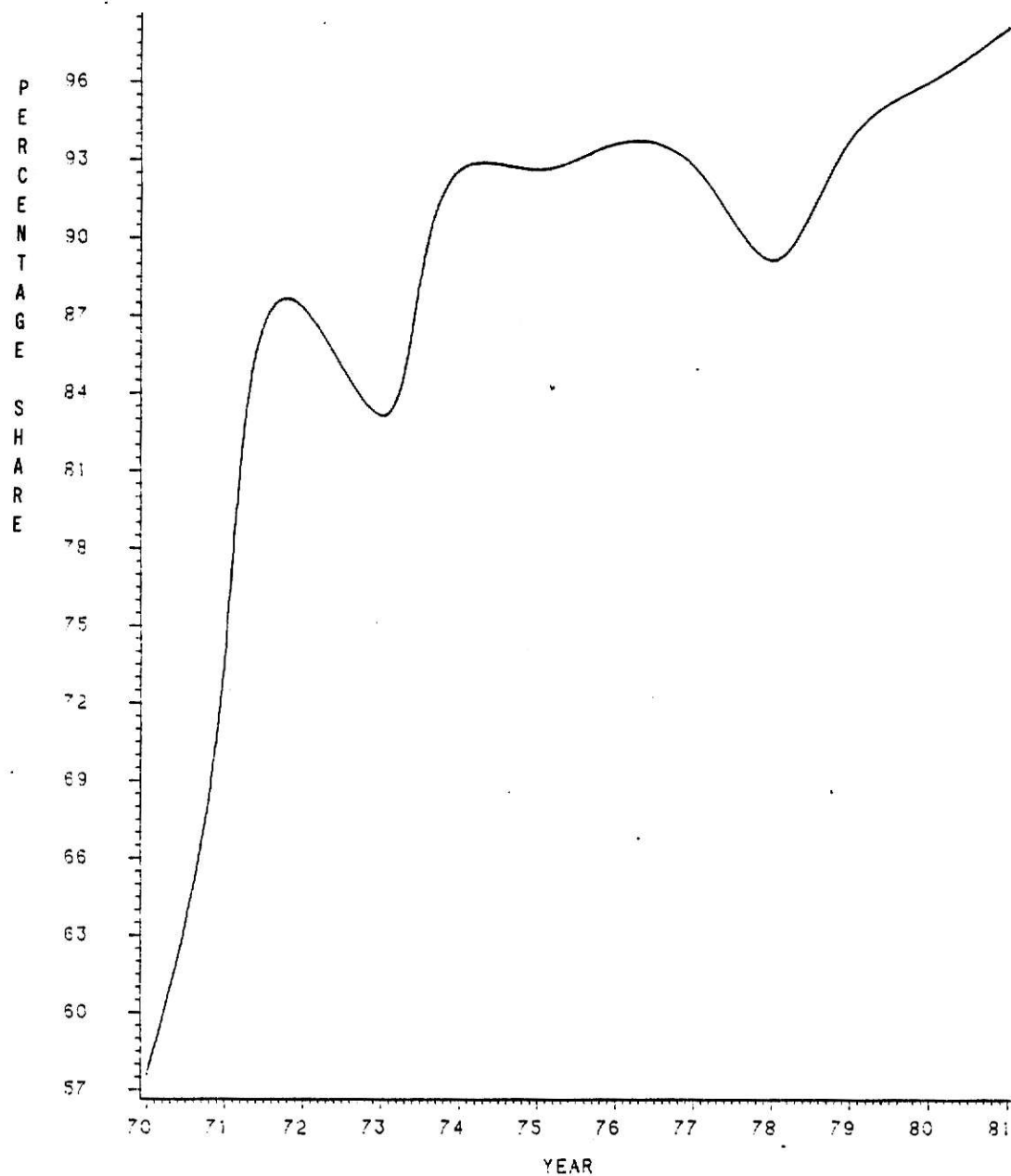


FIGURE 3.2
THE PERCENTAGE SHARE OF OIL IN NIGERIAN EXPORT TRADE
(1970-81)



1974 is a reflection of changes in oil market conditions that were mentioned in Chapter two (that is, price fluctuation due to interaction of demand and supply of crude oil). From Table 3.1, figures of crude oil export between 1970 and 1979 contrast sharply with those of 1958, 1965, and 1966 when crude oil exports accounted for only 0.8 percent, 25.4 percent and 33.0 percent of total export trade respectively.³

As pointed out above, the crude petroleum export became the most important primary export commodity in 1965.⁴ The growth trend in petroleum export and reasons why it tends to slow down the growth rate in non-oil sectors can be explained by the following factors:

1. The sale of crude oil is the most important factor affecting the exchange rate of Nigerian naira for dollars (the major international currency and reserve). Nigeria is paid for her crude oil sales in dollars so that increasing oil sales by Nigeria (and other oil producers who are paid in dollars) technically implies strength of naira. The theoretical

³L. H. Schätzl, Petroleum in Nigeria (Ibadan: Oxford University Press, 1967), p. 152-56.

See also E. W. Nafziger, The Economics of Political Instability: The Nigerian-Biafran War (Boulder, Colorado: Westview Press, 1983), pp. 152-153.

⁴However, it has been argued that the "price" used for the output of petroleum, especially before the 1970s, overestimated the percentage of GDP originating in the oil sector, and the value of crude oil output and exports. This situation is attributable to "intra-firm transfer price" which is important to the oil companies in determining the taxes paid to the exporting country. Despite this weakness, the data on petroleum exports are useful for our relative analysis of the importance of petroleum over time. For detail, see Kathleen M. Langley, "Financing Development in Nigeria: An Appraisal," in South of the Sahara: Development in African Economies, Sayre P. Schatz, ed. (Philadelphia: Temple University Press, 1972), pp. 234, 240.

Other reasons may be lack of proper accounting; also certain Nigerians connive with the oil companies to engage in unfair business practice.

explanation is that as more dollars are supplied, the value of dollar depreciates relative to naira - making the naira strong relative to the dollar. As the Naira increases relative to the dollar, non-oil exports worth a given dollar amount in the world market are worth smaller and smaller Naira amounts. Thus the incentive to export non-oil products decreases.

2. An increase in the number of oil companies promotes competition and intensive prospecting and development operations in the oil sector. Competition lubricates organizational and technical machinery thereby promoting efficiency. Also, the well organized labor unions may promote productivity in the industry while at the same time bargaining for improved income. As a result, the oil sector is more attractive to the investors and employees than many aspects of non-oil sector, especially, agriculture. In this respect, it may slow down growth in the non-oil sector. The non-oil sector also faces less formal competition, hence, poor organizational and technical skills. For instance, productivity in agriculture is known to be very low.
3. The market for crude oil output is less competitive than the market for agricultural goods or substitutes for crude oil. Although the demand for both oil and agricultural products is inelastic, oil producing countries have more influence on oil prices than they have over agricultural products. Furthermore, crude oil remains the world's major source of energy. All countries need that energy but not all countries have crude oil resources. Whereas countries can step up actions to increase

their food supplies, manufactures, and so on, fuel must be imported if a country lacks deposits of crude petroleum. Countries increase their oil consumption with increases in growth of industries and general development. Thus, Nigeria shifted major attention to the oil sector as a result of this favorable market condition.

4. The increasing reserve discoveries and estimates contribute to increasing annual output. Although cause-effect relationship cannot be necessarily established, research results (as shown in Figure 2.5) show that annual outputs reflect reserves estimate which in turn positively reflect ultimate recovery. Therefore, given favorable market condition, more volume of crude oil would be supplied with an increase in estimate of reserves. Planners take into consideration their own future needs since minerals are an exhaustable stock.
5. The price incentive of crude oil after the 1973/74 oil price shock rendered the non-oil sector relatively unimportant in Nigeria's foreign trade transactions. This is a consequence of the fact that supply is a function of price; thus, research activities were intensified in the oil sector, while Nigerian leaders and planners did not pay adequate attention to the agricultural sector after the oil boom of 1973/74. The relative insignificance of the non-oil sector (dominated by agriculture) is illustrated in Table 3.4 and Figure 3.8, in which contributions of the non-oil sector to foreign exchange is relatively low, compared to the pre-1971 trend. The trend is explained by low prices for agricultural products in world market.

3.2 The Oil Sector Contribution to Creation of Employment Opportunity

Provision of employment opportunities is one of the outstanding contributions of the sector to the economy. Right from the onset of search activities, Nigerians were employed in the construction activities, then in seismic and drilling operations, and then managerial functions, following the expansion of the industry's training and scholarship schemes. Thus, a variety of non-basic activities, inter alia, building of roads and bridges, the clearing of drilling sites, transportation of materials and equipment, the building of staff housing, and recreational facilities opened opportunities for employment.

According to Madujibeya,⁵ the employment of Nigerians in the oil industry totaled about 4,500 in 1976; he further estimated a larger volume of employment to be about 15,000 taking into account the impacts of auxillary firms.

It has been argued that employment creation in the oil sector is not likely to be fast because of the capital intensive nature of the operations. As of the mid 1970s, total oil sector employment was about 1.3 percent of total modern employment.⁶ Nevertheless, with the expansion of Port Harcourt refinery, the completion of the giant Warri and Kaduna refineries, coupled with the progress in petrochemicals and heavy oil products, the employment of skilled and even unskilled labor

⁵S. A. Madujibeya, "Oil and Nigeria's Economic Development," African Affairs 75:300 (July 1976):284-86.

Dr. Madujibeya is an authority on Nigerian oil economics. Apart from being his area of dissertation, he has closely followed the development in the oil industry. See, for examples, his article "A Slippery Position" in West Africa No. 3348, 28 September 1981.

⁶Ibid., p. 286.

could have expanded rapidly (figures of current level of employment in the oil sector could not be found at the time of this writing). But that the oil sector is the most important primary sector, after agriculture, which absorbs the bulk of the labor supply in Nigeria. It is hoped that with the growing modernization, for instance, LNG project, which is supposed to be completed by September 1985⁷ and the ongoing petrochemicals, the size of labor absorption would quadruple. It should be noted that the development of petrochemicals and LNG mark the inception of the secondary phase of the oil sector, which is expected to boost the Nigerian economy.

A study by Ubogu in 1977 estimated the size of employment in the oil sector and its ancillary sectors to be about 20,000 as at 1975.⁸ Between 80 percent and 90 percent of the employees were Nigerians. For instance, of the 9,421 people employed in 1967/78 (excluding ancilliary employment), 8,443 of them (about 90 percent) were Nigerians. By 1971/72, 90 percent of the 14,078 employees were Nigerians. Nigerians were employed in the exploratory activities, oil marketing, oil services and local refinery. In light of the sector's training programs, and the indigenization policy of the federal government, it may boil down to the earlier estimation that the level of employment would have quadrupled in the 1980s relative to the pre-1975 period.

⁷Petroleum Economist, December 1983, p. 473.

⁸Roland E. Ubogu, "The Oil Industry and Nigeria's Economy," presented at the Joint Annual Meeting of the African Studies Association and Latin American Studies Association (Houston: November 2-5, 1977), pp. 9-10.

However, the oil industry's total employment is still relatively small when compared with about 86 million people in Nigeria. There are two main reasons for this scenario. First, the oil sector is capital intensive. Second, the sector lacks backward and forward linkages.

3.3 The Contribution of the Oil Sector to Government Revenue

Contracts were made before companies were authorized to prospect for petroleum in Nigeria. As a condition for the continued exploration and drilling operations, the companies are required to pay certain fees, and so on, according to the terms of contract. The fees, later to be converted into dividends, are major sources of government revenues.

3.3.1 Kinds of Payment

According to the terms of concession agreement or contract and the Petroleum Profit Tax Ordinance, the oil companies are required to pay legally fixed payments. These payments were in the form of rents, royalties, Petroleum Profit Tax, and other premiums. Premiums, as a rule, are expected to be paid before exploration activities, whereas rents, royalties, and petroleum profit tax reflect, in the long run, the activities and successes of any particular oil company.

Schätzl, who did an extensive pioneering study in this area, estimated the oil sector contribution from the beginning of the search in 1937 until 1965/66 to be worth ₦95.2 million (£N47.6).⁹ The yearly

⁹Schätzl, p. 165.

For microdata, see statistical appendix, Table E₂.

All pre 1974-73 money value(s) are in Nigerian pounds (£N). The Nigerian pound was on par value with the British pound (£) until 1967. By then, £1 = \$2.80; hence, £N1 = \$2.80. But Britain devalued her £ to \$2.40 in 1967 while Nigeria maintained her £N value. By 1973 Nigeria abandoned £N and introduced Naira (₦). ₦1.00 = £N.5 or ₦2.00 = £N. This was after the collapse of Bretton Wood System in 1971.

revenue derived from oil has been on the increase as illustrated in Table 3.2. Apart from payments to the federal government, the oil companies make other kinds of payments to the Nigerian Port Authority as freight amounting to ₦14.2 million (£N7.1million) as of 1966.

The position of oil in Nigeria's economy becomes more outstanding with the realization that since 1973, oil revenue as a whole outweighs all other sources of federal revenues. For example, oil revenue accounted for about 38 percent of federally collected revenue in 1972/73, 63 percent in 1974/75, and 58 percent in 1979/80. Since the 1973/74 quadrupled oil price increase, oil has been the mainstay of federal revenues.

Figures 3.3 and 3.4 illustrate the pattern assumed by the curves. Generally, the shape of the total revenue curve assumes the shape of oil revenue curve; this shows how the federal government is dependent on oil revenue (see Figure 3.3). Reliance on oil revenue arose from poor tax instruments, unmodernized agricultural sector, low per capita income, low prices for agricultural exports, and low levels of industrial manufacturing. Dependence on oil revenue constitutes a problem owing to fluctuation in world oil prices.

The most important factors that explain the shape of Figures 3.3 and 3.4 (excluding the civil war years) are: increases in price per barrel of crude oil, and increase in output of oil from year to year. There may be other exogenous forces but those forces affect the price and output of oil directly or indirectly.

3.3.2 Federal Government Grants and Allocations to States and Local Governments

Table 3.3, for the period 1970-81, shows the increasing government transfers arising from increased oil revenue. There has been a

Table 3.2: Share of Crude Oil in Federal Government
Current Revenue (NMillion) 1957/58 - 1981

FINANCIAL YEAR	TOTAL CURRENT REVENUE	TOTAL REVENUE FROM OIL SECTOR	PERCENTAGE OF OIL SECTOR REVENUE
1957/58	141.9	0.03	xx
1958/59	154.6	0.16	0.1
1959/60	177.6	3.30	1.9
1960/61	223.7	2.40	1.1
1961/62	229.0	17.10	7.4
1962/63	231.6	16.90	7.3
1963/64	249.2	10.00	4.0
1964/65	299.1	16.10	5.3
1965/66	321.9	29.20	9.1
1966/67*	339.2	45.00	12.6
1967/68*	300.2	41.90	14.0
1968/69*	300.0	29.60	9.9
1969/70	435.9	75.40	17.3
1970/71	758.1	100.00	21.1
1971/72	1,169.0	383.20	32.8
1972/73	1,404.8	540.50	38.4
1973/74	1,695.3	769.20	45.3
1974/75	4,537.0	2,872.50	63.3
1975/76	5,514.7	2,707.50	49.1
1976/77	6,765.9	3,624.90	53.6
1977/78	7,652.5	4,286.20	56.0
1978/79	6,815.2	3,203.20	47.0
1979/80	13,806.0	8,009.20	58.0
1980 ¹	11,859.8	6,796.20	57.3
1981 ²	7,468.3	4,296.20	57.5

xx Negligible

* Civil War Years

¹ 1980 financial year equal nine months; there was a change
(April- December)

² Figure is for January-June; it is also provisional

Sources: (1) Ubogu, R. E., The Oil Industry and Nigeria's Economy, Table 3.

(2) Central Bank of Nigeria Annual Report and Statement of Accounts, December 1975-1981.

FIGURE 3.3
SHARE OF CRUDE OIL REVENUE
OF THE TOTAL REVENUE OF
THE FEDERAL GOVERNMENT OF NIGERIA
(FINANCIAL YEAR 1957-58 TO 1981-82)

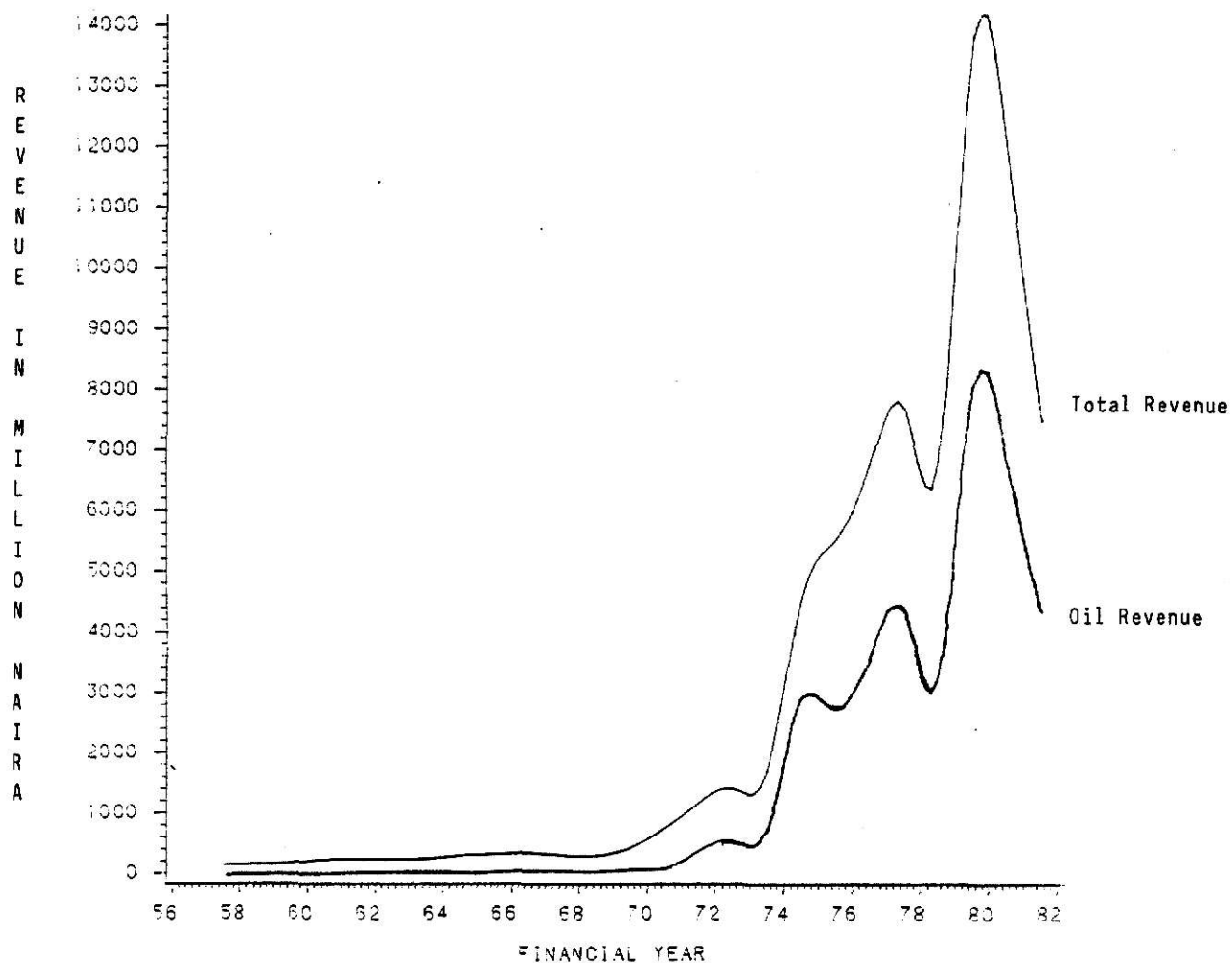
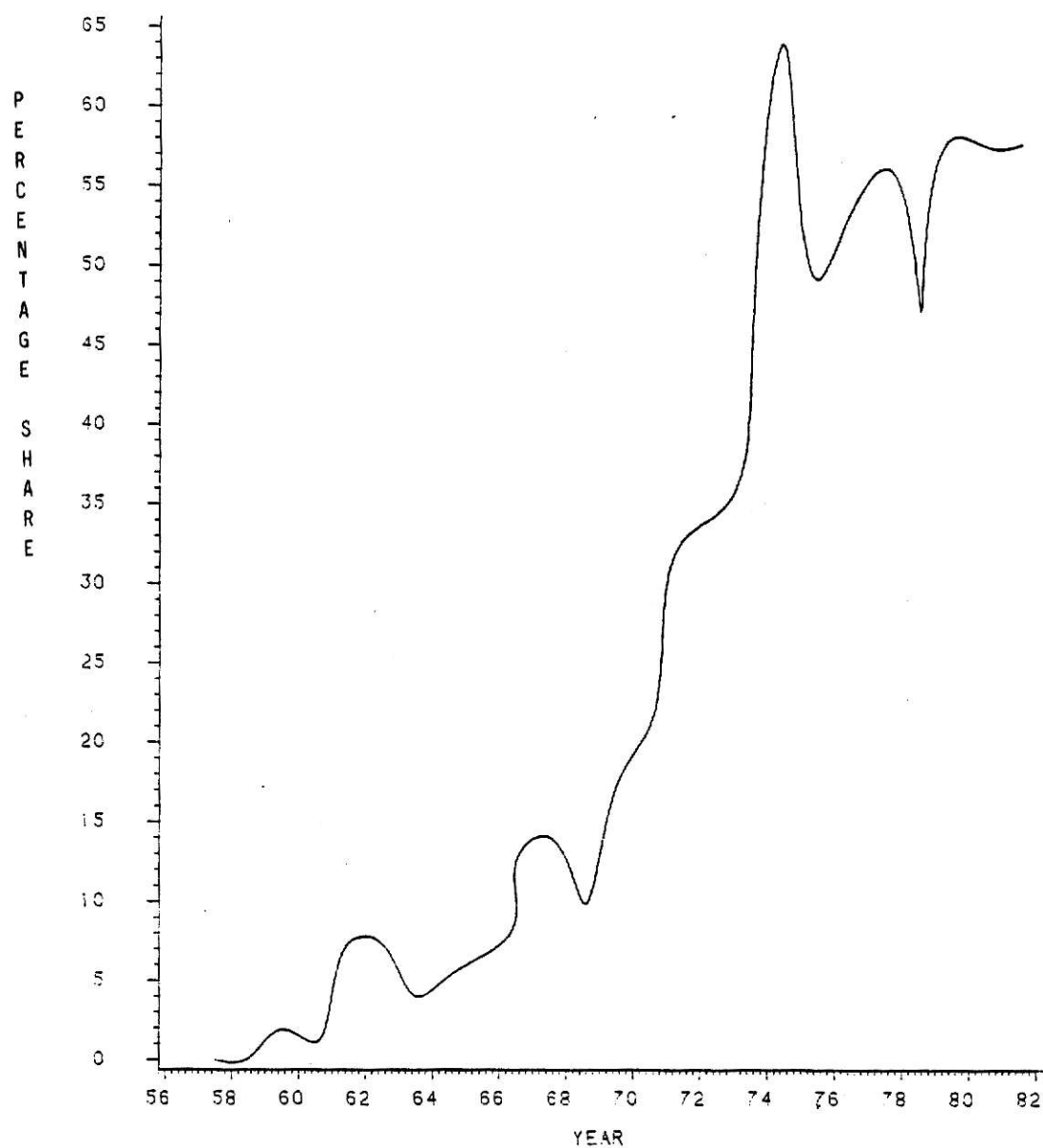


FIGURE 3.4
PERCENTAGE SHARE OF CRUDE OIL REVENUE
OF THE TOTAL REVENUE OF
THE FEDERAL GOVERNMENT OF NIGERIA
(FINANCIAL YEAR 1957-58 TO 1981-82)



remarkable growth in federal government grants and allocations to states. Figure 3.5 illustrates the absolute trend in allocation to the states. The steep nature of the curve reflects growing responsibility of states. Nevertheless, Figure 3.6 illustrates hardship experienced by the states because of unstable patterns of federal allocations. The federal government has a policy of shifting more and more responsibilities to the states. For instance, the federal government slashed grants for free education at primary levels in 1981.

The negative growth rate in 1972 is explained by the fact that in that year the federal government spent heavily on Udoji award to workers. It might be that the commitment of the government to the award reduced the federal capacity to allocate huge resources to the states. General growth in grants to the states was less rapid than the growth of federal current revenue during the period 1970-75. On the other hand, the astronomic rise in allocation to states in 1974 (by 99.8 percent) is specifically explained by the unexpected increase in federal revenue resulting from the 1973/74 oil price increase. The negative growth rate in 1978 was a result of austerity measures of the military government under General Obasanjo - he declared operation "cut your coat according to your cloth" in order to boost the federal external reserves which was dropping at an alarming rate. It should also be noted that federal grant capability is influenced by the structure of revenue sharing formulas, discussed below.

3.3.3 Revenue Allocation Formulas

The present revenue allocation formulas (RAF) put much of the federally collected revenue in the hands of the federal government. The old derivation formulas in the '50s, '60s, and '70s or before were

Table 3.3: Federal Government Allocations
to States and Local Governments
1970-81 (NMillion)

YEAR	TOTAL ALLOCATIONS AND GRANTS TO STATES AND LOCAL GOVERNMENTS	YEARLY GROWTH RATE OF ALLOCATION IN PERCENTAGE*
1970	267.6	
1971	330.8	23.6
1972	331.0	0.1
1973	322.1	-2.7
1974	643.5	99.8
1975	1,049.0	63.0
1976	1,645.0	56.8
1977	1,996.9	21.4
1978	1,772.6	-11.2
1979	2,871.5	62.0
1980	4,128.6	43.8
1981	4,910.6	18.9

* Figure correct to one place of decimal

- Sources: (1) Nigeria's Principal Economic and Financial Indicators 1970-78
- (2) Central Bank of Nigeria Economic and Financial Review, Volume 18, No. 1, June 1980.
- (3) Central Bank of Nigeria Annual Report and Statement of Accounts, December 1980-81.

FIGURE 3.5
FEDERAL GOVERNMENT ALLOCATION
TO STATES AND LOCAL GOVERNMENT
(1970-81)

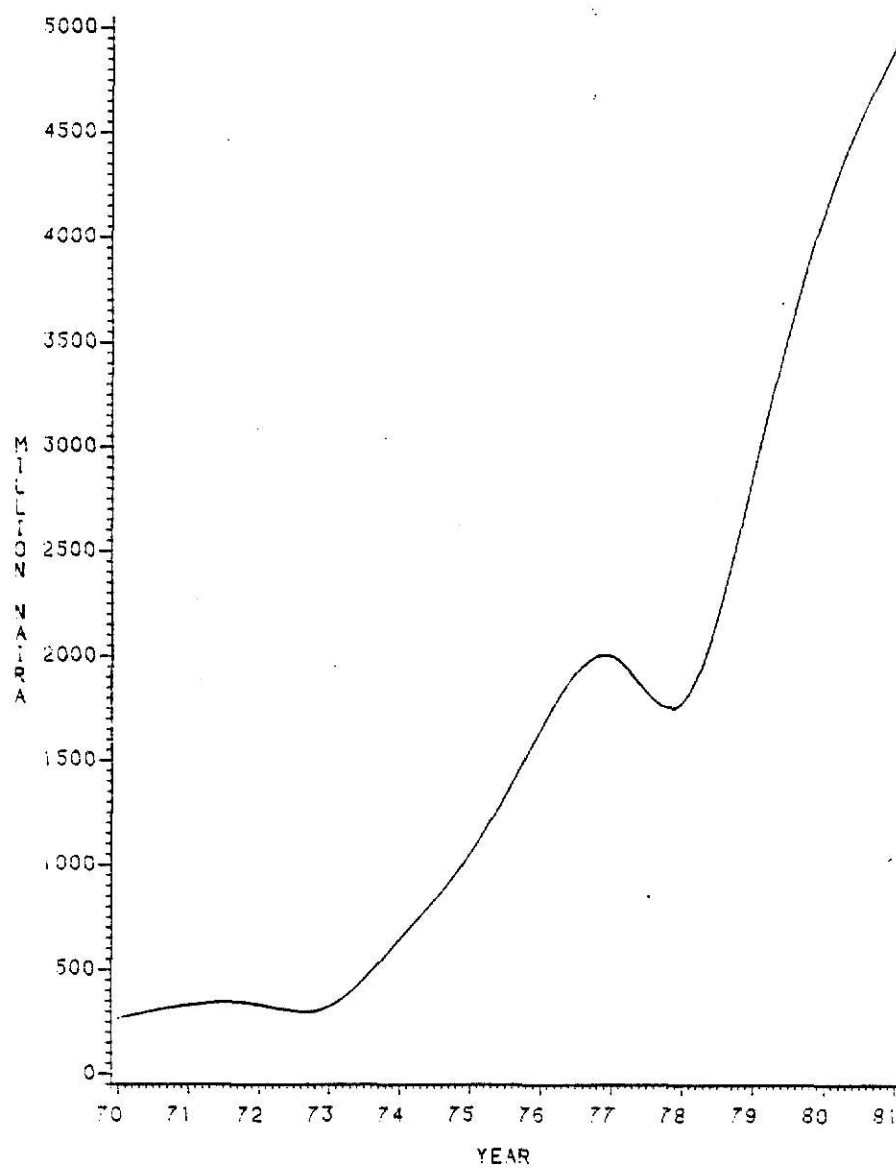
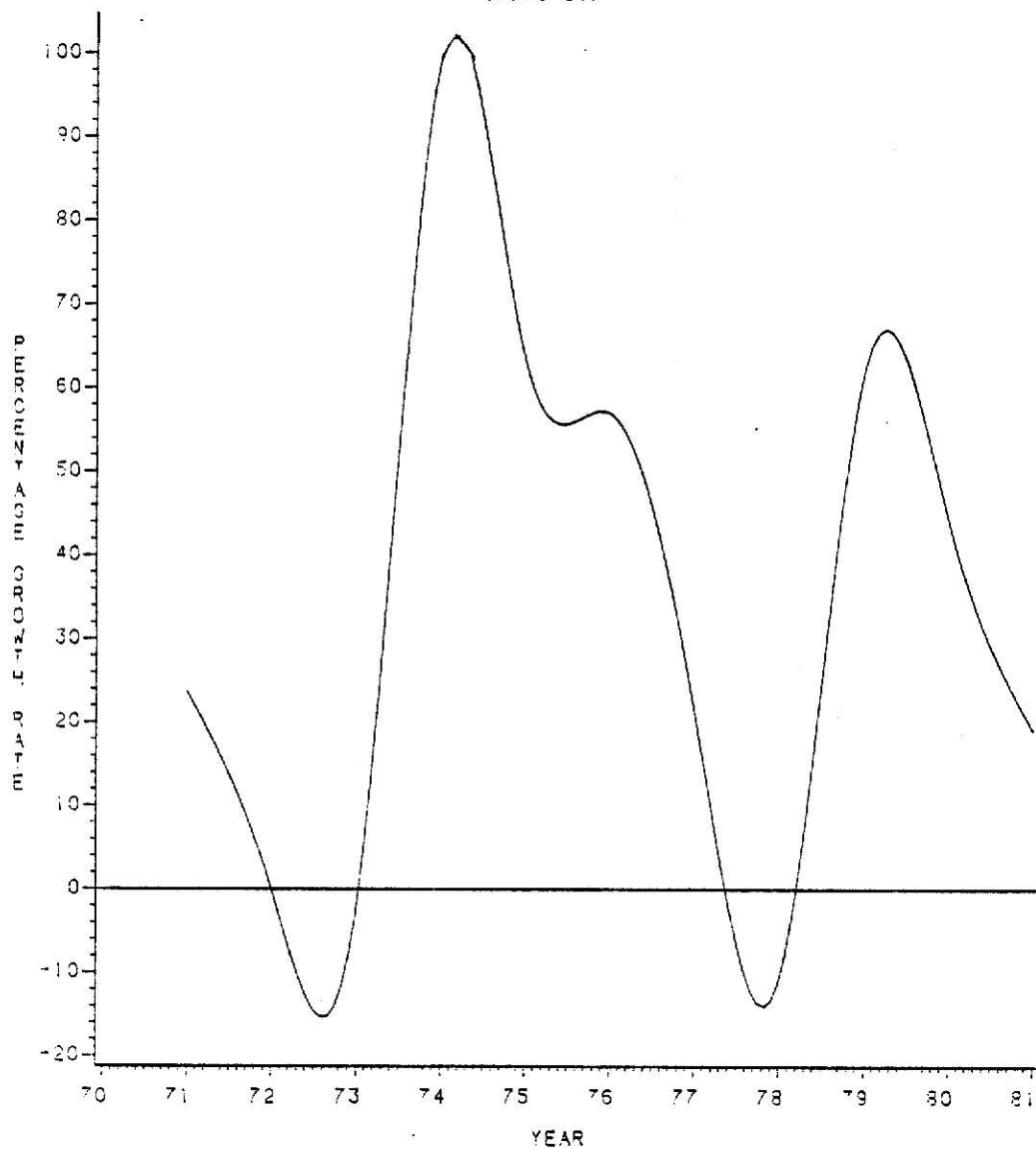


FIGURE 3.6
PERCENTAGE GROWTH RATE
OF FEDERAL GOVERNMENT ALLOCATION
TO STATES AND LOCAL GOVERNMENT
(1970-81)



dropped by Shagari's administration. In the era of derivation, Groundnut Marketing Board, Cocoa Marketing Board, and Palm Products Marketing Board, financed huge development projects in the north, west, and east respectively. The Middle Belt States and the Delta States did not benefit much because of scarcity of cash crops as export goods and the structure of the formulas of allocation.¹⁰ The derivation formula was adjusted after the military took over in 1966.

In the 1940s and 1950s, RAF (derivation principle) was 50-20-30, that is, 50 percent to region of origin of a resource, 20 percent to the federal government, and 30 percent to the Distributive Pools Account (DPA). DPA usually takes into consideration such factors as population, absorptive capacity or equality of states, needs, and so on.

In the 1960s, the derivation principle was slightly adjusted to 50-15-35 so that 50 percent, 15 percent, and 35 percent went to the region of origin, federal government and DPA respectively. The minority areas were still losing relatively. In the 1970s, the formula was adjusted to 45-5-50 for derivation, federal government, and DPA respectively.

Furthermore, the changes in RAF after 1959 treated the proceeds from agriculture separately from the proceeds of crude petroleum or mining. Because of this change, only a fraction of the revenue from mineral and mineral oil production was on derivation principle. This scenario contributed to the then growing dissatisfaction of the East, that is, the Ibos. For example, petroleum profit tax was not given to the region of

¹⁰J. K. Onoh, The Nigerian Oil Economy: From Prosperity to Glut (New York, St. Martin's Press, 1983), pp. 107-24.

production, and only half of petroleum rent and royalties went to areas of resource derivation. Thus, the Eastern region which produced the oil contended she was not fairly compensated. On the other hand, most proceeds from agricultural marketing boards were retained by the region(s) that produced the products. Each of the then regions has at least two or more export crops. The East exported palm products equivalent in a form to the West's cocoa and the North's groundnut. The federal government policy in this case could be viewed as implicit grant; hence, the oil sector was treated differently because not all the regions have crude oil deposits. Agricultural marketing boards were established in each of the then three regions before the creation of twelve states in 1967. It seems that the minorities within these regions (because of lack of political and economic powers) were the unfavored group in RAF.¹¹

The Second Republic under President Shagari could not revert to derivation formula because of the strategic roles that oil plays in domestic and external economics or politics. Thus, the two houses democratically passed a new Revenue Allocation Bill in 1981 on a 55-35-10 basis,¹² after a more federally concentrated formula was earlier overthrown in the court of justice (the 1981 RAF is federally oriented).

In late 1983, the federal government took 55 percent, whereas 35 percent and 10 percent went to states and local governments respectively.

¹¹This work will not go into the detail of the politics of RAF but for a detailed political analysis of RAF before the creation of twelve states, see E. W. Nafziger, The Economics of Political Instability; The Nigerian Biafran-War (Boulder, Colorado: West View Press, Inc., 1983), pp. 106-10.

¹²West Africa, "Revenue Allocation Bill Passed," No. 3361, 4 January 1982, p. 56.

See also Nafziger, pp. 106-10.

Of the 35 percent for the states, only 3.5 percent was shared on the basis of derivation while 1 percent was administered by the federal government for ecological purposes. The remaining 30.5 percent is shared on the basis of population, need or equality of states. In this respect the federal government received the lion share of the oil yield, and it was also distributed more equally among the states.

3.4 Oil Sector Contribution to Balance of Payment/Foreign Exchange

The balance of payments is the statement of accounts of a nation's total transactions with the world for any particular period of time, usually a year. It is concerned with visible, invisible, and capital transactions.

Table 3.4 illustrates the contribution of oil sector to Nigeria's foreign exchange earning 1967-1981. From the 1960s to 1971, Nigeria relied more on non-oil exports and capital inflows (aids, grants, loans and equity investments, etc.) as major determinants of the shape of the balance of payments. For instance, oil contributed only 19.9 percent, 10.1 percent, and 15.4 percent to total balance of payments in 1967, 1968, and 1969 respectively.

Figure 3.7 illustrates contributions of oil and non-oil sectors to the balance of payment/foreign exchange. Figure 3.8 shows that the rates of change in the oil sector contribution has grown while that of non-oil sector has fallen. The slight upward growth rate in the non-oil sector after 1975 reflects the ineffective emphasis on agriculture and increase in other goods and services. The same period shows a decline in growth rate of the oil sector contribution to the balance of payments reflecting the oil market slump in the late 1970s, and in the 1980s. Figure 3.7 can

Table 3.4: Contribution of the Oil Sector to Foreign Exchange (N Million)

YEAR	OIL SECTOR	NON OIL SECTOR*	TOTAL	OIL SECTOR AS PERCENTAGE OF TOTAL**	NON OIL SECTOR AS PERCENTAGE OF TOTAL**
1967	97.4	391.6	489.0	19.9	80.1
1968	57.6	512.2	569.8	10.1	89.9
1969	106.6	584.4	691.0	15.4	84.6
1970	253.2	666.8	920.0	27.5	72.5
1971	604.6	793.0	1,397.6	43.3	56.7
1972	809.8	415.8	1,225.6	66.1	33.9
1973	1,275.9	486.2	1,762.1	72.4	27.6
1974	5,192.9	561.3	5,754.2	90.2	9.8
1975	4,190.4	839.1	5,029.5	83.3	16.7
1976	4,908.1	893.5	5,801.6	84.6	15.4
1977	6,516.5	1,181.3	7,697.8	84.7	15.3
1978	5,216.4	2,173.1	7,389.5	70.6	29.4
1979	9,158.4	2,006.6	11,165.0 ¹	82.0	18.0
1980	9,552.0	2,149.2	11,701.2 ²	81.6	18.4
1981	8,871.2	1,547.8	10,419.0 ²	85.1	14.9

* Exports of goods and services, plus net capital inflows, plus or minus errors and omissions. This involves careful analysis of addition and subtraction.

Note also that import by the non-oil sector is not added; if added, the net balance under non-oil sector will be negative. But the net contribution of the oil sector is always positive. I have done it this way to show that the non-oil sector contributes to balance of payments even though the net contribution may be negative. This approach is similar to that of Madujibeya in Standard and Chartered Review, May 1975, p. 9.

A more comprehensive balance of payment Table 1965-80 reflecting a usual approach is shown by Nafziger in The Economics of Political Instability, pp. 136-7. The latter is a comprehensive mainstream balance of payment sheet whereas Table 3.4 shows contributions of two major sectors.

** Figures correct to one place of decimal

¹ Provisional

² CBN estimates

Source: (1) Central Bank of Nigeria Annual Reports and Statement of Accounts, December 1967 - 1981.

FIGURE 3.7
CONTRIBUTION OF OIL SECTOR TO FOREIGN EXCHANGE
(1967-81)

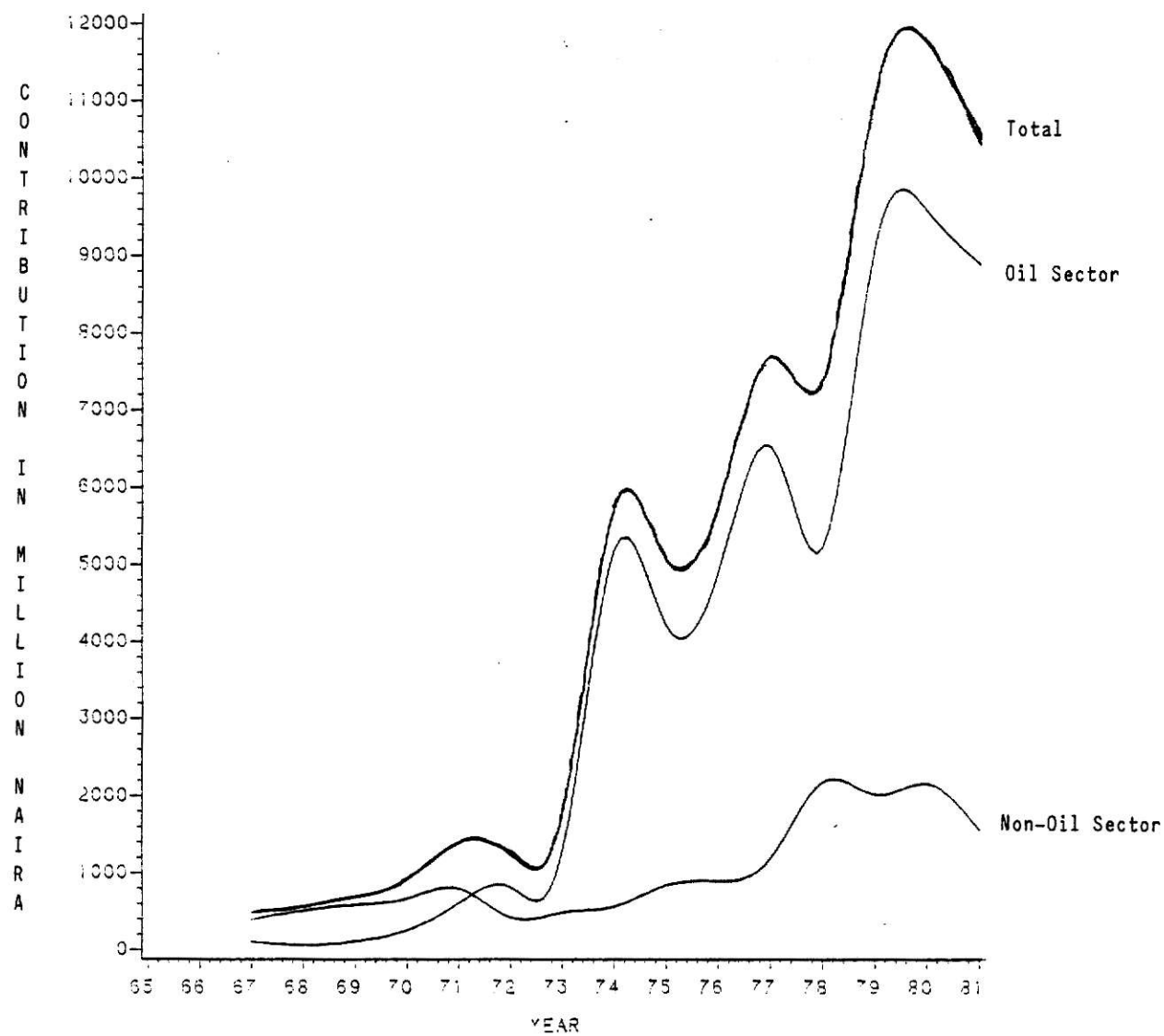
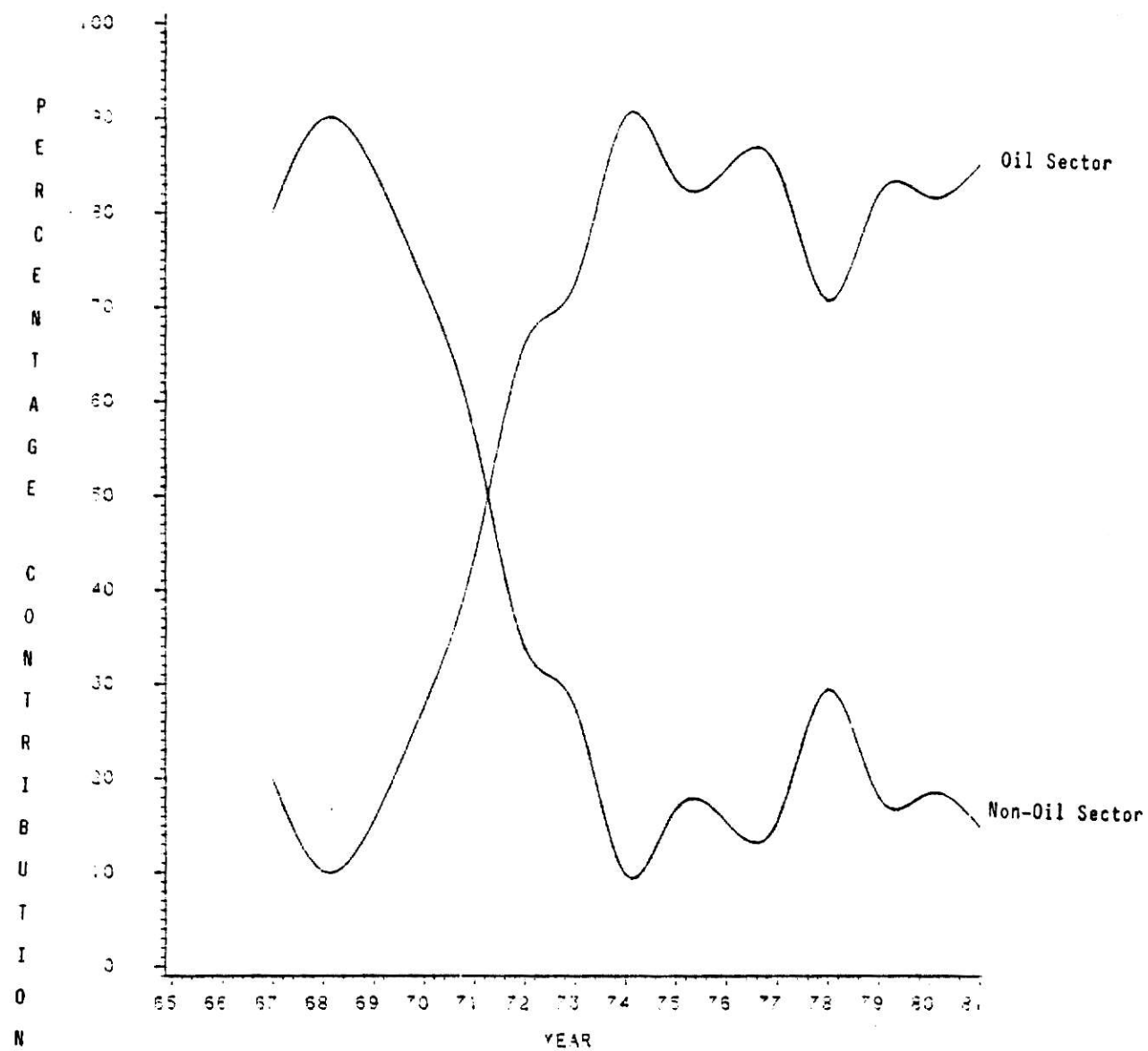


FIGURE 3.8

CONTRIBUTION OF OIL SECTOR TO FOREIGN EXCHANGE VERSUS
NON-OIL SECTOR: GROWTH RATE 1967-81



be explained by the fact that prices and output of crude oil have increased over time. The reason is because of continued exploration and development of the oil sector whereas agriculture remains largely unmodernized. Also, most manufacturing industries in Nigeria import rather than export. Because of the increasing reliance of the non-oil sector on imported raw materials and the negligence of agricultural sector, there has been a downward trend in the contribution of the non-oil sector (entirely agricultural) to foreign exchange (see Figure 3.8).

The non-oil sector accounted for more than one-half of foreign exchange earning up to 1971, as indicated in Table 3.4. But, after 1972, the oil sector took the lead. Since 1971 oil has accounted for an average of 75 percent of the foreign exchange earnings.

3.5 The Impact of the Oil Sector on Nigeria's Gross Domestic Product (GDP)

Data on the impact of crude oil exploitation on Nigeria's GDP are generally lacking. As a matter of fact, the dramatic increase in crude oil production, especially after the 1967-1970 Nigerian-Biafran Civil War,¹³ implies a positive growth in the share of crude petroleum in Nigeria's GDP at factor or current cost. More so, was the oil boom effect of the 1970s.

Many available data on this area lack comparability. Tables 3.5 and 3.6 illustrate recent crude measurements of the shares of the oil sector

¹³E. W. Nafziger, The Economics of Political Instability: The Nigerian - Biafran War (Boulder, Colorado: West View Press Inc., 1983).

This is a thorough account and analysis of war from an economic view point; the whole of the book is relevant to understanding Nigerian political and economic struggles.

Table 3.5: Estimated All-Nigerian Gross Domestic Product at Constant (1973) Factor Cost 1970-76 (NMillion)*

YEAR	PETROLEUM	AGRICULTURE	OTHER SECTORS ¹	GDP AT FACTOR COST	% SHARE OF OIL	% SHARE OF AGRIC.
1970 ^a	1,002	3,262	2,497	6,761	14.8	48.2
1971 ^a	1,414	3,433	2,754	7,601	18.6	45.1
1972 ^a	1,673	3,183	3,000	7,856	21.2	40.5
1973 ^a	1,899	3,123	3,431	6,453	22.4	36.9
1974 ^b	2,190	3,331	3,808	9,329	23.4	35.7
1975 ^c	1,593	3,212	4,838	9,643	16.5	33.3
1976 ^c	1,938	3,290	5,395	10,623	18.2	30.9

*See notes 12-13.

¹Includes construction, manufacturing etc. but no petroleum or agriculture.

^aFederal Office of Statistics data.

^bWorld Bank Mission estimates.

^cWorld Bank Mission Projections.

Source: Nafziger, The Economics of Political Instability, p. 179, citing World Bank and Federal Office of Statistics.

Table 3.6: Share of Petroleum in Estimated
All-Nigerian Gross Domestic
Product at Current Factor Cost
1977/78 - 1978/79 (NMillion)

SECTOR	1977/78	1978/79
Agriculture	3,167.7	3,292.4
Crude Petroleum	6,847.9	5,725.5
Other Sectors	16,742.9	18,351.8
GDP at Factor Cost	26,758.5	27,369.7
Share of Crude Petroleum in total GDP	25.5%	21.0%
Share of Agriculture in GDP	11.8%	12.0%

* Sectorial classifications differ from those in Table 3.5. This table uses current rather than constant factor prices. The fiscal year is not a calendar year. See notes 12-13.

Source: Nafziger, The Economics of Political Instability, p. 180, citing World Bank and Federal Office of Statistics.

in Nigeria's GDP. As Nafziger¹⁴ pointed out, the figures in Table 3.6 are rough estimates because, at constant factor costs, the value of petroleum is understated taking into account the impact of 1973/74 oil prices. Table 3.6 also lacks comparability with Table 3.5 because the former is in current prices whereas the latter is in constant factor prices. There is also a difference in sectoral categories, and Table 3.6 is based on a fiscal year beginning April 1 rather than a calendar year.¹⁵

In any case, the tables illustrate the relatively increasing and dominant position of oil. The drop in 1976 was due to price decline, and the federal government policy of restricting output to conform to OPEC guideposts. In 1977/78 and 1978/79, the share of oil in GDP declined mainly because of a decline in the output and export of crude oil. See Table 2.3.

Ubogu had shown that the share of petroleum value added in GDP was 44.7 percent and 43.8 percent in 1974 and 1975 respectively.¹⁶ In his annual address in 1976, the governor of CBN, Mallam Adamu Ciroma,¹⁷ made it clear that the oil sector accounted for about 60 percent of the

¹⁴Ibid., pp. 178-82, 191. See also World Bank, West Africa Regional Office, Nigeria: Percent Economic Developments and Short-term Prospects, Report No. 1690a - UNI, 23 December 1977, p. 30.

Nigeria, Office of Statistics, Economic and Statistical Review, 1978 (Lagos, 1979).

¹⁵Nafziger, pp. 180-2. The entire pages 173-190 give a more comprehensive understanding.

¹⁶Ubogu, Table 2.
See also Nafziger, p. 183.

¹⁷Central Bank of Nigeria, Economic and Financial Review, "Address by Mallam Adamu Ciroma, Governor, Central Bank of Nigeria, on the Occasion of the Annual Dinner of the Nigerian Institute of Bankers," 14:2 (June 1976):7.

nation's nominal GDP total increase in the five year period up to 1974. As Table 3.6 crudely illustrates, in the fiscal years 1977/78 and 1978/79, oil accounted for 25.5 percent and 21.0 percent of GDP respectively. This table also illustrates the fact that oil has a larger share in GDP than agricultural sectors. There should be a caution here because a lot of agricultural production does not enter the market system and thus may not be included in GDP.

Despite the frequency of price instabilities, the share of the oil sector in GDP is likely to rise, especially in light of the new refineries at Warri and Kaduna, petrochemicals, progress in the LNG project, and some other linkages.

3.6 Contributions of the Oil Sector to Diversification Programs

Nigeria's capital expenditure has grown tremendously over time. From a capital spending capability of ₦138.4 (£N69.2), ₦140.8 (£N70.4), ₦141.8 (£N70.0) millions in 1964, 1965, and 1966 respectively, the figures dramatically escalated to ₦565.7, ₦1549.4, ₦4241.9, ₦5442.3, and ₦9601.0 millions (in current prices) in 1973, 1974, 1976, 1977, and 1981, respectively. Much of the general trend in capital expenditure since 1970 is noted in Table 3.7. Figure 3.9 illustrates the movement in capital expenditure. The period 1973 to 1974 reflects increasing expenditure arising from high oil revenue; the period 1977 to 1979 indicates a cut back in expenditure because of the oil slump. The high oil revenue in 1979 is a factor in the steep expenditure curve through 1981. Since 1981 there has been a downward trend in federal government capital expenditures due to declining oil revenues.

Table 3.7: Patterns of Federal Government Capital Expenditure Since 1970-81 (MMillions) in Current Values

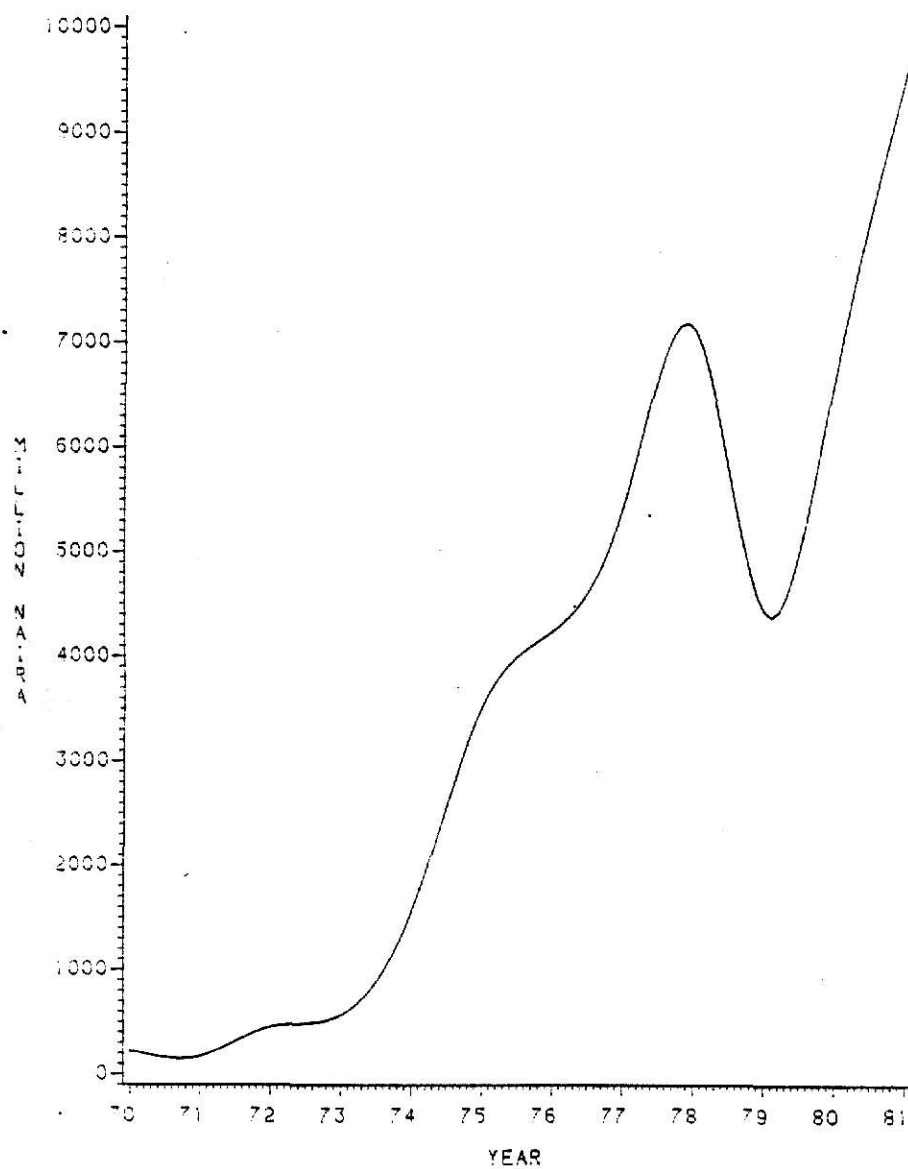
FUNCTIONS	1970		1971		1972		1973		1974		1975	
	AMT.	% SHARE OF TOTAL	AMT.	% SHARE OF TOTAL	AMT.	% SHARE OF TOTAL	AMT.	% SHARE OF TOTAL	AMT.	% SHARE OF TOTAL	AMT.	% SHARE OF TOTAL
ADMINISTRATION (General Adminis; Internal Security, and Defence)	145.0	65.6	63.2	36.4	108.8	24.1	133.8	23.7	268.4	17.3	747.8	21.3
ECONOMIC SERVICES (Agric; Construction, Transport and Comm; Others)	43.4	19.7	58.2	33.5	132.9	29.5	249.5	44.1	465.9	30.1	1,314.7	37.4
SOCIAL AND COMMUNITY SERVICES (Education, Health, Others)	3.2	1.4	13.2	7.6	42.0	9.3	40.4	7.1	358.2	23.1	927.4	26.3
TRANSFERS (Financial Obligation, Loans on-lent to States)	29.4	13.3	39.2	22.5	167.6	37.1	142.0	25.1	456.9	29.5	528.3	15.0
TOTAL	221.0	100.0	173.8	100.0	451.3	100.0	565.7	100.0	1,549.4	100.0	3,518.2	100.0

FUNCTIONS	1976			1977			1978*			1979*			1980*			1981*		
	AMT.	% SHARE OF TOTAL		AMT.	% SHARE OF TOTAL		AMT.	% SHARE OF TOTAL		AMT.	% SHARE OF TOTAL		AMT.	% SHARE OF TOTAL		AMT.	% SHARE OF TOTAL	
ADMINISTRATION (General Adminis; Internal Security, and Defense)	795.4	18.8		1,013.4	18.6		667.5 (1,335)	18.8 (18.8)		497.7 (995.4)	22.6 (22.6)		706.9 (1,413.8)	21.1 (21.1)		1,177.4 (2,354.8)	24.4 (24.4)	
ECONOMIC SERVICES (Agric; Construction, Transport and Comm;	2,231.4	52.6		3,124.6	57.4		818.5 (163.7)	23.1 (23.1)		1,320.5 (2,641.0)	59.9 (59.9)		2,060.0 (4,120.0)	61.4 (61.4)		2,250.4 (4,500.8)	46.7 (46.7)	
SOCIAL AND COMMUNITY SERVICES (Education, Health, Others)	899.7	21.2		824.9	15.2		1,964.3 (3,928.6)	55.2 (55.2)		296.5 (593.0)	13.5 (13.5)		578.4 (1,156.8)	17.2 (17.2)		1,043.9 (2,087.8)	21.6 (21.6)	
TRANSFERS (Financial Obligation, Loans on-lent to States)	315.4	7.4		479.4	8.8		103.3 (206.6)	2.9 (2.9)		87.2 (174.4)	4.0 (4.0)		11.8 (23.6)	0.3 (0.3)		350.8 (701.6)	7.3 (7.3)	
TOTAL	4,241.9	100.0		5,442.3	100.0		3,553 (7,107.2)	100.0		2,201.9 (4,403.8)	100.0		3,557.1 (6,714.2)	100.0		4,800.5 (9,601)	100.0	

* Actual figures are for January-June because of change in financial year.
Annual estimates are shown in parenthesis by multiplying actual figure by 2.

Source: Central Bank of Nigeria Annual Report and Statement of Accounts,
December 1970-81.

FIGURE 3.9
TOTAL FEDERAL CAPITAL EXPENDITURES
(1970-81)



From Table 3.7, it is noted that economic services, viz: agriculture, infrastructures are top government priority areas. Then, general administration, social and community services, follow in that order.

Government policy was to effect a quick diversification of the economy by reinvestment of oil revenues. Because oil is a "stock" resource (an exhaustible natural resource), a complete dependence on it jeopardizes the economy. To this end, efforts to diversify the economy need be well pursued. Such steps will be recommended in chapter four.

3.6.1 Investment in Infrastructure

Development of infrastructure has been a top priority because infrastructure is basic to all forms of economic activities. Even the oil companies had to invest heavily in infrastructures so as to facilitate their operational efficiency in the areas of oil exploration.

In 1969, the federal government spent ₦15 million on transport and communication; the amount increased to ₦31.2 million in 1970, and then to ₦43.6 millions in 1971 - accounting for 25.1 percent of total capital expenditures.¹⁸

The amounts spent on health in the same years were relatively very small except in 1971 when a total of \$8 million was invested in health services (this is still small). Other infrastructural services such as airports and seaports received little attention during this period. General and specific expenditures on infrastructure has been expanding as

¹⁸ Central Bank of Nigeria, Annual Report and Statement of Accounts, December 1972, p. 74.

suggested in Table 3.7. Between 1972 and 1975, transport and communications grew, on average, at 15 percent annually.¹⁹

3.6.2 Investment in Public Education

Education and training are investments in human capital. Expenditure in education increased from ₦1.8 million in 1969 to ₦3.0 million in 1970, to ₦134.5 million in 1974, to ₦631.1 million in 1975, and then declined to ₦529.2 million in 1976. Expenditure in education has been relatively high because of the Free Universal Primary Education Program which was started in 1973; the fact that secondary and university (higher) education are heavily subsidized add to huge cost of public education. For instance, university and other higher education tuition fees were abolished in 1979 under Obasanjo's administration.²⁰ Shagari's administration had to reintroduce tuition fees in 1983 to help reduce cost to government of higher and secondary education. Primary school enrollment rose from 36 percent in 1960 to 60 percent in 1976, and it is expected to be higher in the 1980s implying a growing social cost of primary education. There is growth in enrollment at all levels of education;²¹ (recently, a number of states have introduced fees even at primary school levels).

¹⁹Federal Nigeria, "Brief Review of Nigerian Economy 1972-75," 2:1 (January - March 1977):6.

²⁰Ibid., p. 2.

The intended free university education did not work. Tuition fees and other fees were later reintroduced. The move toward free university education was in the days of 'Petromania', but the Government learned, before too long, that Nigeria is not actually rich.

²¹World Development Report (Washington D.C.: The World Bank, August 1981), p. 90.

Between 1972 and 1975, educational expansion grew at an annual rate of 20 percent. For instance, the number of universities financed by the federal budget increased from 13 in 1977 to 27 in 1983. In addition, colleges of education, technology, agriculture, and polytechnics have tremendously expanded in number and size in the last decade. Much of formal educational institutions is financed with the oil revenues in order to develop human capital resources.

In addition to these formal higher education programs, Nigeria has also invested in a number of training centers to help provide the needed manpower. The Industrial Training Fund (ITF) offers internships and post school training programs for technical students. The oil companies also directly provide funds for the Petroleum Research Institute, Yaba Technical College, University of Ibadan, and others.

3.6.3 Investment in Science and Technology

Nigeria is well aware that her future survival and the overall well being depends greatly on the level and quality of applied sciences. For this reason, there is a heavy investment in science and technology. The Federal Ministry of Science and Technology was created in 1979 to replace the former National Science and Technology Development Agency (NSTDA), which was set up by Act No. 5 of 1977 and dissolved by the new Science and Technology Act of 1980.²² The federal government finances a number of training and research institutes. Examples of the institutes include Federal Institute of Industrial Research (FIIR), Projects Development

²²Nigeria, Fourth National Development Plan 1981-85 Vol. 1 (Lagos: The National Planning Office, 1981), p. 206.

Institute (PDI), National Cereal Research Institute, and a few more. Most of these institutes have made some remarkable achievements, but lack of adequate facilities and capital remain major problems. The detail of the activities and achievements of these institutes are not the concern of this study, but suffice to know that they are supported with the oil money.

3.6.4 Investment in Agriculture

Agriculture was the mainstay of Nigeria's economy before the discovery and the commercial exploitation of oil. The advent of the oil boom changed this scenario; oil soon became the source of finance to transform agriculture from traditional subsistence type to a modern mechanized, scientific agriculture.

For instance, in 1969, ₦2.6 million was spent on agriculture, ₦5.6 million in 1970, ₦87.4 million in 1974, ₦211.2 million in 1975, and then ₦129.2 million in 1976. From January-June of 1979-81, expenditure on agriculture totaled ₦56.2 million, ₦154.2 million and ₦206.0 million respectively.

To boost agriculture, a number of River Basins Authorities have been commissioned with the aim and objective of making Nigeria self-sufficient in food production.²³ Investment in agriculture in the form of Obasanjo's "Operation Feed the Nation" and Shagari's "Green Revolution"²⁴ and so on, have recently been heavily criticized. This work cannot go

²³ Central Bank of Nigeria Economic Financial Review 14:2 (June 1976):5-8.

²⁴ Ibid.

into much detail on agricultural investment but suffice to know what is happening with the oil money. For a thorough critique and constructive opinion on agricultural diversifications, see Owkpisi Oghemekome.²⁵

3.6.5 Investment in Industries

The story of the iron and steel project began in the 1960s. Nigerian leaders have long discussed this project's costs and benefits. International advisers claimed the cost was enormous coupled with the fact that technical expertise was domestically lacking.

In the 1970s, the discussion was revitalized, and by 1977 agreements were signed for the establishment of Delta Steel Company to commence in 1979. Another arrangement also was made with foreign interest to establish the second steel complex at Ajaokuta in Kwara State.

The two agreements were made possible because of the burgeoning oil revenues which rendered the cost argument less and less tenable.²⁶ Iron and steel development is a major diversification project being financed mainly with the oil revenue, although there are foreign shareholders who bring in foreign capital.

²⁵ Owkpisi Oghemekome, "Using Nigeria's Resources for Farming," West Africa No. 3359, 14 December 1981, pp. 2981-87.

Attempts to modernize agriculture via heavy capital machineries were never beneficial. Because of technical skill gaps, most of the expensive machineries lie idle and most of them break down after a few months of operation. Heavy capital-oriented agriculture is not yet suitable for Nigeria; a labor-intensive strategy with labor augmented machines will be more useful. Apart from the problem of wrong emphasis, there is a corruption problem. For instance, not much was realized after the heavy investment in Operation Feed the Nation and Green Revolution. Although it is true that capital may be generally lacking, the two problems mentioned here are the most serious.

²⁶ Barrett Linsay, "Nigerian Steel: The Countdown Begins," West Africa No. 3382, 11 January 1982, pp. 82-4. See also Afriscopes, "The Iron Complex," 4:8 (August 1974):52-3.

Other industrial investments include petrochemical projects, fertilizer complex and LNG projects.²⁷ Several automobile and truck assemblies in Nigeria can be considered part of economic diversification especially as the government owns at least 60 percent of the shares in these companies; other areas of industrial investment are cement industry, breweries, foods, and so on. There has been growth in the industrial sector. The share of the industrial sector in GDP was 2 percent in 1950/51; it increased to 8 percent in 1964/65.²⁸ Manufacturing industry accounted for 5.3 and 6.3 percent of GDP in 1977/78 and 1978/79 respectively.²⁹

The Fourth National Development Plan, 1981-85, estimated that manufacturing would account for 8.7 percent to 9.5 percent of GNP in 1981-1982.³⁰ Although the estimate may not be very reliable, we cannot doubt the trend in the manufacturing sector. The latter, expressed in constant terms, grew at 18.1 percent over the national plan period 1975-80 making it the fastest growing sector.

In all of Nigeria's development plans, expected oil revenue dominates the shape of plans, while execution reflects actually collected revenue. The impact of the volatile nature of oil prices and revenues will be the subject matter of Chapter Four.

²⁷ *Petroleum Economist*, December 1983, p. 473.

The contract is already awarded with initial outlay of \$250 million out of the projected cost of \$500 million. The project is expected to be completed by September 1985.

²⁸ Schätzl, p. 79.

²⁹ Naifziger, p. 180.

The weaknesses of Table 8.3 on this page have been pointed out.

³⁰ *Nigeria*, p. 56.

3.7 Contribution of Petroleum to Nigeria's Energy Consumption

Before the commercial exploitation of crude petroleum in Nigeria, coal provided much of the needed industrial/commercial energy. The position of petroleum in energy structure in Nigeria is illustrated in Table 3.8. Coal provided 64 percent of the total energy supply in 1955, but this declined to 25 percent in 1964. Conversely, the share of petroleum in the energy structure rose from 32 percent in 1955 to 70 percent in 1964. The share of petroleum in total energy supply increased steadily except in 1969 and 1970 when there was a slow down. This was the time Kainji Hydro-Electric Power Project was commissioned to supply industrial energy. Since then, there has been a series of expansion of the project and some other dams have been built to supply electricity, for instance, the Shiroro dam on River Kaduna. Even then, the share of petroleum in the energy structure of Nigeria remains very high. Figure 3.10 illustrates the shares of various energy sources since 1955.

From its dominant position in 1955, coal declined monotonically even up to the 1980s. Conversely, the petroleum curve reflect increasing output of petroleum as the new major source of energy. This is because in the 1970s Nigerian trains changed to diesel and most industrial sectors also changed to diesel. The market for coal will continue to be bleak with respect to its usefulness as a source of energy. There has been a relative increase in gas consumption. This is because of growing modernization of homes and also the business sector increasingly demands gas. It is hoped that gas consumption will increase, thus, providing domestic markets for the LNG project. Hydro-power diminished in significance until 1965. The upsurge in its share is explained by the

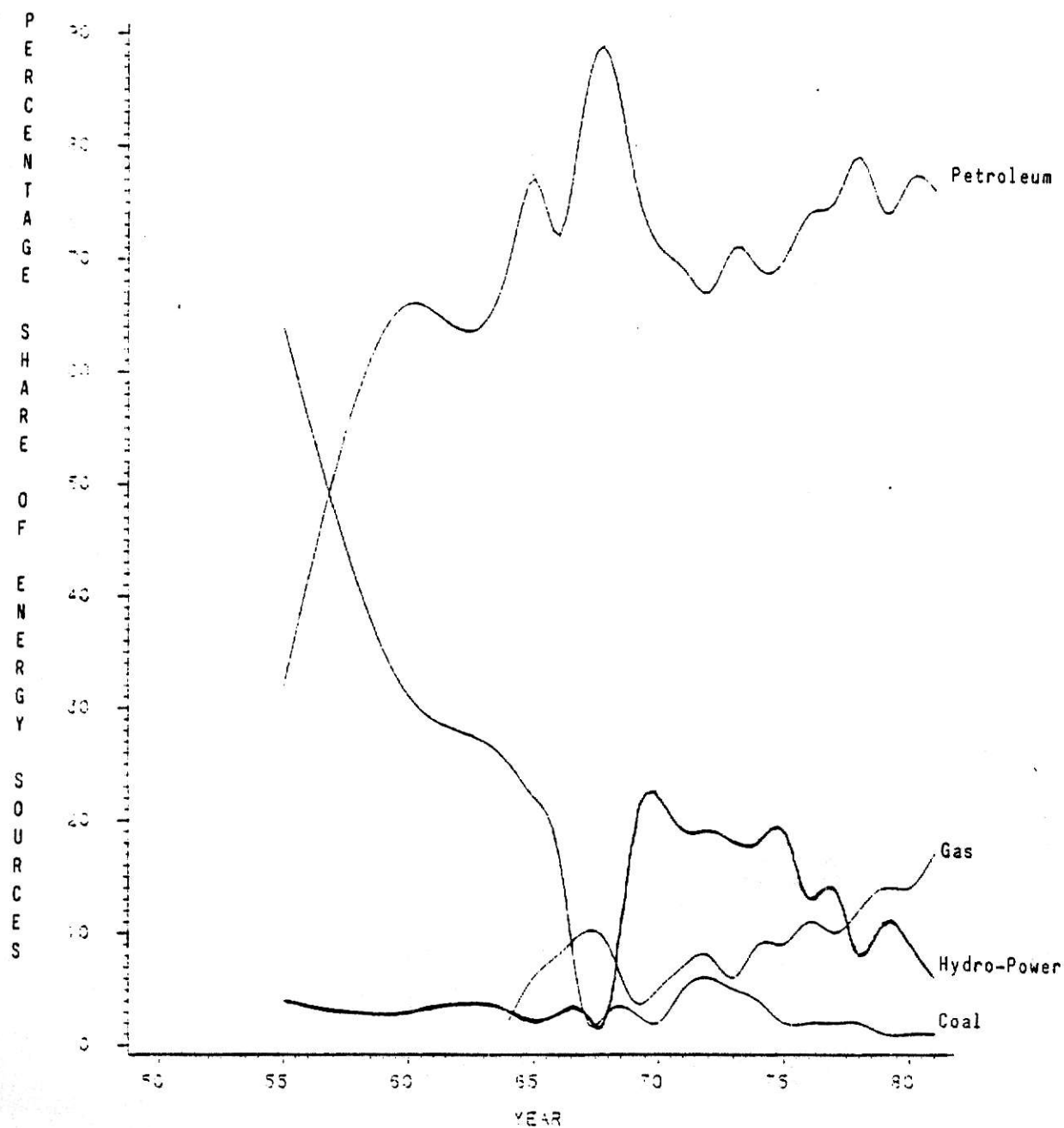
Table 3.8: Share of Nigeria's Energy Sources in Nigeria's Energy Market 1955, 1960 - 81

SOURCE OF ENERGY	1955	1960	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981*
Coal	64	31	25	22	17	3	3	3	2	5	6	5	4	2	2.2	1.9	1.6	1.1	0.8	0.7
Hydro-power	4	3	3	2	3	3	3	19	22	19	19	18	18	19	12.6	13.5	8.0	11.4	8.7	6.4
N/Gas	-	-	2	6	8	10	9	4	5	7	8	6	9	9	11.3	10.1	11.9	13.4	13.9	16.5
P/Products	32	66	70	70	72	84	88	77	71	69	67	71	69	70	73.9	74.5	78.5	74.1	76.6	76.4

* Provisional

Source: Central Bank of Nigeria Annual Reports and Statement of Accounts, Dec. 1955, 1960, 1964-81.

FIGURE 3.10
SHARE OF DIFFERENT ENERGY SOURCES
IN NIGERIAN ENERGY MARKET



national and industrial significance of Niger Dam Authority. Its share is still relatively low because of rapid demand for petroleum products as the major source of energy in private and public sectors.

3.8 Oil Sector Contribution to Linkages

This section is a further elaboration on aspects that have already been mentioned in passing.

"Linkage" means the interrelationship of an industry to other industries which leads to both productive and allocative efficiencies. Linkage can be "backward," where an industrial project purchases local resources thereby making the local economy more monetized and more efficient. Linkage can also be "forward," where the industry sells to others. (The process involves direct and indirect multiplier effect.)

In the particular case of the oil sector in Nigeria (like many oil producing LDCs), Scott R. Pearson argued that the Nigerian oil industry's local expenditure on goods and services only creates a stimulus to the producers directly involved but not other allied industries.³¹ Measurement of backward linkages are implied in Table 3.9 which illustrates the values of local expenditure by the oil sector (for example, payment to contractors, wages and salaries, and local purchases of goods and services).

Further aspects of backward linkages entail, for instance, the extensive investments in infrastructure preparatory for the development of the oil industry. Infrastructural development includes networks of

³¹Scott R. Pearson, Petroleum and Nigeria's Economy (Stanford: Stanford University Press, 1970), p. 57.

Table 3.9: Oil Industry Local
Expenditures on Goods
and Services 1965-81
(NMillion)

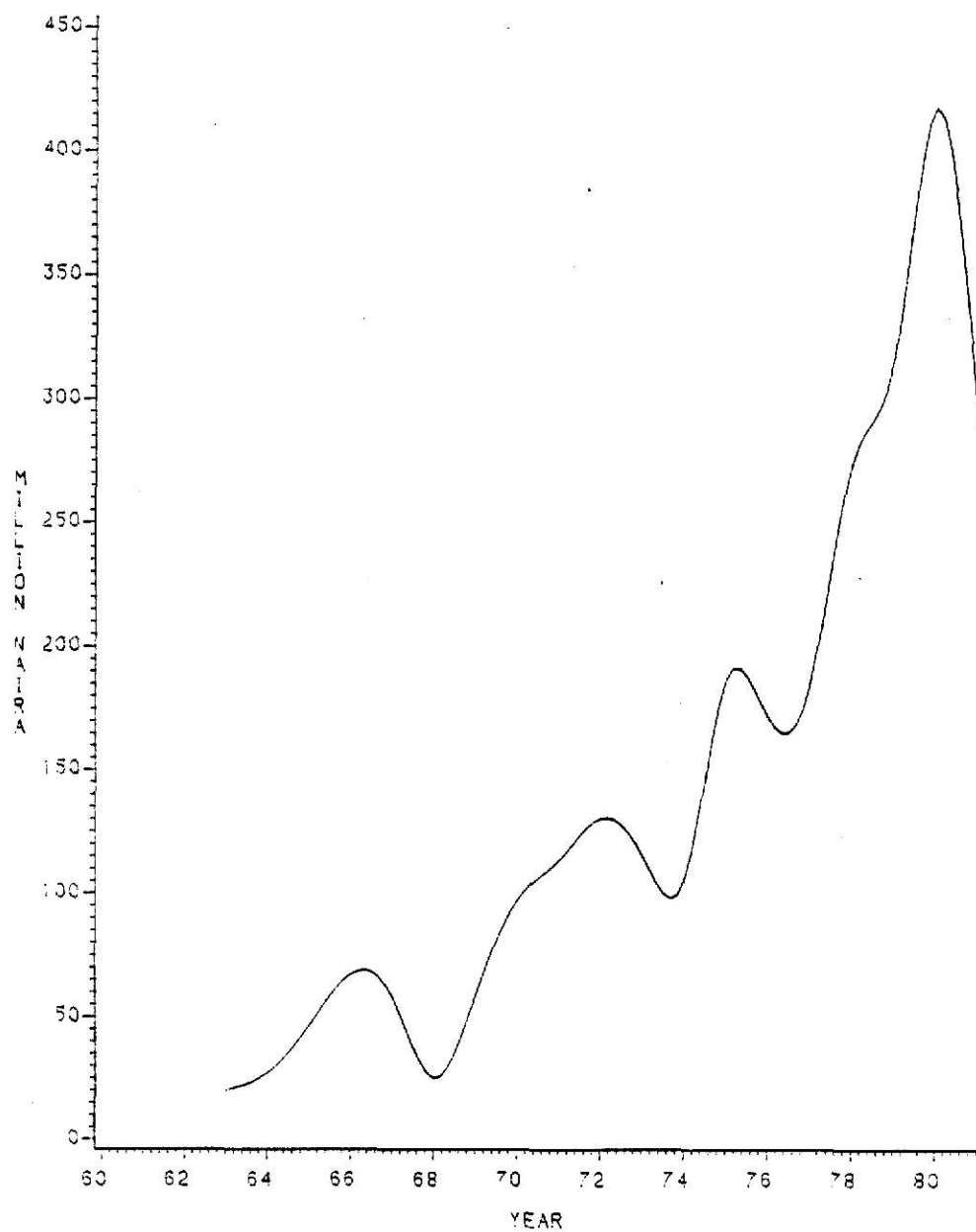
YEAR	AMOUNT	GROWTH RATE IN PERCENTAGE **
1963	19.6	
1964	27.0	37.8
1965	46.4	71.9
1966	66.6	43.5
1967	58.4	-12.3
1968	25.0	-57.1
1969	57.8	131.2
1970	96.8	67.5
1971	113.2	16.9
1972	129.6	14.5
1973	114.8	-11.4
1974	105.1	-8.4
1975	185.6	76.6
1976	170.8	7.9
1977	184.0	7.7
1978	273.8	48.8
1979	315.6	15.2
1980	417.4	32.2
1981	289.6	-30.6

* Values before 1973 are in Nigerian pound (£N); £N1 = N2.00

** Figures correct to 1 place of decimal

Source: Central Bank of Nigeria
Annual Reports and
Statement of Accounts,
December 1963-1981.

FIGURE 3.11
OIL INDUSTRY EXPENDITURE
ON LOCAL GOODS AND SERVICES
(1963-81)



communications, provision of electricity, provision of airstrips, provision of health facilities, educational facilities and so on.

In accordance with the Nigerianization principle,³² the oil companies have also expanded their "on-the-job training" for Nigerians, and have absorbed them in the companies' lower, middle and even high-level positions. The companies also pay rents on acquired local apartments, make payments for claimed land, and so on. These help to boost the local economy in terms of growth in income and the improvement in the standard of living.

Absolute local expenditure by the oil sector has been on the rise as illustrated in Table 3.9. But on a relative basis, there are slight instabilities in the rate of local expenditure as illustrated in Table 3.9 and Figure 3.11. The 1967-68 decline was due to the civil war. The downswing since 1980 is due to declining oil revenue. In addition, the overall growth rate shocks in oil sector expenditure on local goods can be explained by market forces (of demand and supply in the world market for oil), and the fact that the oil sector imports a lot of its needs from foreign countries. The former directly constrains capital resources (revenue) of the oil sector while the latter limits the share of the oil sector expenditure on local goods. The impact of market forces on local expenditure is indirect.

Some impact(s) of the oil sector on the local economy may not be linkage (backward or forward). For example, the development of an oil museum as a tourist-attraction center. One of such has been planned, and

³²Schätzl, p. 180.

it is to be located at Oloibiri in Rivers State, where the first oil well was discovered and sunk.³³

A review of backward linkages is pertinent at this juncture. Some allege that foreign contractors repatriate most of their profits and thereby weaken the Nigerian economy (since they do not spend much of their profits on local goods). An analysis of net flow of capital invested by aggregates 1961-77 does not support the allegation.³⁴ Nigerians in general have made a lot of gain in the oil sector, especially the labor intensive building and service sectors. A lot of Nigerians have moved into key positions in recent times. However, the backward linkages are not fully realized because most local and foreign contractors import much of their needed equipment to execute any given contract project(s). As Schätzl pointed out, there is no full domestic multiplier effect.

In Nigeria the backward linkage effect of the crude oil industry, that is, the demand created in other domestic branches of the economy, is even lower than that in the country studied by Chenery and Watanabe. Since, because of the lack of capital good industries, those installations and machines which are necessary for the production of crude oil must be imported.³⁵

Forward linkage effect of the oil sector was also slight, although the situation improved in the late 1970s, and it is expected to continue as a result of ongoing development of petrochemicals.

The recently expanded Port Harcourt refinery, and the newly completed Warri and Kaduna refineries since 1979 and 1980 respectively,

³³West Africa, "An Oil Museum for River State," No. 3424, 28 March 1983, p. 784.

³⁴C. E. Enuenwosu and C. E. Nemedi, "Policies and Strategies Towards Foreign Investment in Nigeria," CBN Economic and Financial Review 18:1 (June 1980):11-13.

³⁵Schätzl, p. 183.

are nexus for further forward linkages. These refineries are the base for the petrochemical complex, and the production of allied products, for instance, grease and heavy oils. The country also hopes to increase export of refined petroleum. The ongoing LNG project is an aspect of a forward linkage effect which would greatly stimulate the economy, and promote export of liquified gas rather than flaring it away.³⁶

Gas as a cheap source of energy is the basis for the industrial agglomeration in Port Harcourt following the construction of Trans-Amadi Industrial Layout. (Trans-Amadi Industrial layout is one of the earliest developed industrial estates in Nigeria to take advantage of cheap gas as a source of energy.) The Aba industrial center also uses the cheap gas supplied from Port Harcourt via pipeline.³⁷ Many industries in Lagos, Ogbomosho, Benin City, and Ibadan now use the cheaply supplied gas from Warri in Bendel State. Efforts also have been made by NNPC to distribute petroleum products cheaply (see Figure 2.2).

3.8.1 Arguments for and Against Gas Exploitation in Nigeria

A most recent estimate of natural gas reserves in Nigeria is "about 88 trillion standard cubic feet of gas" equivalent to 15 billion barrels of crude oil.³⁸ Of this, about 80 percent is natural gas reserves and the other 20 percent is classified associated gas reserve. Only about 10 percent of the gas production from the oil fields in Nigeria is put to commercial use while the other 90 percent is flared away. In light of

³⁶Onoh, pp. 53-65.

³⁷Schätzl, p. 183.

³⁸Onoh, pp. 54-5. See also pp. 53-65 for the details on natural gas exploitation.

this economic waste the Nigerian government recently adopted policies to utilize the gas. The new gas policy is based on actual and projected volume of gas utilization. As of 1981, total actually utilized gas was 317 MMCFCD (metric million cubic feet per day), and projected daily gas requirement was 3,155 MMCFD (see Onoh, p. 53). The developments in the world gas market create some uncertainties for Nigeria's LNG project. Gas consumption and price are expected to rise in the U.S.A., but cost consideration makes Nigeria less competitive in the world market.³⁹ I will make my personal remark on this issue in the next chapter; for now, I will discuss the arguments for and against LNG project in Nigeria.

Critics of the government gas policy attack the policy on the basis of the following arguments:

- 1) That Nigeria lies in the tropic and has no need for heating, thus it is not worth investing millions or billions of naira in a project with uncertain markets. In addition, a higher percentage of Nigerian population is rural and firewood is the cheapest source of fuel in rural areas.
- 2) Industries may prefer the use of petroleum to gas.
- 3) The cost of distribution is enormous since the gas fields are dispersed.

On the other hand, the pro-government gas policy argues that

- 1) It is a waste to flare about 90 percent of gas produced. Gas flared yearly is estimated to be worth ₦1.5 billion.
- 2) Natural gas export will be a good alternative source of foreign exchange earning and diversification of the economy.

³⁹Petroleum Economist, "The Coming Rise in Gas Prices," February 1979, pp. 46-8. See also Jeffrey Segal, "Future Clouded by Uncertainty," Petroleum Economist, December 1979, pp. 515-17.

- 3) In addition to domestic gas consumption, the iron and steel projects, fertilizer and petrochemical projects will require substantial volumes of gas.

In conclusion, I would suggest that the government should pursue the gas policy more systematically. For instance, the present industrial and domestic demand for gas through the use of liquified petroleum gas (LPG) in cylinders should be encouraged until the market for gas is large enough to warrant grid distribution.

In short, forward linkage effects have just gathered momentum in Nigeria and it is hoped that they would be well realized. The market, non market technological, and political linkages which generate fiscal linkages are still in the process of maturing.

3.9 The Oil Sector, Urbanization and Inflation

Although conclusive data are lacking, there is a theoretical rationale for association between the oil sector, urbanization and most rapid inflation. But urbanization and inflation are critical aspects of growth and development in Nigerian economy that are difficult to evaluate. There is no consensus as to whether the rapidly and densely growing population of Warri has a positive effect on the city's economic growth and development.

It is widely believed that the cost of living in Nigerian oil cities is higher than other Nigerian cities of the same size, because services did not expand as rapidly during the oil boom of the 1970s as population did. However, there are no data available to test this belief.

In the literature on petroleum economics, it is argued that an important effect of the establishment of increased petroleum production

is inflation.⁴⁰ Meurs argued that the moment commercial discoveries have been established and production started, the expectation pattern of the population changes; investors then start investing in anticipation of expected growth in wealth.

More so, the development of the oil sector itself initiates inflation because salaries and wages in the international petroleum companies are often several orders of magnitude higher than local salaries and wages for person involved in similar work. For instance, engineers in civil service may not earn as much as their counterparts in the oil sector. From the oil sector, inflation begins to hit hard at the other basic aspects of the economy.

Data to test this hypothesis in Nigeria are not readily available in usable form. Nevertheless, it is a common belief that the cost of living is relatively high in places such as Warri and Port Harcourt.

Another way inflation can spread into the basic structure of the economy is through the impact of oil spillage, a not uncommon event in the oil producing areas. The fishery industry would be seriously affected because of water pollution. As fish supply decreases, the price of fish rises.

⁴⁰ Van A. P. H. Meurs, Modern Petroleum Economics (Ontario: Van Meurs and Associates Ltd., 1981), p. 422.

CHAPTER FOUR

FURTHER IMPACTS OF THE OIL SECTOR - A CRITICAL REVIEW

Much of the discussion in Chapter Three was concerned with how the oil sector contributed to economic growth and economic development of Nigeria. (Economic growth is concerned with growth in per capita income or growth in gross domestic/national income, whereas economic development refers to real improvement in the quality of living facilities.) It was also mentioned that Nigeria is highly vulnerable in an unstable world oil market since it relies heavily on the oil sector for her revenue. The detail about her vulnerability was not discussed.

The purpose of this chapter is to explain how Nigeria's over dependence on the oil sector accounts for her high vulnerability. Here, I will discuss much of the negative effects of the oil sector on the Nigerian economy. I will also show that the Nigerian economic difficulty is (in a large measure) partly explained by the variations of the world oil market condition. For instance, Table 2.6 shows that the oil revenue from sales to the U.S.A. steadily increased to a peak in 1980 and then fell drastically. The same table shows the instability in oil revenue from sales to different trading blocks. For instance, revenues from sales both to the U.S.A. and Europe dropped in 1975, 1977, 1978, and 1981. This pattern is true of all the regions with whom Nigeria engages in trade. The problem of revenue instability is peculiar to LDCs that rely on one or a few export items as major source(s) of foreign exchange. Nigeria depends on its oil reserves so heavily that other items of export are relatively unimportant.

Many LDCs complain of the unfavorable impacts of their export revenue instabilities. These countries attribute the instability of their export earnings to three main factors, viz,

- (a) concentration in a few export product(s),
- (b) few market outlets, and
- (c) other exogenous factors arising from international politics and economics.

In what follows, I will use the situation in Nigeria to demonstrate how instability in world oil market conditions create economic difficulties for a producing nation.

4.1 From Oil Boom to Bust

When the price of oil per barrel jumped four-fold from \$2.50 per barrel to \$10 per barrel, marking the inception of the oil boom, Nigerian leaders became euphoric. Following the four fold price increase in 1973/74, subsequent price increases in the 1970s hit 15, 20, 30, and 40 dollars per barrel. Many Nigerians felt that the oil boom would continue indefinitely. Nigeria responded to the new price incentive by stepping up crude oil export. At the same time, the country also expanded her development programs, anticipating that the foreign exchange that flowed in from the sales of crude oil would finance the modern projects. But other oil producing countries also acted in a similar fashion to the oil price increase.

As a result of supply response to price, a glut was predicted in the oil market.¹ This materialized in 1981, making it essential for major oil exporting countries to reduce real expenditures. Nigeria shared in

¹West Africa, "Oil Money Returns for Nigeria," No. 3222, 16 April 1979, pp. 663-4.

the revenue reductions resulting from this glut. The glut emanated from increased oil exploration worldwide conservation measures, plus alternative energy sources. (Since price increase is a major factor in the oil glut of post 1980, a price cut of some magnitude per barrel would eliminate the glut, but could reduce OPEC's revenues. Loss of revenue implies loss of share of the market by the OPEC. Nigeria shared in both market and revenue losses.) Otubushin, et al express the Nigerian situation and feeling thus:

For Nigeria the loss in oil demand came as a rude shock. It was difficult to believe that the dream of endless prosperity had come to an end so soon. Clinging nevertheless to past illusions, Nigeria refused to obey the hard realities of the market and dutifully kept adhering to OPEC's price sanction.

When she finally saw the light and reduced her oil price on 19 February 1983, she had lost over \$20 billion in foreign exchange earnings (equivalent to over N12 billion) - compared with a possible oil pricing and production policy, which should have been based on a minimum sale of 2 million barrels per day at whatever price, from the end of 1980 onward.²

As is well known, oil price fluctuations have been the major reason for high federal revenue instability. The problem of instability is also conspicuous in Nigeria's export and revenue structures arising from external trade. Table 3.1 illustrates that oil exports account for the lion's share of Nigeria's external trade, accounting for 58 percent and 98 percent of her foreign trade in 1970 and 1981 respectively. This fact is also illustrated in Table 3.2. Both these tables and their graphical representations express the shape of the instability path. Nigeria is thus vulnerable to instability shocks the cost of which may be enormous deadweight losses to the society.

²Prince C. C. Otubushin et al, "Nigeria's Catastrophic Oil Policy - Survey and Remedy," Business Times, 1 August 1983, p. 7.

Idachaba used a least-squares method to quantify this relationship,³ and illustrated that a diversification of export production by 10 percent reduces export receipts instability shock by 7.8 percent. That is, a 10 percent increase in alternative sources of foreign exchange earning reduces instability in export revenue by 7.8 percent.

It seemed that Nigeria did not learn her lessons early enough. However, the federal government has been aware of the consequences of over dependence on oil exports, and poor market experience. It was in the light of these facts that Nigeria embarked on diversification projects along with intensified search for markets for her oil as indicated in the Second National Development Plan 1970-74. For instance, the Plan stated that, "...efforts have been directed towards diversifying the export commodities. This is aimed at securing increased stability in foreign exchange receipts..."⁴

Subsequent annual budgets also recognized the need for both market and export diversifications. President Shagari's administration affirmed commitment to continued diversifications as a major way out of the economic difficulty when he pointed out in his budget speech in April 1982 that,

...Since government depends on oil revenue for 83% of its expenditure, the decline in the oil sector has a serious impact on our domestic finance. Government has an abiding responsibility to maintain the momentum of our ongoing process of economic diversification, promote the continued growth of the economy and improve the quality of life of our people. As a result, the level of government expenditure has remained high...

³F. S. Idachaba, "Instability and Diversification of Foreign Exchange Earnings: The African Experience," The Nigerian Journal of Economic and Social Studies 16:1 (March 1974):17-26.

⁴Nigeria, Second National Development Plan 1970-74 (Lagos: Federal Ministry of Information, 1970), p. 225.

⁵West Africa "Shagari Gets Tough" No. 3377, 26 April 1982, p. 1113.

The oil factor has serious implications for Nigeria as we shall see in the sections that follow. It is pertinent, however, to point out that poor utilization of oil revenue is a paramount factor in Nigeria's economic slow down.

4.2 The Cost of Instability Shocks

As Rupley has pointed out, the "Nigerian government spending has grown and grown" because of burgeoning revenues and responsibilities.⁶ With a federally collected revenue of N8805 million for 1979-80 being four times greater than that of 1973/74 or 1974/75, the government spending position had greatly increased! Federal expenditure grew from N1562 million to about N9510 million. Closely tied to this scenario was the astronomic jump in federal total capital expenditure from N750 - N800 million in 1973/74 to more than twice in 1979-80.

At this juncture I will discuss the costs of instability of oil revenues. As said earlier, the federal government heavily invests in education, infrastructure, industry, agriculture, and so on. The main source of the enormous change in concurrent capital investment is the production and export of petroleum oil. From the above, the costs of instability of oil revenues can be cited.

The costs of revenue instabilities are manifold. First, a lot of the capital projects are not completed on schedule, and others, especially roads or bridges are abandoned indefinitely. This situation contributes immensely to waste of investable resources, loss of output, unemployment, and retarded economic development or growth.

⁶Lawrence A. Rupley, "Why Nigerian Spending has Grown and Grown," West Africa No. 3229, 4 June 1979, pp. 977-80.

Second, the federal educational policies would not be achieved or fulfilled. For instance, the celebrated Universal Free Primary Education (UPE), and free education at all levels is not a reality. Recently, the cost of education at all levels has even increased because of the federal government inability to fulfill her promise. The free education program was proposed in 1973/74 under General Gowon's administration. The proposal was based on projected oil proceeds. But because of slump in oil market the government plans could not be executed. Although instability in export earning is a problem, an overly optimistic assessment of average oil revenue complicated the situation.

Third, the political cost is enormous! Any fall in oil prices deals a great blow to the popularity of the government because the government would be financially handcuffed. As a result, boondoggles and pork barrel projects shrink. Such shrinking is economically sound since boondoggles and pork barrel projects do not usually reflect efficiency in resource allocation. In any case, politics conflict with economics. Although corruption was a major reason for the overthrow of President Shagari's administration on December 30, 1983, economic problems generated by the declining oil prices and revenues are interrelated, and can not be overlooked.⁷

Fourth, the social problems that arise in the domestic economy can not be overemphasized. Workers at local and state levels may not get their pay for months;⁸ some educational institutions might be closed down

⁷Onyema Ugochukwu, "The Return of the Military" West Africa No. 3464, 9 January 1984, pp. 53-6. Also see "Buhari's New Year Broadcast," *Ibid*, pp. 56-7.

⁸This is not an uncommon scenario in Nigeria. It should be recollected that both local and state governments lean directly on the Federal Government for recurrent and capital expenditures.

as a result of strikes; others lose their lives in the process of strikes/demonstrations. All these slow down productivity and retard economic growth and development.

The cost of oil revenue instability is so high that Nigeria needs a rapid promotion of other foreign exchange yielding products; at the same time, she needs to tighten domestic tax system with the view to making it more efficient and to finance the increasing government expenditure.⁹ Alternatively, government expenditure could be cut.

The other aspect of the costs of oil revenue instability is the burgeoning external debt in several billions. The oil asset makes Nigeria more credit worthy but repayment is not easy. Up-to-date data on Nigeria's external debts are not yet published; however, Table 4.1 illustrates the trend. Public debt is a future tax liability for Nigerians. Additionally, it is a source of future costs for Nigerians because of high interest rates and amortization. But external debt per se does not constitute a problem if it is efficiently invested. In the case of Nigeria, one might argue that Nigeria poorly utilized borrowed capital; also, Nigeria tried to live beyond her means. External debt is also a threat when it persists in a long-run. (In the case of Nigeria, the debt has been growing since 1960.)

The fifth but not the least aspect of the cost of the oil slump is that the Fourth National Development Plan is thwarted. The plan was based on a projected average oil output of at least 1.93 million barrels

⁹ Nigeria never lacked a set of good plans toward diversifications; the problem, however, is with execution and commitment. A personal observation confirms no substantial progress in agriculture after the heavy investment in "Operation Feed the Nation," "Green Revolution," and all kinds of River Basin Development Authorities.

Table 4.1: Federal Public
External Debt
Outstanding

YEAR	AMOUNT (₦ MILLIONS)
1960	82.4
1961	85.8
1962	140.8
1963	181.4
1964	365.6
1965	435.2
1966	438.6
1967	430.4
1968	426.0
1969	456.0
1970	488.8
1971	214.5
1972	263.5
1973	276.9
1974	322.4
1975	349.9
1976	374.6
1977	373.1
1978	1,252.1
1979	1,611.5
1980	1,866.8

Source: Central Bank of Nigeria
Annual Report and
Statement of Accounts,
and Central Bank of
Nigeria Economic and
Financial Review
(Various Issues)

per day, whereas only about one-third of the projected daily output was attained in 1981;¹⁰ this situation was not any better in 1982 and 1983 (see Table 4.2).

4.3 Accounting for Nigeria's Oil Revenue Shocks

Since 1981 Nigeria's economy has experienced a lot of economic problems. Because of declining oil revenues the government has been unable to meet her objectives and the aspirations of the masses. Major capital projects could not be executed according to planned schedule; furthermore, a number of them were even abandoned. These hardships emanate from low crude oil output and export.

For instance, in January 1981, crude oil production averaged 2.1 million barrels per day; by July of the same year, the daily production had declined to 770,000 barrels representing a drop of over 63 percent (note that the yearly drop rate is not as severe as the quarterly rate shown in Table 4.2). The situation was a shock because of Nigeria's optimism in the oil boom in 1973/74 which led to unrealistic expenditure programs. Economists like Madujibeya blamed the economic condition on the country's overambitious expenditures on capital projects.¹¹ Annual oil output in 1982 was 472,231,000 barrels which implied that 1982 experience (in terms of oil production) was even more severe than 1981, while the decline in production in the first part of 1983 was among the most severe of Nigeria's post-independence economic difficulties. The outlook for 1984 is not any brighter than 1981-83, hence, Nigeria needs

¹⁰S. A. Madujibeya, "A Slippery Position" West Africa No. 3348, 28 September 1981, pp. 2243-5.

¹¹Ibid.

Table 4.2: Monthly and Quarterly Crude Oil Production in Barrels

Month	Monthly Production	Monthly Growth Rate (Percentage Point)*	Quarterly Production	Quarterly Growth Rate (Percentage Point)
<u>1981</u>				
January	64,862,246	-		
February	54,397,806	-16.1		
March	57,873,768	6.3	177,133,820	-
April	48,692,506	-15.8		
May	40,080,816	-17.6		
June	40,530,350	1.1	129,303,672	-27.0
July	23,958,303	-40.8		
August	21,902,406	8.5		
September	31,782,902	45.1	77,643,611	-39.9
October	38,639,673	21.5		
November	47,485,547	22.8		
December	55,392,540	16.6	141,517,760	82.2
<u>1982</u>				
January	54,378,838	-1.8		
February	38,962,283	-28.3		
March	28,912,027	-25.7	122,253,148	-13.6
April	26,932,157	-6.8		
May	40,341,633	49.7		
June	49,193,902	21.9	116,467,692	-4.7
July	39,121,594	-20.4		
August	34,099,927	-12.8		
September	34,714,231	1.8	107,935,752	-7.3
October	45,895,227	32.2		
November	40,839,976	-11.0		
December	37,296,006	-8.6	124,031,209	14.9
<u>1983</u>				
January	25,715,035	-31.0		
February	18,849,261	-26.6		
March	27,894,289 ¹	47.9	72,458,585	-41.5
April	35,066,434 ¹	43.5		
June	45,784,348	-9.0	131,171,535	81.0

*Figure(s) correct to one place of decimal

¹Provisional

Sources: (1) Central Bank of Nigeria: Monthly Report, December 1981, and June 1983.

other consolidated sources of revenue to resolve her economic problems. I will discuss some possible short-term and long-term policy options to remedy these difficulties later in this chapter. But for now, I will discuss the major causes of the oil slump as it affects Nigeria.

1) The economic recession in DCs.

The United States, the major purchaser of Nigerian oil, reduced its oil imports by over 19 percent from 1980 to 1981, and did not reach 1980 levels in either 1982 or 1983. General economic recession in 1981 (leading to high unemployment rate) contributed substantially to low demand for oil energy in the U.S.A. and other DCs.

Studies show that oil consumption in the non-communist bloc dropped by about 8 percent in 1980 and began estimated 10 percent in 1981.¹²

Although the United States experienced economic recovery and a fall in unemployment rate in 1983-84, we can not expect oil imports from Nigeria to exceed 1980 levels in the mid to late 1980s.

2) The substitution measures in DCs

The U.S.A., as well as other countries took steps to revive the use of domestic coal, gas, nuclear power generation, and hydro-electricity. Every effort was geared towards minimizing dependence on OPEC oil in order to reduce the cost of energy consumption. This development has contributed to the U.S. decline in oil import which indirectly affected Nigeria.

¹² Ibid.

The 10 percent decline is a suggestion by Madujibeya. Such a scenario can be cyclical. Nevertheless, this is an indication that efforts are being intensified to minimize dependence on oil. For instance, there is a growing emphasis on fuel efficient automobiles.

3) The improved conservation measures in DCs

These measures follow the persistent price increase of OPEC oil after the 1973/74 oil price shock. The shock was first viewed as temporary in DCs but OPEC steadily increased her oil price(s) claiming that such price increases were necessary to offset the high price of imported goods. In response DCs adopted conservation measures. In schools, homes, business and public sectors of the main oil consuming countries improved conservation techniques have been adopted to achieve greater efficiency in energy utilization. A range of energy options also has been introduced in these countries so as to increase the coefficient of price elastic of demand for oil, thereby making the latter more elastic. This suggests that OPEC may lose power over oil prices in the long run because consumers can easily switch to substitutes or otherwise consume an insignificant volume of oil energy.

4) The Increase in non-OPEC oil output

There has been increased oil production from the North Sea, Alaska, Mexico, and other non-OPEC areas. This is an important factor in the oil glut issue. The high crude oil price in 1973-1979 were an incentive for intensive exploration activities in the world oil industry. The product of the world wide exploration ventures is the glut in oil market since 1981. This reduced the volume of oil that Nigeria could sell as well as affected Nigeria's oil price downward.

To be more specific, Nigeria's critical oil export position has been exacerbated by the decision of the British Oil Company to reduce the price of North Sea oil to 31 dollars per barrel, about five dollars below

Nigeria's price for the same grade of oil. It has been suggested that the British Oil Company's policy was a response to Nigeria's nationalization of all Shell-BP assets in 1979 on the ground (as claimed by the Nigerian government) of the company's deal with South Africa and the general lackadaisical policy of Prime Minister Margaret Thatcher over the apartheid in South Africa.¹³ (Under terms of agreement between Nigeria and the oil companies -- as of 1979 oil companies operating in Nigeria were not to supply oil to South Africa, Rhodesia (now Zimbabwe, under black rule), Israel or Namibia.¹⁴

The political explanation as to price reduction of North Sea oil is easily dismissed by economic analysis. With the spot market price for crude oil below the OPEC level, Britain realized that a price reduction was needed to unload large oil supplies. Hence, Britain is not to be held responsible for the oil glut or Nigerian problems. Furthermore, Britain increased her oil production and export to strengthen her depreciating sterling against the U.S. dollar.

5) The Saudi Arabia factor

It is alleged by many Nigerians that Saudi Arabian exceeds her OPEC production quota.¹⁵ Saudi Arabia is accused of misusing her "sweep

¹³ Arthur Whiteman, Nigeria: Its Petroleum Geology, Resources, and potential, vol. 2 (London: Graham and Trotman Ltd., 1982), pp. 346-7.

¹⁴ West Africa, "Nigerian Oil to South Africa?," No. 3213, February 12, 1979, p. 268. See also: West Africa, "Stronger Warning to Mrs. Thatcher's Government on Rhodesia," No. 3230, June 11, 1979, p. 1048. West Africa, "Mrs. Thatcher and Nigeria," No. 3234, July 9, 1979, p. 1195. West Africa, "Nigeria's Oil Weapon may be Two-Edged," No. 3232, June 25, 1979, p. 1104.

¹⁵ J. K. Onoh, The Nigerian Oil Economy: From Prosperity to Glut, p. 92. See also, Petroleum Economics, January 1984, p. 6. Saudia exceeded her daily output of crude oil (r to 4.5).

producer" right by producing over 5m b/d of crude oil in the summer of 1983. This is argued to have contributed to the 1981 oil glut or the present oil slump. In addition, it is also alleged that Saudi Arabia sells her crudes at lower prices than the rest of OPEC members. For instance, Saudi heavy and Saudi light are, respectively, \$26.00 and \$29.00 per barrel whereas the Nigerian Bonny light is \$30.00. To be weighed against the Saudi factor is a 'soft' loan of one billion dollars that Saudi Arabia is said to have offered Nigeria to ameliorate cash flow difficulty (see Onoh, p. 10).

6) The Relative Marketing Inexperience of NNPC

The problem here concerns administrative and marketing capabilities of the NNPC. The Nigerian National Petroleum Company is a newcomer into the oil business. The NNPC uses contracting strategy to market her oil; it contracts the marketing to some older companies. But the recent development is that most of those companies are not ready to accept renewal of contracts; they are backing out because of much government influence and control. It seems the companies are dissatisfied with the Nigerian oil policies.

As a matter of fact, a combination of factors explain Nigeria's economic difficulties. In what follows, aspects of Nigeria's economic weaknesses which tend to aggravate the economic problems are highlighted and constructive suggestions are also given.

4.4 Options for Long-Term Stability in the Economy

The lack of long-term stability in the Nigerian economy is substantially ascribed to Nigeria's ambitious and massive expenditure

programs. For example, much of the N82,000 million (current value) in projected investment in the Fourth National Development Plan is based on projected oil output, sales and revenues. The Fourth Plan program is about three times the original Third Plan program of 1975-80, the latter being a total plan expenditure of about N30,000 million. This was later increased to N42,000, so Fourth Plan expenditure is at least twice the Third plan.

Nigeria is thus engaged in over-ambitious plans because of myopic perception of realities. Nigerian policy makers have been accused of both an injudicious use of Nigeria's external reserves and a lack of foresight in the anticipation of reserve levels. The level of external reserves determine the level of imports at any period of time; domestic allocations, in a substantial measure, are spent on imports. Nigerian critics argue that Nigeria has no long-term reserve policy; there is no external target for the country and there are no plans for realizing any reserve target.¹⁶ Buoyancy in external reserve level was as a matter of accident rather than the result of policy.¹⁷ As a result, there were no plans on how best to invest external reserves more productively. Nigeria engaged in a review of her yearly balance of payment to determine her capital expenditures rather than articulate policy of reserve plans and investments.

Table 4.3 shows Nigeria's external reserves 1960-1980. Before the 1970s agriculture was the major source of foreign reserves. External

¹⁶ Ohon, pp. 80-2.

¹⁷ The lack of external reserve policy was manifested in 1974 during the first oil price rise in which Nigeria's external reserve reached a record level. It is argued that Nigeria was at a loss as to what to do with the huge unanticipated reserve.

reserves dropped between 1967 and 1972 accompanied by import adequacy of less than four months. But from 1973 Nigeria's external reserves rose dramatically due to 1973/74 oil price increase and the Arab oil embargo from which Nigeria benefited. Similarly, the trend in import adequacy in months reflects the trend in reserves. For example, import adequacy was twenty-four months in 1974 while the external reserve level was ₦3,540.9m. But by 1975, even though the external reserve was higher (₦3,702.7m), import adequacy dropped significantly to about twelve months.

If the external reserve level shows some signs of strain, Nigerian authorities immediately embark on panic monetary, fiscal and other economic intervention measures in an effort to correct the situation and stabilize reserve levels. Thus monetary and fiscal policies are always juggled together in the hope of correcting the situation but quite often the un-articulated measures only succeed in aggravating the situation. (The Nigerian economy is not well developed for prompt effectiveness of monetary and fiscal policies. For instance, banking activities are not well spread and a lot of people carry out their economic activities without the banks. Also, the tax system is weakened by the complex nature of the rural economy whereby assessment of income is very difficult if not impossible. In light of this, excessive reliance on monetary and fiscal policies may achieve less for the federal government while making things more difficult for a small group of the economy.) It was not until mid 1975 that Nigeria was forced to set up an Investment Management Committee composed of senior officers of the Central Bank of Nigeria. (For further detail about this committee see Onoh, page 81.)

There is also the sheer problem of implementation of the programs arising from the fact that the previously smaller plans were never successfully implemented. Problems always arise from scarcity of skilled and administrative manpower needed for project evaluation, execution, and supervision.

The massive expenditure programs have also contributed to accelerated inflation, wasteful expenditures, and impairment of balance of payments.

The other crucial question at this juncture is whether the oil slump will remain prolonged or short lived. Should Nigeria quit the OPEC? As a matter of fact, the slump is already old. There may be recovery in oil demand as the economy recovers in industrialized countries, but the extent and magnitude of such recovery is not guaranteed. Rather than being very optimistic, it is safer to make plans a function of actually collected revenues, emphasizing short-term projects.

It should be noted that oil consumption in DCs is not likely to rise because of measures already being adopted. It seems that the days of "oil boom psychology" or "petromania" are gone; nevertheless, oil price shock could still eventuate!

But hope in increased oil demand in DCs is not certain because of the recent gasoline tax. For instance, the U.S.A. levies a gasoline tax of 5 cents per gallon on consumers. This fiscal policy instrument raises revenue for the U.S. Government and at the same time gives the impression to consumers that oil is still expensive. This policy is a motivation towards energy conservation, and efficient utilization. It is even possible that with a continued downward swing of international oil price the gasoline tax may be increased.

Thus, the Nigerian economic slump is a consequence of many factors which lie outside Nigeria's domestic jurisdiction. (Nigeria does not face a supply side problem, rather, she faces a demand shock issue.) However, an appropriate response should focus on internal economic policies toward attaining economic diversification. This view is more reasonable than the ongoing argument about whether Nigeria should quit or stay in OPEC. Quitting or staying in OPEC is not a serious issue; what Nigeria needs are good plans, good execution of plans, and enlightened diplomacy. The following policies will enhance long-term stability and economic dynamism in Nigeria.

1. Since Nigeria relies heavily on oil revenue for the maintenance of her economy, it is important for her to master all the factors whether psychological, economic or political which affect crude oil development and marketing. It is pertinent for the national planners to evaluate their plans in light of the factors discussed under Section 4.3 above. Oil wealth may be a two-edged sword. It can be effective as demonstrated when Nigerian nationalized Shell-BP assets in 1979. As an illustration, Nigeria cannot use her oil weapon against major countries such as the United States, as she (Nigeria) is using against South Africa or Namibia. Thus, a steady and intelligent oil policy (including good diplomacy) is very paramount in Nigeria's economic development programs.
2. Present efforts to expand agricultural production and to diversify the country's sources of income and foreign exchange should be intensified. This may reduce the impacts of exogenous shocks arising from world oil market. If this is not

done quickly, the country will continue to pay a heavy price because of economic problems arising from over dependence on oil revenues. The recent increase in prices for export crops announced by the defunct Shagari administration is a welcome encouragement. Agricultural diversification and industrialization should take the form of labor augmented methods rather than fully automated or highly mechanized production methods.

3. Nigeria should avoid massive or over ambitious projects based on projected oil revenue instead of actual revenue. It is a mistaken belief that the bigger the plan the quicker the country can develop. The cliché is nothing more than a product of "petromania" (oil boom psychology). According to Madujibeya (an authority on Nigerian oil economics),

...the fact is that economic development is a process and through the process can and in appropriate circumstances, needs to be speeded by the commitment of more resources, there is a limit to which this can be done - limits determined by the extent of the availability of complementary inputs, in particular, the size and quality of executive capacity, technical know-how, administrative and other essential infrastructures, and the degree of dedication and commitment of staff at all levels....

The appropriate strategy in development planning is therefore to try to adopt plans that, given Nigeria's existing and prospective manpower resources and other essential complementary inputs, can be implemented effectively. To do otherwise - to adopt unrealistically large plans merely because the oil resources are there and have to be mopped up - is to embark upon a wasteful use of the country's scarce and very valuable oil resources.¹⁸

4. As a matter of policy, Nigeria does not need to quit the OPEC since she gains from the organization. For instance, OPEC

¹⁸ Madujibeya, pp. 2243-5.

members threatened to blackmail any oil company that abandoned Nigerian oil when the British Oil Company reduced the price per barrel of the North Sea oil in 1979. Nevertheless, the need for moderate price flexibility can not be over-emphasized. However, price flexibility, especially if downward, should be by consultation in order to avert undesirable cut-throat competition capable of ruining the OPEC and the oil market.

It is argued that the failure of Nigeria to further reduce her oil price when the British North Sea reduced hers in response to Nigeria's earlier price reduction was a major mistake. If Nigeria had matched every penny reduction in the prices of her competitors' oil (mainly North Sea, Alaskan and Siberia), she would not have lost the estimated income of over \$20 billion (N12 billion) as of February 1983.¹⁹

It has been suggested in the studies of Otubushin and his colleagues that Nigeria needs not be afraid of price war, although, care should be taken. Nigeria enjoys considerable advantage of production and marketing costs minimizations relative to her major competitors. For example, production costs of British and Norwegian North Sea oil are two to three times as high as those of Nigerian oil, thereby leaving little

¹⁹ Otubushin *et al.*, p. 7.

OPEC did not directly limit Nigeria's matching price reduction against the British North Sea oil. The former is mainly opposed to price war among her members. Thus, Nigeria can not effect price change without proper consultation with OPEC members. Indirectly, Nigeria is limited in her crude oil price negotiations.

margin for their producers to manipulate the price much below \$30 per barrel.²⁰ A similar scenario is true for Alaskan and Siberian oil. Any large price drop, still acceptable to Nigeria, will eliminate them as competitors.

In addition, a lower oil price means that alternative energy sources in DCs will be adversely affected. A number of these projects (e.g., nuclear power plants) are already functioning in the U.S.A., and some other countries. If oil prices continue downward, such alternative sources may become demand for petroleum high. But as pointed out earlier, Nigeria cannot unilaterally effect a change in her oil prices without consultation.

5. Nigeria needs to give special encouragement to export-oriented industries in order to have adequate supply of foreign exchange earnings. This is necessary since the supply of money in LDCs is partially a function of the amount of foreign exchange reserves. (Domestic money supply has to reflect the level of foreign exchange earning since import of capital and consumption goods depend on the level of a country's foreign exchange earnings and reserves. This applies especially to LDCs, if demand push inflation is to be minimized.) A steady policy of incentives for export-oriented industries will contribute substantially to low inflation because the country will be able to import her needs and at the same time steadily increase the growth of money supply.

²⁰ Ibid.

Also, the federal government needs to search and develop more Nigerian products (other than oil) which can be exported to western market etc. As a further measure to alleviate her foreign exchange difficulty, Nigeria may give subsidy to the LNG industry to enable the industry to sell her gas even at a loss in the world market. The advantage here is that gas export is a source of foreign exchange while the firm gradually captures her share of the market. In the long-run the firm may make profit, then the subsidy can be reduced or removed.

In general, the proposed creation of nine subsidiaries of NNPC in order to enhance the efficiency of operations in the oil industry and to encourage specialization and self-accountability is a welcome plan, as is the policy to decentralize refineries into three refining companies located in Port Harcourt, Warri, and Kaduna, to increase competition between the companies and to enhance efficiency.²¹

In conclusion, there is the need for Nigeria to efficiently monitor world energy developments and marketing and also to be price flexible if serious slumps emanating from a downswing in oil demand and prices are to be avoided. On the contrary, Nigeria can not unilaterally determine her crude oil

²¹For details on the various aspects of the subsidiaries, see Onoh, pp. 39-41.

The subsidiaries are: Nigerian Petroleum Exploration and Exploitation Company Limited, Nigerian Petroleum Refining Company, Kaduna Limited (NPRC, Kaduna Ltd.), NPRC, Warri Ltd., NPRC, Port Harcourt Ltd, Nigerian Petroleum Products Pipelines and Depots Company Limited, Nigerian Petro Chemicals Company Limited, Nigerian Gas Company Limited, Nigerian Petroleum Marine Transportation Company Limited, and Petroleum Research and Engineering Company Limited.

price because of her membership of OPEC. What Nigeria (and OPEC) can do is to apply more economic principles in determining oil prices and output. For instance, it is uneconomic for OPEC oil price per barrel to remain high when there is glut in the oil market, and spot price per barrel is far below the OPEC price. The federal government needs to slash down certain aspects of her capital projects. Nigeria's oil conservation policies will have to be activated as soon as the ongoing diversifications are over, furthermore, while the nine subsidiaries of NNPC should take off systematically.

CHAPTER FIVE

SUMMARY AND CONCLUSION

Shell-BP effectively began a search for oil in Nigeria in 1937, but commercially exploitable fields were not confirmed until 1957-1959, during which time about 19 oil fields were discovered. In order to mobilize exploration and development activities in the oil industry, the Nigerian government adopted liberal concession policies in favor of the prospective oil companies. Under the traditional concession system, oil companies - predominantly the seven majors - exercised a large measure of control over crude oil supplies. They not only kept the flow of oil broadly in line with the demand for finished products; they also ensured that producing capacity was continuously enlarged to meet the anticipated requirements of future years. Furthermore, the oil companies safeguarded the security of supplies and at the same time kept prices low. The oil companies enjoyed huge capital depreciation allowance and they paid low tax rates. Hence, the oil companies controlled the economic or financial power in Nigeria's oil sector.

The announcement of crude oil availability and the Nigerian government's liberal measures motivated a number of foreign oil companies (especially the big seven) to enter Nigeria in search of oil. Although most of them initially got a good bargain with the federal government, the Shell-BP made the greatest deal as a pioneer. The Nigerian government's relatively weak ability was as a result of general lack of education, a shortage of financial resources, and limited international horizon. However, a few others (e.g., Deminex and Occidental Oil Companies) had to back out. Today, about eighteen oil companies operate in Nigeria, including the newly federally created NNPC.

The liberal oil policies of the government have become more restrictive as a result of improvements in federal government bargaining power resulting from knowledge, education, administration, and liquidity. The chief objective of the federal government today, both in the long-term and in the short-term, is to optimize the utilization of oil resources so as to benefit the nation as a whole.

Contrary to the federal government's chief objective, the oil companies, being maximizers of profit, vehemently pressed for more favorable concession policies, tax policies, and capital depreciation allowance policies so as to cover the cost of production and reap benefits of risk. There is, therefore, a clash of interest over rent between the oil companies on one hand and the federal government on the other hand. The control of revenue from oil implies economic and political power.

Nigeria was enabled to acquire more control over her oil resources and revenue as a result of OPEC demand for national participation in the oil venture that precipitated the change (oil companies lost their power). Under an agreement negotiated in 1972, national governments began by taking a 25 percent share in the producing companies, thus depriving the companies concerned of one quarter of their equity crude. Since the government's holdings were invariably acquired at less than full market value, the oil companies' financial position was immediately affected. Furthermore, hoping to enlarge the interests of her state company (NNPC) downstream, the Nigerian Government progressively stepped up her participation from 51 percent in the '60s to 55 percent, 60 percent and above (in some companies) in the '70s, and finally to 100 percent in the case of Shell-BP full nationalization in 1979. In the

case of the Petroleum Profit Tax - the federal government radically increased the tax rate from a pre-1971 rate of 50 percent to post-1971 rates of 55, 60.78, and 65.75 percent, and then to a climax of 85 percent in April 1975 - March 1977. Thus, the economic or financial power shifted from the oil companies to the federal government.

On the market scene, output of Nigeria's oil has expanded tremendously from 1.876 million barrels in 1958 to a peak of 840,320 million barrels in 1979 (although not without some instabilities). Output expanded rapidly due to production, marketing, and transportation economies enjoyed by Nigeria's light oil (34°API) with little sulfur content. Additionally, the rapid expansion in the oil output and the oil revenue is also explained by the 1973/74 oil price increase and the Arab oil embargo in the '70s. But, since 1979-83, annual oil output has been decreasing in response to reductions in oil prices as a result of the oil glut in the world market.

The size and reserves of Nigeria's oil is small when compared with Saudi Arabia or Iran; however, it is enormous when compared to sub-Saharan Africa and most countries of the world. Ranked in terms of recoverable reserves, Nigeria was ninth in the world in 1975, and stood second after Libya in Africa. The proven recoverable oil reserves of Nigeria in 1970, according to one source, stood at 20.2 billion barrels compared with 148.8, 68.0, and 65.5 billion barrels of Saudi Arabia, Kuwait, and Iran respectively. Recoverable reserve figures on crude oil and gas vary widely from source to source. That of crude oil estimates vary from 29.9 billion barrels to 50.0 billion barrels, while that of gas estimates are in the range of 91.4 billion to 41.0 trillion cubic feet.

With regard to trade, Nigeria has been able to diversify the direction of her crude petroleum export from the traditional British-oriented. The major buyer of Nigeria's crude oil today is the United States. This is also a reflection of the proliferation of American oil companies in Nigeria's oil industry.

Oil exploration and development has created a lot of economic impacts on the structure of Nigerian economy. These impacts include contributions to exports, creation of employment opportunities, government revenue, contribution to balance of payments, source of foreign exchange/reserve, contribution to Gross Domestic/Gross National Product, contribution to overall ongoing diversification of the economy, contribution to energy requirement, and the stimulation of backward and forward linkages. The oil sector has also contributed to the rise of oil towns/urbanization, and generally tending to exacerbate and perpetuate inflation. Whether this latter scenario is bad or good depends on ones value judgment and perspective.

Despite the contributions of the oil sector, recent developments in the international oil market, and the consequences of such developments, have reversed the oil boom scenario to bust. As a result of over dependence on the oil revenue, the economy tends to be perpetually unstable. The world oil glut led to low oil prices; Nigeria shared in this depression thus lowering her foreign exchange earning. The costs of this instability are registered in the form of loss of revenues, unexecuted development plan projects, mounting balance of trade deficits, burgeoning external debts, and other socio-political problems.

A combination of factors explain the prolonged oil slump in Nigeria. These factors are purely economic and political in origin. An analysis of the slump further implies that the oil reserves may be a two-edged sword which can not be overly relied upon in Nigeria. Thus, the oil glut is a consequence of high oil price while the present low oil price is a result of the oil glut.

In light of this uncertainty in the oil market condition, Nigeria needs to intensify her commitment to the ongoing diversification programs. Diversification of sources of foreign exchange earning is essential for national economic health. For instance, other products from Nigeria (apart from oil) should be developed to enter into the world market while the neglected agricultural products should be revived. Also, labor-intensive and export-oriented industries should be encouraged. At the same time gigantic programs such as iron and steel complexes, ports development, plant assemblies, refineries, liquified natural gas project, and so on should be executed gradually in phases. In her present effort to diversify the economy, priorities should be well-defined and resources should be mobilized for use in areas of highest efficiency so as to optimize national welfare. The goal of providing employment while minimizing inflation is a paramount guide for any long-term economic growth and development. If this goal is well executed it will also enhance growth in foreign exchange earnings thus enabling the state to import capital goods (and other consumer goods) thereby promoting national welfare.

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THE ECONOMIC IMPACTS OF THE OIL SECTOR
ON NIGERIAN ECONOMY

by

DANIEL ADEJOH ITODO

N.C.E., Advanced Teachers' College, Katsina-Ala, Nigeria, 1979
B.Sc., Elizabethtown College, Elizabethtown, Pennsylvania, 1983

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ABSTRACT

The discovery of crude petroleum in Nigeria in 1937 and its commercial development since 1957 brightened the economic outlook for Nigerian development programs. Major development programs were started in anticipation that increased exploitation and export of crude oil would lead to continued growth in government revenue. But over time this hope could not be fully realized owing primarily to unpredictable fluctuations in crude oil prices in international markets, and poor utilization of crude oil revenues.

In this study, an attempt is made to examine the impact of the oil sector on the Nigerian economy by using time series data from 1955-1983.

The research findings indicate that both the crude oil output and exports increased steadily, with an exception of the civil war 1968-1970, to a record high in 1979; thereafter they declined due to worldwide oil gluts. Similarly, the federal government's oil revenue increased through 1979 and dropped thereafter. This increase in federal government oil revenue is explained by two major factors: the 1973/74 oil price increase, and the federal government "equity participation" in the oil venture since the late '60s.

The research results also reveal that Nigeria accumulated large foreign exchange reserves during the oil price increase of 1973/74. Consequently, the Nigerian government engaged in ambitious capital expenditures without steady long-term capital planning. The study notes that Nigeria is overly dependent on oil revenues. This fact is reflected during the post-1979 relative downswing in oil output and prices which subsequently led to many economic problems. The economic problems are

due to incomplete execution of capital projects as a result of shortfalls in foreign exchange earnings while unemployment and inflation prevailed. Foreign exchange shortages constrained the importation of needed capital goods.

In conclusion the study suggests that in light of the existing world oil market condition the Nigerian government needs to activate its ongoing diversification programs with well-defined priorities.