

CHAPTER 1

BACKGROUND AND INTRODUCTION

1.1 INTRODUCTION

Macroeconometric modelling is an important part of the discipline of economics. Its empirical ability to explain the actual economy has over the years aided modellers and policy makers in their decision making; its value in formulating sound macroeconomic policies also deserves more emphasis. Sound policy decisions in a country should be based on a well-developed and explicit macroeconomic model. Macroeconometric models generally reflect the major features and structural inadequacies of an economy. It is a necessary and useful tool in any policy environment for analyzing the structure of an economy, making future predictions of the major macroeconomic indicators, and also analyzing the impact of any policy scenarios.

The objective of the Millennium Development Goals (MDG) is to reduce poverty in developing and poor economies. This may not be achieved if the socio-economic impediments to domestic investment and employment creation persist. Structural constraints limit socio-economic development and discourage foreign direct investment. These constraints include the poor state of physical infrastructure in the country and the absence of an appropriate institutional framework.

Developing countries find it difficult to develop sound macroeconometric models due to structural instability and the lack of inadequate data. Therefore, a reliable statistical database is necessary to develop a macroeconometric model that can be used for forecasting and policy analysis. These constraints are significant limitations of this study which are expected to be taken into consideration.

The main objective of this study is to develop a set of operational full-sector macroeconometric models for the Nigerian economy. These models will be used to generate a long-term solution for

the persistent growth-poverty divergence in the country. It is also able to capture the complexities of the economy and the unfavourable socio-economic conditions of the Nigerian economy within a consistent framework. The models use the available data and where data are not available; it develops an acceptable technique to generate the necessary data. The models also comply with an improved analytical framework and relevant economic theory.

1.2 PROBLEM STATEMENT

Structural inadequacies have been the primary obstacle to the achievement of the developmental objectives in the Nigerian economy. Over the past four decades various forms of macroeconomic instabilities constrained the performance of the economy. Many of these structural inadequacies may be attributed to persistently poor governance. Poor political leadership, political instability, corruption and the mismanagement of the oil resources precluded economic policies that might have alleviated poverty.

The country is faced with some fundamental issues; to address these would require an appropriate framework that will serve as a point of reference and that will also be an accurate representation of the economy. Knowledge of the underlying structure of the economy is necessary to determine the various sets of policy interventions that will correct the socio-economic imbalances and that will also generate sustainable pro-poor economic growth.

It is important to model the macroeconomy of Nigeria. This study is also unique in the sense that most structural equations do not adhere to conventional economic theory. The reason for this is that many of the relationships predicted by economic theory rely on structural factors and an institutional framework that are absent in developing economies. (Matlanyane, 2005).

The models developed in this study provide both the theoretical and practical structure to address most of the fundamental socio-economic problems of the Nigerian economy.

1.3 OBJECTIVES OF THE STUDY

The main objective of this study is to develop and estimate full-sector macroeconomic model for the Nigerian economy. These may provide a long-term solution for the major socio-economic problems facing the country. The framework developed in this study is based on underlying economic theory but also aims to incorporate the unique structural factors of the economy. Subsequently, the models are subjected to various policy shocks to determine the different impacts on the major macroeconomic variables in the economy. These shocks are used to detect numerous policy implications and relevant policy recommendations needed for sustainable development.

However, the models developed in this study are specifically applied to:

- Testing the hypothesis of existing structural supply constraints versus demand-side constraints impeding the growth and development of the country
- Analyse different policy simulations to detect the optimal policy options for the country

1.4 RESEARCH METHODOLOGY

The study develops two separate models using the Engle-Granger (1987) two-step estimation technique:

Model A

Supply-side orientated (demand-side marginalised) model, representing an economy with structural constraints. In this model Gross Domestic Product (GDP) is estimated in order to detect the constraints that could be an impediment to the growth and development of the country. In this type of economy the limited capacity to absorb labour in the system will result in high and increasing levels of unemployment with depressing socio-economic and growth implications.

Model B

Demand-side orientated (supply-side marginalised) model representing an economy with limited or no supply constraints. In this model the GDP is generated following the Keynesian identity. In this type of economy any government intervention through fiscal and monetary policy instruments will be effective in absorbing labour and also attracting investment capital into the system.

The models capture both the short-run and the long-run dynamic properties of the economy following the procedure laid out in Ender (2004:335). The study modeled the four major sectors in the economy: the real sector, the external sector, the monetary sector, and the government sector.

Based on the structure of the Nigerian economy, the production function (depicted in Model A) is modelled according to the following principles:

- i. The idea of the endogenous growth theories adopted by endogenising the technological progress.
- ii. The Kalman filter estimation technique is applied to the production function specification to make the technological progress time variant.
- iii. The production function is disaggregated into two functional forms:
 - The oil sector
 - The rest of the economy

The study uses annual time series data covering the period from 1970 to 2006.

1.5 OUTLINE OF THE STUDY

The rest of the study is organised as follows:

Chapter 2 deals with the fundamental literature on growth and poverty. It analyse the various theoretical growth models, the pro-poor growth models, and the empirical evidence on growth and poverty.

Chapter 3 evaluates the growth and poverty performance of the Nigerian economy over the years, with special emphasis on the socio-economic constraints hindering the country's productive capacity. This chapter further analyses the growth accounting exercise and the challenges of the high and sticky level of poverty in the economy.

Chapter 4 specifies the models developed in this study and provides the theoretical framework used in estimating the various equations used in the models. It also presents the techniques used in estimating the equations.

Chapter 5 provides the empirical analysis by presenting the results (long and short-run) of the various behavioural equations in the system. It describes the model closures of the two macro models and also provides the results of the long-run response properties due to the various exogenous shocks applied to the systems.

Chapter 6 concludes the study and provides policy recommendations.

CHAPTER 2

THEORETICAL ANALYSIS: GROWTH AND POVERTY

2.1 INTRODUCTION

The past few decades have experienced resurgence in both the growth theory (development of the endogenous growth models) and the pro-poor growth models in the macroeconomic literature. However, few macroeconometric models have been developed specifically for developing countries. It is surprising that, given the importance of these models in making sound economic policy, models designed to address the issue of poverty—a common feature of these economies has been rare in the literature. Macro-poverty linkages have been analysed in the literature, often with Computable General Equilibrium (CGE) models.

This chapter specifically analyses the theoretical literature and empirical evidence on growth and poverty, and is divided into five sections. The second section analyses the major theoretical growth models and their implications for developing economies. The third section analyses the literature related to poverty trap models. In the fourth section, the empirical evidence on pro-poor growth models is analysed, while the fifth section concludes the chapter.

2.2 THEORETICAL GROWTH MODEL ANALYSIS

The framework of neoclassical economics can be viewed as a summation of the various contributions of authors to the model of long-run economic growth. The neoclassical growth model (also known as the exogenous growth model) was an extension of the Harrod-Domar model, which included productivity growth as a major contributing factor. The major conclusion of the Harrod-Domar model, i.e that steady-state growth was unstable (meaning that any deviation from the long-run path will lead to further deviation from the path) was contested by Solow (1956) and Swan (1956). They refined the exogenous capital-output ratio assumed in the Harrod-Domar model and proposed a model in which the capital-output ratio acts as the adjusting variable which brings the system back to its steady-state growth path. Their work was

seen as a major contribution to the growth theories, which became known as the neoclassical growth model.

The implications of the neoclassical growth model (i.e Solow (1956), Tobin (1955), Pilvin (1953), and Harrod (1953)) can be viewed on a short and long-run basis. In the short-run analysis, policy measures like tax cuts will affect the steady-state level of output. This is not the case with the long-run economic growth rate. Instead, economic growth will be affected as the economy converges to the new steady-state level of output, which is determined mainly by the rate of capital accumulation. This in turn is determined by the proportion of output that is not consumed but used to create more capital (savings rate) and also the rate at which the level of capital stock depreciates. This implies that the long-run growth rate will be exogenously determined and the economy can therefore be predicted to converge towards a steady-state growth rate, which depends on the rate of technological progress and labour force growth. Therefore, a country's economy will grow faster if it has a higher savings rate.

Modification of the neoclassical growth model can be attributed to the lines of thought of Ramsey (1928), Cass (1965), and Koopmans (1965), which are all centred on social planning problems (not market outcomes) that use dynamic optimization analyses of household's savings behaviour (which is taken as constant fraction of income by Solow). Their basic assumptions are that agents in the community are identical and that they live forever.

The new growth theory (also known as the endogenous growth theory) started gaining popularity in the growth literature of the early 1980s in response to a series of criticisms on the assumptions made in neoclassical theory. These tend to discard the assumption of constant returns to scale, replacing it with an increasing return to scale and thus determining growth by mainly endogenous variables. Technology and human capital are regarded as endogenous, unlike the neoclassical model that assumed these to be exogenous. However, the main emphasis on long-term growth model is that it does not depend on exogenous factors and, most importantly, that it allows for policies that tend to affect savings and investment (King & Rebelo, 1990).

The assumption of increasing returns posed a major challenge to the new growth models since it does not apply to a perfectly competitive market because production factors cannot be paid from the amount produced. However, by using increasing returns that are only external to the firm, this problem was circumvented, as was first seen in Romer (1986), Lucas (1988), and Barro (1990). Increasing returns have been fully specified in Romer (1986) as a major requirement in achieving endogenous growth, while emphasis on human capital accumulation as endogenous in growth models was explicit in Lucas (1988). However, the new growth theory has gained tremendous popularity over the past few decades and its strength can be attributed to its ability to solve most of the limitations of neoclassical growth models as well as to include some socio-economic factors that will propel growth over the long run.

Against these backgrounds on neoclassical and endogenous growth theories, acceleration in economic growth may not necessarily be sustainable or translate into accelerated economic development. Most developing economies are characterized by structural supply (capacity) constraints impeding the effects of any policy interventions targeted towards increasing growth (Focus, 2007).

2.3 THEORETICAL PRO-POOR GROWTH (POVERTY TRAP) MODEL ANALYSIS

It is expected that as an economy grows, one would see an improvement in the welfare of its citizens. In other words, the economic growth of a country should have a significant positive impact on its level of poverty. But this is not the case especially from the experiences of most developing countries where increases in the growth rates have not translated into a reduction in poverty. The Nigerian situation is an example, where good economic performance in terms of GDP growth over a few years has not improved the living standards of its citizens. However, this occurrence may be as a result of a lack of persistence or insufficient rate of growth experienced by most developing economies. (World Bank, 2006:103).

Evidence from literature has confirmed that if a country is able to maintain a sustainable increase in its growth rate over an extended period of time, this should translate into a higher increase in

the per capita income¹. But the reality is that most developing countries are still trapped in poverty. A critical link between growth and poverty is necessary, given the disappointing socio-economic performance of these countries.

The link between growth and poverty has been an important aspect towards the process of achieving the developmental objectives of any country. There is a controversy over whether a country should focus on achieving growth and thereafter ensure that the pattern of its growth is pro-poor, or rather focus on reducing poverty, while ensuring that poverty alleviation will lead to faster economic growth. However, poverty can be viewed as a barrier to growth in the sense that a country will not grow if its citizens are poor. This thought has opened the door to the idea of a so-called poverty trap where poverty and growth interact in a vicious spiral: a high poverty level will lead to low growth and vice versa (World Bank, 2006:104).

Poverty traps are explained by Matsuyama (not dated) as self-perpetuating conditions where an economy is caught in a vicious cycle and suffers from persistent underdevelopment. A similar definition follows in Azariadis & Stachurski (2005) as a self-reinforced mechanism, which causes poverty to persist. Furthermore, they pointed out that this mechanism (which reinforces poverty), might occur at any scale of social and spatial aggregation, from individuals to families, communities, regions, and countries—not only across geographical location such as national boundaries.

It is therefore imperative for any economy experiencing a poverty trap to implement a focused strategic macroeconomic policy that would rely either on pro-growth or pro-poor principles, since there is a bidirectional link between growth and poverty. In addition, it will be difficult to create growth if the conditions of the poor are not addressed. On the other hand, poverty will also not decline if there is no growth.

The growth-poverty relationship as a path to developmental height can be viewed from two perspectives:

¹ This could indicate a reduction in poverty in a relatively equal society.

- i. The traditional view
- ii. The poverty trap view

The traditional view of development sees a country's characteristics, institutions and its policies as a major determinant of its pattern of growth. If these constraints are not favourable to growth, poverty levels will rise. The traditional view sees these constraints as exogenous, in other words that they are not determined by the system (World Bank, 2006).

The poverty trap view sees poverty as a major setback to growth. In other words, a country that is initially poor will tend to develop distinct features like ineffective institutions and policies, and will thus transform into an unfavorable pattern of growth. A country that is initially poor will remain poor while those that are rich will remain rich. Growth models with increasing returns to scale (as explained by Matsuyama) are good examples of poverty traps since countries will tend towards different equilibria, depending on their initial positions.

The reasons for poor economies not performing well as rich economies and for the benefits of good policies failing to materialized in poor economies are all embedded in the poverty trap models (Azariadis & Stachurski, 2005; World Bank, 2006).

The presence of external economies (strategic complementarities) has been seen as a common characteristic of most poverty trap models in literature. Learning by doing (which is very difficult to disintegrate from R&D models) has been seen as a way out of poverty traps to sustained economic growth for most developing countries. Stockey (1988) developed a general equilibrium model in which the introduction of new and better products is an integral part of sustainable economic growth. This has been absent in the neoclassical models which concentrate wholly on increases in the production of the same goods. Stockey concluded that if the set of goods produced changes in a systematic way over time, so that goods of higher quality enter each period and those of lower quality drop out, improvement in productivity will not be limited to a specific industry. Under these circumstances, the poverty trap can be avoided since

production will be shifting constantly from one industry to another, and as the existing industries mature new ones will erupt.

Brezis, Krugman and Tsiddon (1993) gave an extensive analysis of how a country can use the advantages of a technological change to get out of the poverty trap. However, the mechanism they suggest involves major technological breakthrough, which may deter most advanced countries from adopting it. The might be because new technologies may not initially be perceived as an improvement by these countries given their extensive experience with older technologies, and also given the fact that human nature does not welcome change easily. However, new technologies may well have more potential for improvement and adaptation than the existing one. Less developed countries have little experience with the old technology, and new technology may allow them to enter the market. They may therefore be more willing to adopt new technology. Furthermore, this may lead to ‘leapfrogging’ of leadership if the new technology proves to be more productive than the old.

Positive externality through trade liberalisation has also been seen as one of the ways for an economy to achieve higher steady-state equilibrium. As put forward by Matsuyama, the difficulty of searching for trade partners may discourage many from entering an industry, making it even more difficult for others to get trade partners. Yet, when the number of potential trading partners increases, trade will be easier and there will be positive feedback in terms of more profitable production. The control variables affecting trading opportunities are search intensity, advertising and a good reputation for offering good deals. Once these are optimized, profitability will continue to rise by the availability of more potential trading partners (Diamond; 1982).

Azariadis and Drazen (1990) followed Lucas’s endogenous growth model (based on the accumulation of human capital) to show how poverty traps can exist, especially when human capital is subject to threshold externalities. Their prediction is based on the fact that an economy will experience multiple steady-states if it is characterised by a sharply different dynamics for different parameter values. This may result from the technical features of the accumulation of physical and human capital in that economy. This means that countries with initial capital

endowment below the steady-state per capita will converge to a steady-state in which capital, consumption, and income per head remain relatively low.

The existence of threshold externalities is also suggested by Ciccone and Matsuyama (1996) as a factor that may help in achieving economic development. They show how an economy that inherits a small range of specialised inputs can be trapped into a lower stage of development. That is to say that economic growth can be achieved by means of greater specialisation in the economy. The idea is that developed economies are more exposed to the variety of specialised inputs associated with more advanced technologies. Developing economies have limited availability of these specialised inputs thereby forcing their industries to rely on labour intensive technology. This in turn leads to a limited incentive to found new firms and introduce new goods. In this case the economy is caught in a trap as a result of the limited division of labour and market size. Ciccone and Matsuyama explain further that, when the economy is below the threshold level, it may be impossible for specialised firms to enter and push the economy above the threshold, enabling it to break free from the development trap—the reason being that the start-up cost might be a major constraint making the entry of firms unprofitable, since it requires reallocation of resources from production.

Saint-Paul (1992) shows how a poor financial market can trap an economy in poverty and underdevelopment. He stresses the idea that productivity growth can be achieved through a greater division of labour and that the financial market will play an important role by putting increasingly specialised resources at a greater risk. The intuition behind the Saint-Paul paper is that, when financial markets are underdeveloped, there will be less specialization and people will choose poorly productive, yet flexible technologies associated with less risk. This may result in a poor state of development. A poor country will therefore remain at a low steady-state equilibrium with underdeveloped financial markets and little division of labour while a rich country on the other hand, will have higher steady-state equilibrium with greater division of labour and developed financial markets. Acemoglu and Zilibotti (1997) also present a theory of development that links capital accumulation to the extent to which financial markets are developed. They indicate that well diversified opportunities and a more productive use of funds may lead to a process of development and poverty alleviation. They further argue that the desire

to avoid high-risk investments may slow down the accumulation of capital, which in turn will lead to development patterns consisting of a long period of primitive accumulation. However, policies promoting financial development may have different implications depending on the initial condition of the economy, in the sense that multiple steady-state equilibria may exist. One of these equilibria may lead to a poverty trap which in turn may lead to economic stagnation and the disappearance of the financial sector (Berthelemy & Varoudakis: 1997).

As discussed earlier, an economy grows when it experiences an increase in per capita income. But this is not really the case in some developing and underdeveloped economies. The theory of the low level equilibrium trap (poverty trap) was first developed by Nelson (1956) by building a framework that analyses the problems of stagnant (underdeveloped) economies. Based on his realistic assumptions, he shows that an economy could still escape the poverty trap if the socio-political environment is favourable, even when there is no improvement in the techniques of production and the absence of a crash investment program. The model provides means for underdeveloped economies to escape the trap. This has been achieved historically by simultaneously changing the social as well as the political structure of the economy. Also, an economy can be free from the low equilibrium trap as mentioned by Nelson, if income and capital increase, which can be achieved through funds, obtained from abroad and a decrease in population through emigration. However, an economy can be caught in a poverty trap when there is a high population associated with low human capital and when there is a high persistent labour force participation rate generated by the elderly (Becker et al, 1990; Matsuyama, 2000).

Moreover, as explicitly explained earlier, an economy operating at a lower steady-state equilibrium is regarded to have been trapped in poverty. But is there any self-reinforcing mechanism causing poverty to persist? Azariadis & Stachurski (2005:328) explain that poverty will disappear if agents can coordinate to maintain a higher level of equilibrium. They also emphasise the role history has to play in determining this equilibrium. They explain this by deviating from the assumption of perfect information and rationality. This means that, in a rational environment with limited information, outcomes will be driven by norms, institutions and convention. Furthermore, these factors will play a major role in a country's successful coordination to a higher equilibrium. Therefore, historical accident as put forward by Azariadis

and Stachurski may lock an economy in a suboptimal equilibrium (poverty trap) from which it will prove to be almost impossible to break free.

2.4 GROWTH AND POVERTY EMPIRICS

Empirical testing of long-term growth in macroeconomic literature became very popular from the late 1980s onwards. Some of the few empirical studies that were done prior to this period are focused on the time required for an economy to revert to its long-run equilibrium position. In recent years, most empirical studies on economic growth have been tilted to a cross-country regression in which a country specific effect can be determined from the analysis. Few empirical studies in the area of pro-poor growth have been carried out in literature. Empirical linkages between growth and poverty should be critically investigated, as most developing countries are trapped in poverty.

Table 2.1 Summary of empirical literature related to pro-poor growth model

	Title	Authors (Date)	Aggregation & Period	Methodology	Key Findings
1	Economic Growth	Barro, R.J. and Sala-i-Martin, X.			
2	Economic Growth and Convergence across the United States	Barro, R.J. and Sala-i-Martin, X. (1990)	Panel of 48 states over the period 1963 to 1986	Panel estimation techniques, using a standard neoclassical growth model	Existence of convergence across U.S. states.
3	Economic Growth in a Cross Section of Countries	Barro, R.J. (1991)	Panel of 98 countries between 1960 and 1985	Panel estimation techniques, using a standard endogenous growth model with human capital.	Existence of convergence if poor countries have high human capital per person.
4	Is Growth Exogenous?	Bernanke, B.S. & Gurkaynak, R.S. (2001).	Panel of 98 non-oil producing countries, 75 intermediate countries, and 22 OECD countries between 1960 and 1995.	Extended framework of MRW (1992) to test the Solow growth model.	Long-run growth is significantly correlated with behavioural variables such as savings rate which is not easily explained in models of exogenous growth.



5	Long-Term Growth in Developing Countries and its determinants: An Empirical Analysis	Otani and Villanueva (1990)	Annual averages of 55 developing countries.	Cross-country regression technique	Models incorporating the savings rate, exports performance, and expenditures on human capital development explain the growth performance of developing countries remarkably well.
6	Macro Policies, External Forces, and Economic Growth in Sub-Saharan Africa	Ghura (1995a)	Panel data for 33 African countries covering the period 1970 to 1990.		Confirms the important roles of physical and human capital, inflation, government consumption ratio, export growth, macroeconomic stability, and political stability in determining long-term growth.
7	Determinants of Long-Term Growth: Some African Results	Ojo and Oshikoya (1995)	Panel data for 17 African countries covering the period 1970 to 1991		Reveals the importance of some additional explanatory variables (i.e population growth) in influencing the long-run economic growth of these African countries.
8	The Augmented Solow Model and the African Growth Debate	Hoefler (2000)		Panel data estimation technique using a Generalised Method of Moment (GMM)	Confirms that the augmented Solow model can fully account for sub-Saharan Africa's low growth performance.
9	Galton's Fallacy and Test of the Convergence Hypothesis	Quah Danny (1993)	Panel of 41 countries covering the periods between 1960 and 1985. Derived from Summer and Heston (1991).	Uses a dynamic version of Galton's Fallacy. Estimation follows Gaussian Kernel, with bandwidth selected automatically.	Reveals a tendency for divergence, rather than convergence, of cross-country income.
10	Empirical Cross-Section Dynamics in Economic Growth	Quah Danny (1993)	Panel of 118 countries covering 1962 to 1985.	Two approaches: Standard Cross-Section OLS estimation and a Dynamic Evolving	Suggests that countries with low incomes have a greater tendency to remain poorer,

				Distributions which follows a Markov Process.	while high income economies will persist to remain the richest.
11	Geography and Poverty Traps	Bloom, Canning, and Sevilla. (2003)	Cross-Section of 152 countries, using 1985 data.	Estimation follows a maximum likelihood approach and testing follows a Monte Carlo methods.	Finds evidence of the existence of a poverty trap with a high level equilibrium that is similar for all countries, but differences in geographical conditions could lift up a country to higher equilibrium.
12	Poverty Traps, Aid, and Growth	Kraay and Raddatz (2006)	Not Applicable	Calibration: Using Solow growth model to illustrate a saving-based and technology-based poverty trap.	Not much evidence in support of the idea that the two approaches used are empirically relevant. The results also question the popular idea that large scale-up of aid to the poorest countries could bring them to a higher level of equilibrium.

Table 2.1 outlines the major empirical models on growth and poverty that are available in the literature to summarise the important differences in their methodologies. As mentioned earlier, the major feature of these studies are that they are carried out using a cross-section/panel regression technique.

One of the major predictions of the neoclassical growth models is based on conditional convergence. Barro and Sala-i-Martin (2004:462) distinguish between two concepts of convergence.

First, the income level of poor countries will tend to catch up with the income level of rich countries. Empirical evidence on the average since the 1950s has reflected otherwise in that developed countries have been growing faster than developing countries. A few exceptions to

this observation were found in Asian countries (notably Japan) which appear to have converged with or even exceeded the rich countries of the Western world.

The second concept is concerned with cross-sectional dispersion. This means that convergence occurs if the standard deviation of the logarithm of per capita income across a group of countries or regions declines over time. Therefore, the convergence of countries or regions towards their steady-state level of income will depend mainly on the different characteristics, such as the institutional arrangement, market structures and trade policies of these individual countries or regions.

The neoclassical prediction that poor countries will tend to grow faster than rich countries has been a subject of debate in many of the empirical studies in the literature. Closer investigation of convergence among the U.S. states, regions and a few other countries was conducted by Barro and Sala-i-Martin (1990, 1991 and 1992). Their findings were mostly in favour of convergence, especially among the U.S. states and regions of Western Europe. However, the rate of convergence for poorer states or regions to catch-up with the richer was found to be not too rapid, growing roughly at about 2 per cent per year. This in fact, is in accordance with the neoclassical view, if diminishing capital returns is taken into consideration as the economy develops. Evidence of convergence was not found among the sample of different countries except on a conditional basis. This means that variables like initial school enrolment rates and the ratio of government consumption to GDP are held constant. These are seen as proxies for the steady-state value of output per effective worker and rate of technical progress.

The question whether or not long-run economic growth is exogenous was addressed in Bernanke and Gurkaynak (2001). They adopted the empirical framework of Mankiw et al. (1992) and used it to re-evaluate both the exogenous and endogenous growth models. Their results revealed strong evidence against the basic Solow model in the sense that the long-run growth is significantly correlated with behavioural variables. In other words, their results show that a country's rate of investment in physical capital is strongly correlated with its long-run productivity growth rate. It further indicates that rate of human capital accumulation and population growth was found to be correlated with the rate of economic growth. As explained by

Bernanke and Gurkaynak, these correlations are not accepted in the exogenous growth models and they therefore suggest that future empirical studies should focus on models of endogenous growth instead.

Empirical studies addressing the long-term growth in the developing countries and Sub-Saharan African countries have also been explored in literature. Otani and Villanueva (1990) provided empirical evidence on the determinants of long-term economic growth in a sample of 55 developing countries grouped by income level. Their theoretical model was consistent with the endogenous growth theories in which variables such as savings rates, export growth, expenditure on human capital development and population growth are included as determinant of long-term equilibrium growth rates. Evidence from their model reveals that incorporating these variables helps to explain the growth performance of these countries considerably. It also identifies the major contributing factors, such as the development of human capital, which contributes about 1 per cent annually to the average per capita growth rate of output in these countries. Their estimates also reveal that a once-off increase in the domestic saving rate of 10 per cent would raise the long-term growth rate of output by 1 or 2 per cent annually in many of the high income countries who have passed through the take-off stage, and about 3 to 4 per cent in many countries who are still in the take-off stage of economic development.

The effects of macro policies in sub-Saharan African countries on their economic growth were investigated by Ghura (1995a). His empirical model was in line with the endogenous growth theories where external forces, human capital, political instability and other factors can affect long-term economic growth. These variables (especially the macro and trade policies) provide strong evidence of a significant effect on long-run economic growth in sub-Saharan Africa. Similar studies were found in Ojo and Oshikoya (1995) while investigating the factors dictating the long-run economic growth of some African countries. To see the effect of these factors clearly they sub-divided the countries (into oil exporters, low income, and middle income) and the periods (1970-74, 1975-79, 1980-84 and 1985-1991) into three and four groups respectively. However, measuring human capital still remains a huge limitation to these studies. The African growth performance as analysed by Hoeffler (2000) using an augmented Solow model contrasted with the commonly-found result in literature that basic growth models cannot explain the growth

performance in Africa. The use of the GMM estimator adopted in the study boosted the robustness of the results since the unobserved country specific effects and the endogeneity of the regressors in the estimation have been accounted for.

The benefit of long-term economic growth should be the general improvement in the standard of living of a nation's citizens. Pro-poor growth and the idea of a poverty trap have become popular phenomena among development economists and policy makers in recent years. Empirical evidence on self-reinforcing mechanisms (explained by the poverty trap models) in which poor countries are likely to remain poor and stay at a low level of equilibrium for a long time has not been explored thoroughly in the literature. A focus on the pattern of growth that will bring most of the developing countries out of a poverty trap is deemed necessary to achieve the set objectives of the Millennium Development Goals.

Empirical evidence in support of the poverty trap was explored by Quah (1993a and 1993b) and Bloom, Canning and Sevilla (2003). These studies criticized the standard cross-section regression tests of the convergence hypothesis. The threshold level of income from which a country starts plays an important role in achieving its developmental objectives. The probability of a poor country remaining poor and of a rich country remaining rich is found to be very high. This revealed the reality of a world with economies that tends (in the long-run) towards either the very rich or the very poor. Empirical relevance of the poverty trap view of underdevelopment, which can arise due to either low saving or low technology, has also been examined by Kraay and Raddatz (2006). Based on these specific mechanisms, little evidence of a poverty trap was found.

The above empirical review of the growth and poverty trap models is mainly based on cross-sectional distribution of income, which may conceal certain important country-specific characteristics. Cross-sectional and panel data regressions on long-run growth may not reveal the dynamics of the entire distribution, since it only captures the behaviour on a conditional average (Quah, 1997). Country-specific investigation of pro-poor growth may afford better ways to showcase the empirical relevance of the poverty trap model. Time-series explanation of the

growth-poverty linkages could help release most of the developing countries that are trap in poverty. These investigations are still very rare in the literature, however.

In this study, a time-series macro-econometric model is adopted to explain the high and sticky level of poverty in Nigeria. This approach is validated through the economic preference analysis developed in the study. The study maintains a focus on structural (supply) constraints, which have been the major impediments to a sustained growth and development of the country.

2.5 CONCLUSION

This chapter has analysed the most important theoretical and empirical models on growth and poverty. A sound policy intervention and a suitable economic environment have been identified as a catalyst that may lead to pro-poor long-term growth. Most of the pro-poor growth (poverty trap) models have been able to explain why some countries remain poor and why others remain rich. It is evident that an economy able to sustain long-term growth is more likely to achieve a significant reduction in its level of poverty in the long-run. The threshold level of equilibrium that an economy starts from is crucial in achieving its developmental objectives. An economy operating at lower steady-state equilibrium (due to capacity constraints) is likely to be trapped in poverty. Structural inadequacies may also have caused the low equilibrium state. It is, however, necessary to design a framework which complies with the requirements of theoretical consistency.

CHAPTER 3

EVALUATING THE GROWTH AND POVERTY PERFORMANCE OF NIGERIA

3.1 INTRODUCTION

This chapter investigates the growth and poverty profile of the Nigerian economy since 1960. It focuses on detecting the productive capacity of the Nigerian economy over the years and also reveals the oil dependency and other structural constraints embedded in the economy. The chapter is divided into two main sections. The first section highlights the general performance of the Nigerian economy by explaining the paradox of an economy with abundant resource wealth such as Nigeria and its lacklustre economic performance over the years. It also analyses the sources of economic growth over the years by using the growth accounting exercise. The second section analyses the poverty profile and highlights the strategies that have been put in place over the years to reduce poverty. It also analyses the various challenges of poverty and gives reasons as to why poverty is still as pronounced among the Nigerian populace.

3.2 NIGERIAN ECONOMIC GROWTH PERFORMANCE

3.2.1 Wealth of the Nigerian economy

The Nigerian economy, naturally endowed with immense wealth, still finds a substantial portion of its population in poverty. During the past three decades the country earned over US\$300 billion from oil sources alone. This should have transformed into a considerable socio-economic development of the country, but instead, Nigeria's basic social indicators now place her as one of the 25 poorest countries in the world. Ironically, it was among the richest 50 countries in the early- 1970s.

As one of the largest exporters of crude oil in the world and the largest in Sub-Saharan Africa, Nigeria produces on the average about 2 million barrels of oil per day. Oil production alone

accounts for over 90 per cent of the country's export revenue. The average prices of crude oil in the world market between the late 1980s and 2006, ranges from US\$20 to US\$60 per barrel, which has a strong bearing on the Nigerian economy's wealth.

Table 3.1 Nigeria Selected Petroleum Statistics, 2000-2006 (Millions of barrels)

Year	Production	Export	Domestic consumption
2000	797,880,000	688,080,000	109,800,000
2001	817,150,000	674,930,000	142,220,000
2002	655,060,000	490,810,000	164,250,000
2003	655,060,000	490,810,000	164,250,000
2004	900,600,000	736,400,000	164,200,000
2005	919,285,000	846,179,700	73,105,900
2006	813,950,000	656,090,000	164,200,000

Source: Central Bank of Nigeria (CBN)

Table 3.2 Total exports of selected African countries, 2006 (Values in current US\$)

Country	Exports (US\$ million)	Population (million)	Exports per capita (\$)
Angola	23669.5	15.9414	1484.782
Ethiopia	882.817	77.4307	11.40138
Ghana	2520	22.1128	113.9611
Kenya	3292.85	34.2557	96.12561
Nigeria	42276.9	131.53	321.424
South Africa	51625.7	47.4318	1088.42
Uganda	821.36	28.8162	28.50341
Zambia	1720	11.6685	147.4054

Source: IMF; IFS Data

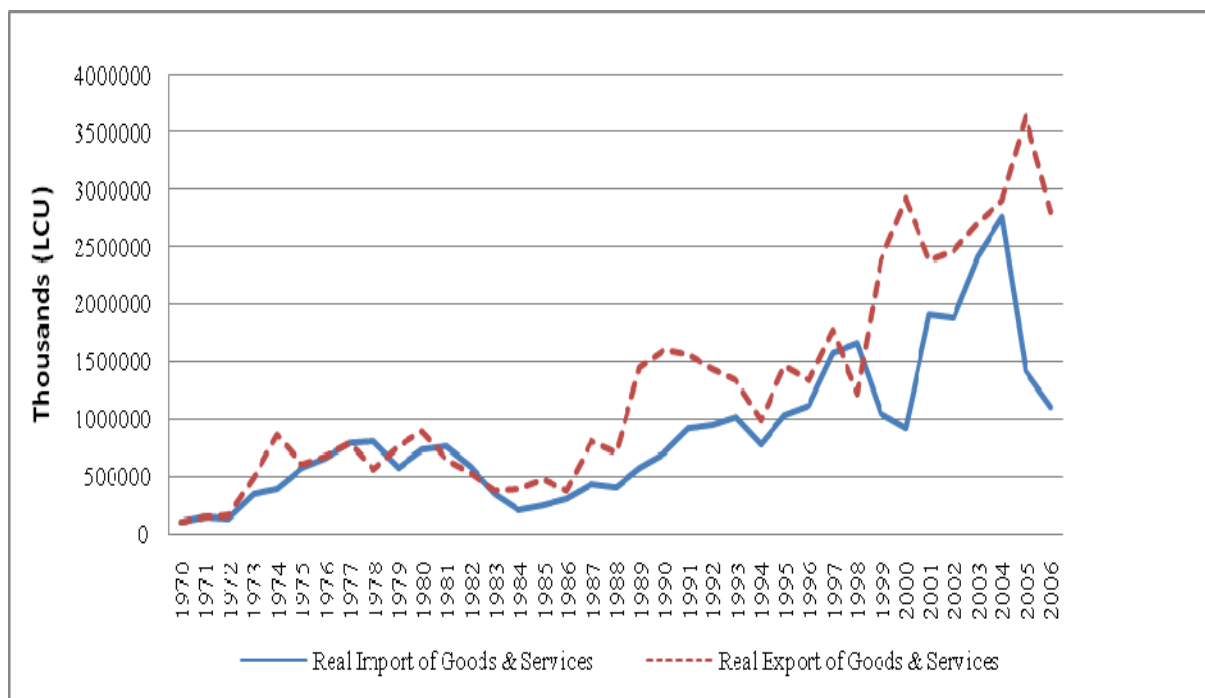
Before the discovery of oil in 1956, the main export earnings of the Nigerian economy were generated by agricultural products. On average, over 80 per cent of the total crude oil production was exported between 2000 and 2006 (table 3.1). Domestic consumption has been low over the years due to inadequate capacity to transform the crude oil into refined products. Presently, Nigeria still imports a large portion of refined petroleum products despite its huge supply of crude oil.

With the exception of South Africa, Nigeria earns the largest export income per annum among all Sub-Saharan African countries. This may also indicate the country to be the second largest economy in this region. In fact, had other mineral resources been developed to its full capacity, it

would have placed Nigeria as the top export income earner in Africa. In 2006, Nigeria earned about US\$42 billion whereas South Africa earned about US\$52 billion. Angola and Kenya earned about US\$24 billion and US\$3.2 billion respectively (table 3.2).

Despite the large population of Nigeria (more than one-sixth of the whole African population) its exports per capita of about US\$322 still remain only the third largest in Sub-Saharan Africa after Angola and South Africa (with about US\$1500 and US\$1100 respectively).

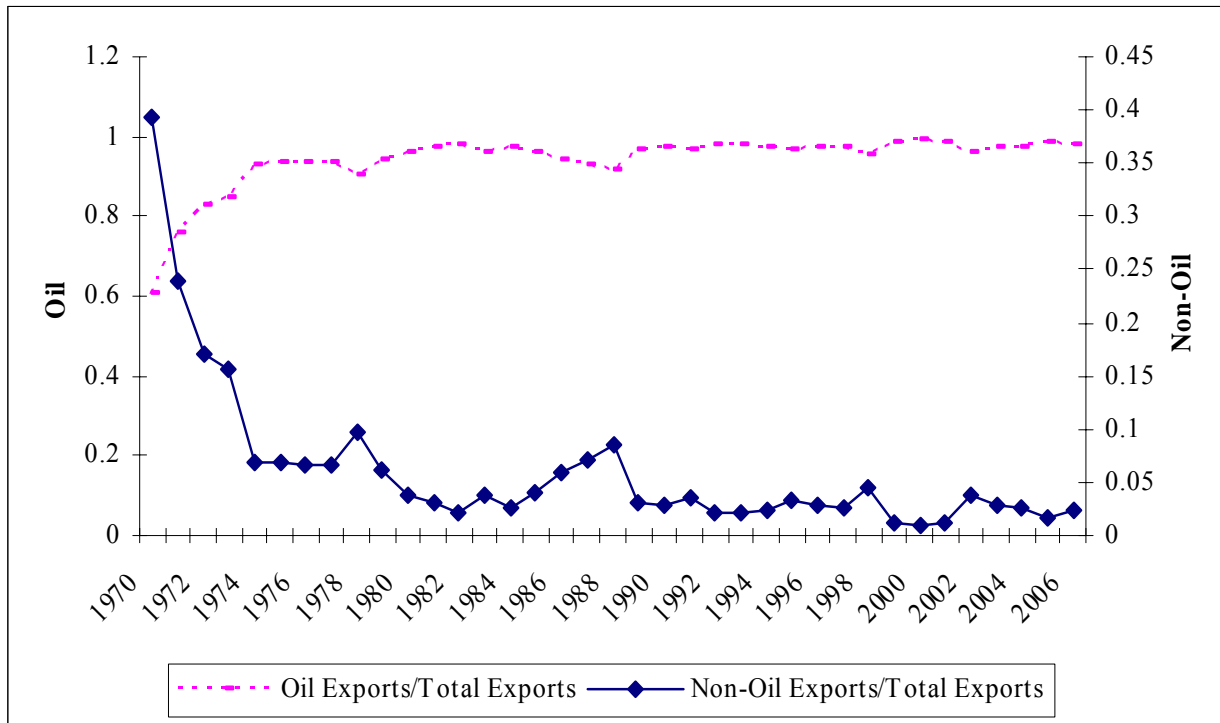
Figure 3.1 Nigeria Trade Account (1970-2006)



Source: World Bank, World Development Indicators

Despite the low productive capacity of the country, the trade account also reveals the wealth of the Nigerian economy. The country has experienced a robust trade surplus over the last few decades. Figure 3.1 shows the significant surpluses recorded between 1983 and 1997 as well as from 1999 when the country returned to a democratic dispensation. Despite the considerable import component of domestic consumption, the country's exports (mainly from crude oil) are still significantly higher than its imports. This explains the considerable amounts of foreign exchange earnings that the government receives from crude oil exports.

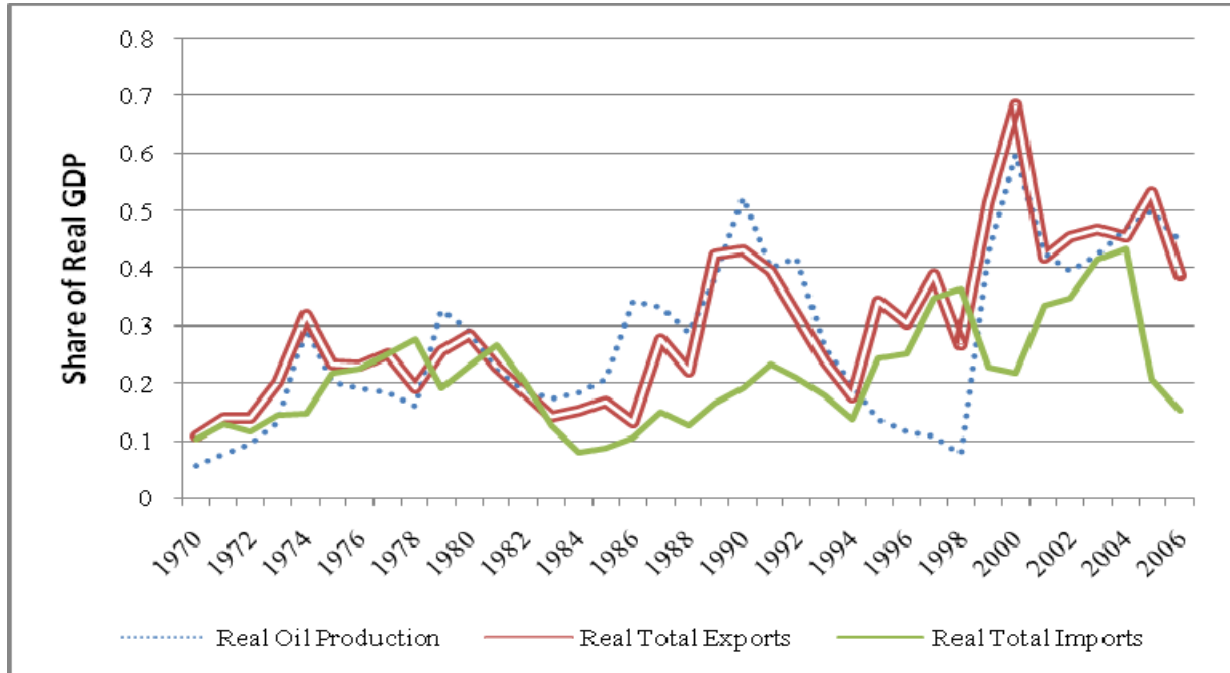
Figure 3.2: Divergence of Oil and Non-Oil Exports in Nigeria



Source: World Bank, World Development Indicators

Oil exports have been on the increase and this has dominated overall export earnings with oil export revenue on average comprising about 95 per cent of total exports over the years. Figure 3.2 shows the divergence between oil and non-oil exports in Nigeria over the past three and half decades. The ratio of non-oil exports to total exports has been on an increasingly downward trend since 1970, while the ratio of oil exports to total exports has shown a rising trend over the same period. This is a clear indication of an economy that is totally resource-driven (oil) with a low and declining productive capacity.

Figure 3.3 Oil Production, Total Exports, Total Imports as a Share of GDP



Source: World Bank, World Development Indicators

Against this background, it is evident that the role played by the oil sector in the Nigerian production function can not be underemphasised. Total oil production as a share of GDP has been on a rising trend since 1970 as shown in Figure 3.3, with an average of about 45 per cent recorded between 1999 and 2000, and about 30 per cent over the entire period. Total exports (oil and non-oil) and imports as a share of GDP reveal similar trends with about 30 and 21 per cent respectively recorded on the average².

However, given the comparative advantage Nigeria has in oil production, it is expected to translate into a significant improvement in the productive capacity that may eventually reduce the high level of poverty over the long run.

² As discussed earlier, oil production dominates the country's total exports.

3.2.2 The evolution of the Nigerian economy

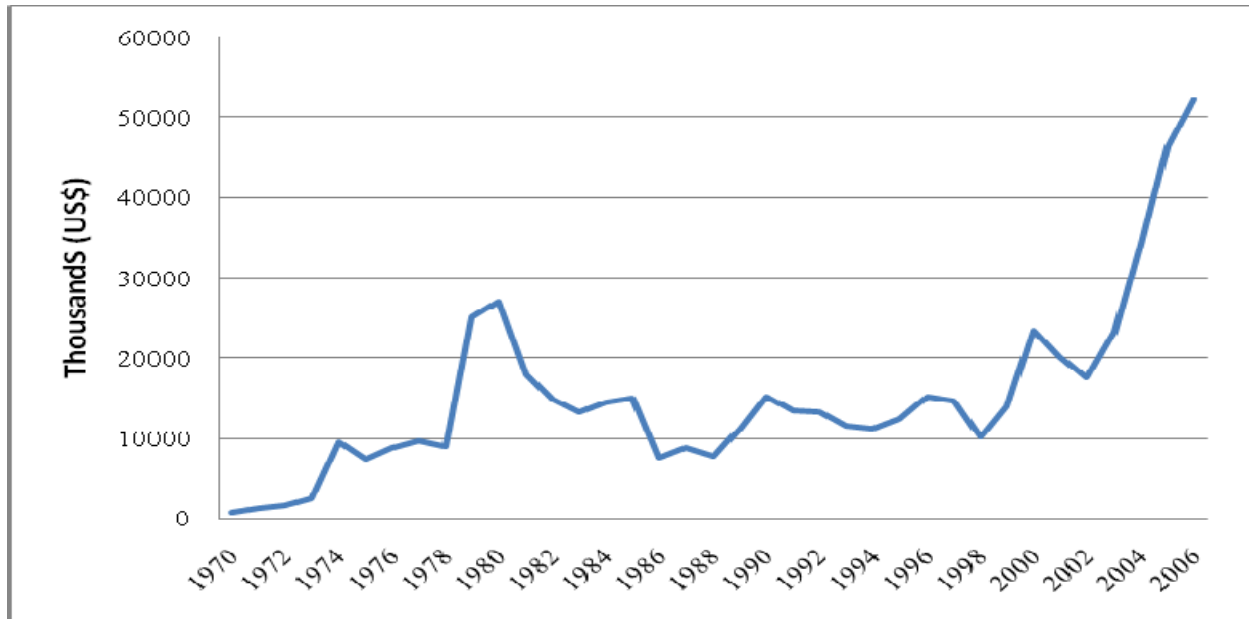
The general performance of the Nigerian economy has had a truncated history and could be analysed over four distinct periods since 1970.

- The pre-Structural Adjustment Programme (SAP)
- The SAP era
- The period of deregulation
- The return to democratic dispensation

3.2.2.1 The pre-Structural Adjustment Programme (SAP)

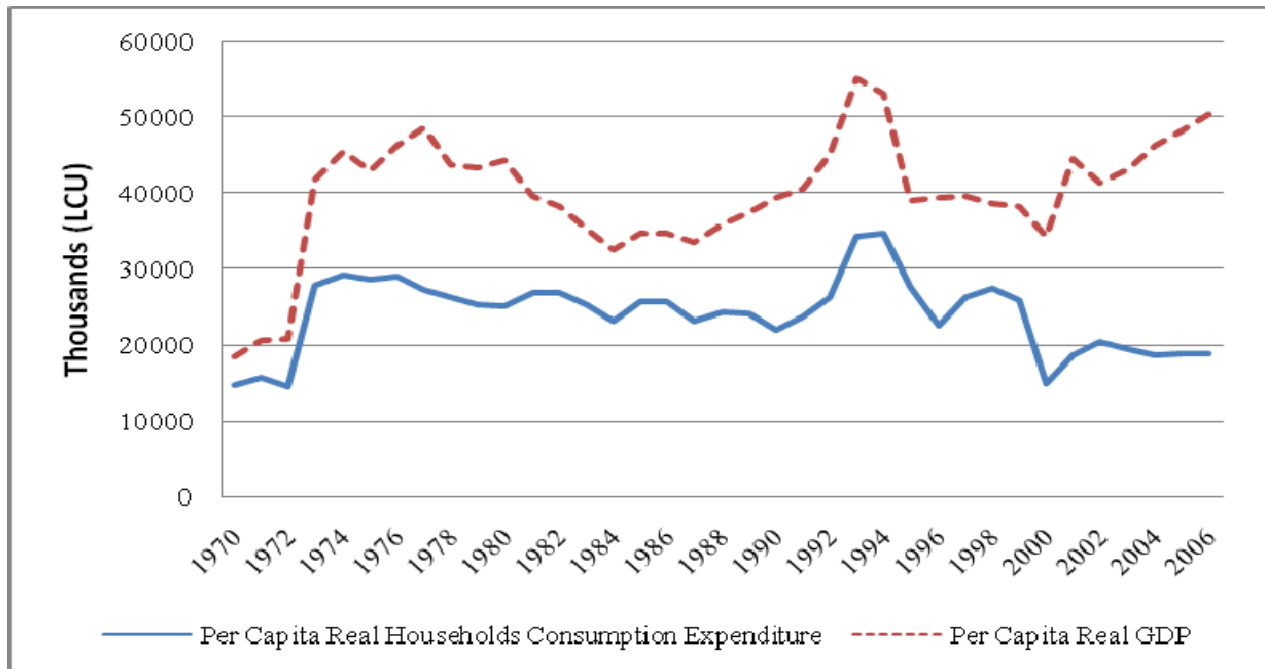
The period between 1970 and 1984 has witnessed many important events that affected the general economy and the total well-being of the Nigerian populace. Most significant of all were the mismanagement of the huge oil revenue recorded during this period. The oil shock of 1973 and 1979 serve to boost the country's oil revenue to an average of about 80 per cent of total revenue, which has also led to an improvement in the country's terms of trade in this period (Figure 3.4). The oil revenue was spent unproductively as if the shock in oil prices would continue unabatedly. As a result, real per capita GDP grew by about 7 per cent while per capita household consumption expenditure grew at a lesser rate of about 5 per cent between 1970 and 1984 (including the 1973 value, which grew by about 91 per cent and 100 per cent in household expenditure and GDP respectively). This indicates that the oil revenue boom did not reflect much on household expenditure patterns (Figure 3.5).

Figure 3.4 Total Value of Oil Production in Nigeria (1970-2006)



Source: Central Bank of Nigeria (CBN), Statistical Bulletin

Figure 3.5 Real per capita GDP and Household Consumption Expenditure (1970-2006)



Source: World Bank, World Development Indicators

The huge decline of the oil revenue in 1980 resulted in a large drop in real per capita GDP. The real per capita household consumption expenditure, which has previously been fairly stable, also dropped precipitously. Although there had been a considerable expansion in the social and economic infrastructure during this period of oil boom, but it was inadequate given the large population of Nigeria. Coupled with these above attempts to address the socio-economic needs, there was also a substantial investment in education and health care services. However, the fact remained that a large portion of oil revenue was still mismanaged and this funds failed to benefit the majority of the population at grassroots level. The significant need for an economy driven by the private sector, but could not materialise due to highly inadequate infrastructural facilities.

Prior to the oil revenue boom of the 1970s, the agricultural sector had been the main sector in which the bulk of the population earned their living. The economy of the time depended solely on the exports of commodities such as cocoa, palm oil, rubber, cotton and groundnut for its revenues, and about 60 per cent of the labour force earned their livelihood from farming. During the oil boom agricultural exports fell drastically by about 50 per cent both in value and in volume, and the naira experienced an appreciation at the same time (Canagarajah S. and Thomas S. 2001). It recovered partially in 1984 after the 1983 drought, followed by the harvest boom of 1985 (Collier;1988). The oil boom experienced rising government expenditure which diverted labour from agriculture to non-agricultural activities, as well as a steady migration from rural to urban areas. The enormous expansion of the oil revenue benefited the poor very little (if at all) since the poverty level has not shown a significant improvement during this period (Jamal V. and Weeks J. 1988).

However, the period between 1970 and 1984 not only saw a boom but also some decline in economic activities, especially during the early 1980s when there was a sharp decreases in the world oil price. While real GDP grew on average of about 1.84 per cent per year during this period (table 3.3), a negative growth of -5.2, -5.8, -13.1, -5.3, -0.24, and -4.8 per cent occurred in 1975, 1978, 1981, 1982, 1983, and 1984 respectively. The economy saw constant positive growth until 1977 (except for 1975) averaging about 7 per cent per year. In 1979 a growth rate of about 7 per cent was recorded.

Household consumption expenditure and inflation grew during this period at an average of about 3.8 and 16 per cent respectively. The periods experiencing a negative GDP growth rate corresponded to a positive growth in household consumption expenditure. Inflation rates during this same period were also significantly high. This indicated deterioration in Nigeria's terms of trade, which pushed up the general price level. However, the exchange rate (naira/dollar) was still highly-valued averaging about 0.66 to the U.S Dollar (table 3.3).

3.2.2.2: The SAP era (1985-1993)

The Structural Adjustment Programme (SAP) was introduced to reverse the worsening economic depression of declining growth, galloping inflation and high unemployment, as well as high level of poverty and increasing unsustainable fiscal deficit that was experienced in the period 1970 to 1984. The main emphasis of the programme was the reliance on market forces and the private sector in dealing with the fundamental problems of the economy (NCEMA; Not Dated).

Some of the main objectives of SAP were:

- To restructure and diversify the productive base of the economy to reduce dependency on the oil sector and imports;
- To promote non-inflationary economic growth; and
- To achieve fiscal and balance of payments viability over the medium term.

Table 3.3: Major Economic Indicators

Indicators	1971-84	1985-93	1994-98
Real growth rates(%)	1.837047	5.187456	2.295888
Real H.H consumption expenditure growth rates (%)	3.834572	-2.80524	12.79287
Inflation rates (%)	15.98718	27.94959	35.53246
Unemployment rate(%)		4.54	2.94
Exchange Rate (Naira/US Dollars)	0.655212	8.430846	21.90954

Source: CBN Statistical Bulletin and World Bank, World Development Indicators

The SAP also featured some reforms in exchange rate regimes. A floating market determined exchange rate was adopted, replacing the fixed official exchange rate regime. Because of this approach, there was a depreciation of the exchange rate on the average to about N8.4/\$1 between 1985 and 1993. The beginning of 1986 saw the exchange rate at N1/\$1 and by the end of that same year it moved to N3.2/\$1 (Canagarajah S. and Thomas S., 2001). Real GDP grew at an average of 5.2 per cent during this period and inflation was about 28 per cent on average. The economy superseded its growth objectives for 1987-88, and where real GDP was expected to grow by 3 to 4 per cent, about 10 per cent growth was recorded. Although, the inflation objective of about 9 per cent reduction per year was not achieved, instead inflation rose from about 11 to 55 per cent in 1988 (Figure 3.6). The real household consumption expenditure declined on average by about 3 per cent. The unemployment rate averaged to about 5 per cent during the SAP era (table 3.3)³.

The various policy measures incorporated in the SAP gave rise to the establishment of some programmes that should have helped to provide relief to people. Some of these programmes included the National Directorate of Employment (NDE) of 1986, the Directorate of Food, Road and Rural Infrastructure (DFRRI) in 1986, the Urban Mass Transit Programme in 1988, the SAP relief package in 1989 and the People's Banks and Community Banks in 1989/90. There were records of mixed performance from these programmes, but the major gain from the introduction of SAP in Nigeria was the reversal of the negative trend in GDP growth and an improvement in agricultural production.

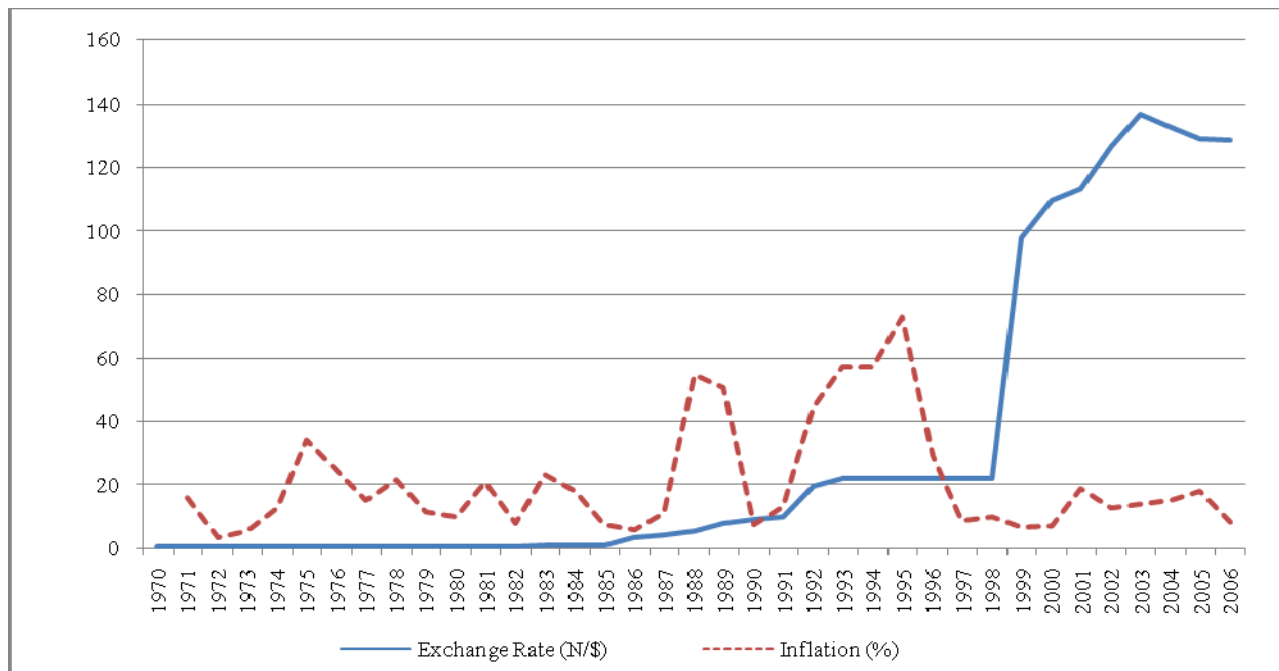
3.2.2.3: The period of guided deregulation

The period between 1994 and 1998 can be termed as the era of guided deregulation in Nigeria. The review of the SAP (intended as a long-term programme) dominated this period. Due to the hasty implementation and lack of focus, an immediate review of the SAP was seen to be vital to reverse the endemic inflation, shortage of foreign exchange and to alleviate the poverty situation in the country.

³ There are many criticisms in the literature about the unemployment figures being underestimated.

The guided deregulation introduced a dual exchange rate regime in an attempt to address the continued depreciation of the country's currency. The main purpose of this regime, namely the stability of the Naira, was achieved during this period, as can be seen in Figure 3.6. To achieve this, the Central Bank of Nigeria intervened in the operation of the autonomous market in 1996 to ensure that adequate funds were available.

Figure 3.6 Exchange Rate and Inflation Rate 1970-2006



Source: World Bank, World Development Indicators

Some of the positive changes the SAP era brought were eroded away in the period of deregulation. The Nigerian economy again experienced a decline due to the reversal of some policies which had contributed to the growth and poverty reduction during the SAP period. The real GDP growth rate between 1994 and 1998 was on average about 2.3 per cent compared to about 5.2 per cent during the SAP era (table 3.3). The highest growth rate recorded in this period was 4.3 per cent in 1996, followed by 2.7, 2.5, 1.9, and 0.1 per cent in 1997, 1995, 1998 and 1994 respectively. Inflation rose on average from about 30 per cent during the SAP era to about 36 per cent in the era of deregulation. Inflation rose to its highest mark in the history of the country in 1995: about 73 per cent from 57 per cent in 1994. However, it reduced again to about 8 per cent in 1997, and then rose marginally to about 10 per cent in 1998.

The improvement experienced in 1997 and 1998 may be due to the demand management strategy adopted by the government of the time, where the payment of poverty wages and salaries were used to reduce demand. It may also be attributed to the general reduction of government expenditure. Although the published unemployment rate between 1994 and 1998 was on average 2.94 per cent, the general consensus among economists and various social commentators was that the true rate of unemployment was far higher than the one published.

3.2.2.4: The return to democratic dispensation

The return to a democratic system in 1999 brought about a lot of economic reforms (consistent with IMF recommendations) both in the public and private sectors of the Nigerian economy. After about 40 years of political independence from the British colony, the country is just beginning to find its right path to a sustainable economic progress.

Average real GDP growth between 1999 and 2006 was about 5 per cent, rising from about 1.1 per cent in 1999 to about 6.9 per cent in 2006 (table 3.4). The highest rate of growth was recorded in 2003 (about 11 per cent), which can be attributed mainly to the positive oil shock in that year. There was a huge surge in the growth rate of private consumption expenditure, rising from 1.09 per cent in 1999 to 19.04 per cent in 2006⁴.

Table 3.4: Economic Performance 1999-2005

Indicators	1999	2006
Real GDP Growth Rate	1.1	6.9
Private Consumption Expenditure Growth Rate	1.09	19.04
Inflation Rate	4.76	13.51
Employment (Millions)	40.99	48.39
External Reserves (Billion US\$)	5.6	43.8

Source: National Bureau of Statistic and CBN

There are also some improvements in other major macroeconomic variables. The average inflation rate during this period was about 13 per cent compared to the previous period of galloping inflation. In 1999, inflation was about 7 per cent but rose to about 18 per cent in 2005

⁴ This is different from Household Consumption Expenditure discussed previously.

before returning to about 8 per cent in 2006. These were still more favourable compared to the high levels of about 36 per cent experienced during the deregulation period. Social indicators also show an increase in employment of 7.4 per cent between 1999 and 2006. The country's external reserve experienced an enormous surplus of about US\$5.6 billion and US\$43.8 billion in 1999 and 2006 respectively. This can be attributed to relatively prudent management of the country's resources and also the recent upsurge of world oil prices that is favourable to the country.

The current democratic dispensation has shown impressive positive outcomes especially in some major sectors of the economy since 1999.

Table 3.5: Sectoral Growth Rate

Sectors	1999	2005
Agriculture	5.28	6.81
Solid Minerals	3.79	9.5
Telecommunication & Post	5.39	28.96
Manufacturing	3.44	9.41
Wholesale & Retail Trade	2.5	12.32
Others	3.7	7.94

Source: CBN, Statistical Bulletin

One of the greatest achievements of the present democratic dispensation in Nigeria was the introduction of the Global System of Mobile-Telecommunication (GSM) in 2001. The telecommunication sector has experienced tremendous growth between 1999 and 2005, recording about 5.39 per cent growth in 1999 and about 29 per cent growth in 2005—the highest growing sector in the economy since 1999. Telecommunication was followed by wholesale & retail trade, rising from about 2.5 per cent growth in 1999 to about 12.3 per cent in 2005. Manufacturing and solid minerals also recorded a high growth of about 3.4 per cent and 3.8 per cent respectively in 1999 and about 9.4 per cent and 9.5 per cent respectively in 2005 (table 3.5). The agricultural sector, which has been suffering from extremely low productivity over the years, improved slightly with a growth rate of about 5.28 per cent in 1999 and about 6.8 per cent in 2005 attributed to this sector. Other sectors grew from 3.7 per cent to 7.94 per cent between 1999 and 2005.

3.2.3 Sources of Economic Growth (Growth Accounting)

The unimpressive historical economic and political performance of the Nigerian economy since its Independence in 1960 has not allowed a serious transmission into substantial differences in income of its average citizens. The basic determinant of a country's economic performance and living standards is mainly its capacity to produce goods and services with the available quantity of inputs (factors of production). However, a nation's output of goods and services do not only depend on the availability of its inputs (capital and labour) but also on the productivity of these inputs.

Empirical investigation of the various developed and the newly industrialised economies on their sources of economic growth over a long period of time have shown explicitly how much the tangible inputs and their productivity have contributed to long-term growth (Kim and Lau (1994), Lau and Park (2003), Tahari, et al. (2004), Senhadji (2000), and Dike (1995)). In the case of Nigeria, no studies exist on the sources of economic growth, except for Dike (1995).

In an attempt to identify the structural changes that occurred in the Nigerian economy over the years, it is imperative to decompose the growth performance into its primary sources. The sources of the Nigerian economic growth from 1960 to 2006 are calculated according to the effectiveness with which capital and labour were used in the production process.

Following Solow (1956), a Cobb-Douglas production function using a constant return to scale technique was adopted in performing the simple growth accounting exercise.

To experience economic growth under the assumption of constant returns to scale, there must be growth in the accumulation of capital, labour, and total factor productivity. The growth accounting equation states that output growth is equal to the weighted sum of capital and labour growth, plus the growth in total factor productivity or technology. The growth accounting equation is presented as:

$$\frac{\Delta Y}{Y} = \frac{\Delta A}{A} + \alpha \frac{\Delta K}{K} + \beta \frac{\Delta L}{L}$$

where $\frac{\Delta A}{A}$ is the contribution of total factor productivity to output growth, $\alpha \frac{\Delta K}{K}$ is the contribution of capital to output growth and $\beta \frac{\Delta L}{L}$ is the contribution of labour to the growth in output. The contribution of total factor productivity to output growth can be derived from the equation since the growth rate of output, capital and labour is known. These are also called the Solow residuals, which is that portion of growth left unaccounted for by increases in capital and labour⁵.

By applying the growth accounting equation to decompose the sources of economic growth in Nigeria from 1960 to 2006, table 2.6 presents the results of this analysis in four different periods:

- The pre-Structural Adjustment Programme (SAP) [1960-1984]
- The SAP era [1985-1993]
- The period of deregulation [1994-1998]
- The return to democratic dispensation [1999-2006]

⁵ Detailed exposition of all the variables used can found in the appendix.

Table 3.6: Sources of Economic Growth in Nigeria (per cent per year)

	1960-1984	1985-1993	1994-1998	1999-2006	1960-2006
Sources of Growth					
Labour	2.4	2.3	2.5	2.4	2.4
Capital	1.6	-0.1	-0.2	0.1	0.9
Total input	4.0	2.2	2.3	2.5	3.3
TFP	-0.8	3.0	0	2.0	0.4
Total Output	3.2	5.2	2.3	4.5	3.7

Table 3.6 provides a summary of the findings of what growth accounting indicates about the sources of Nigeria economic growth. Over the period 1960 to 2006, the country's total output grew at an average rate of about 3.7 per cent per year. The contribution of labour to total output growth accounted for about 2.4 per cent per year. This may be due to the large population of the country and the fact that more than one-third of the population are active in the labour force. The large informal sector participation rate in the country may have contributed to labour taking a high share of economic activities⁶. Since capital stock is more pronounced in the formal sector (which weak in Nigeria because the economy is not driven by the private sector) one would expect the contribution of capital to economic growth to be very small. However, the contribution of capital stock to output growth during this period is accounted to be 0.9 per cent per year. Therefore, the contribution of labour and capital combined gives a total input of 3.3 per cent per year. The difference between the total output growth (3.7 per cent) and the contribution of total inputs (3.3 per cent) is 0.4 per cent, which represents the total factor productivity (TFP) per year. These results are similar to the findings of Dike (1995) and Senhadji (2000).

The breakdown of data into the 4 different periods above explains in more detail how long-run sources of growth were achieved in Nigeria. Columns (3) and (4) represent the SAP (1985 to 1993) and the Deregulation (1994 to 1998) periods in Nigeria respectively and the contribution of capital stock to the total output growth during these periods is negative. These periods are associated with a continuous military rule associated with mismanagement and corrupt

⁶ The high informal sector participation in the country may be the result of the low unemployment figures that has been released in the past years.

government officials preventing much capital investment (capital expenditures) to be made into the economy. The return to a democratic system in 1999 has improved the country's economic performance, and the contribution of capital stock to economic growth has increased by about 0.3 per cent from the previous period.

The period between 1960 and 1984 recorded about 3.2 per cent growth in total output per year. This was accompanied by a slow-down in productivity during this period, which, after two decades of political independence, came as no surprise, since empirical evidence also shows that most countries (especially the U.S) experienced a slow-down in productivity in almost the same period. Although no one can be certain of the cause of the slow-down, but many empirical studies related to the U.S. economy such as in (Baily & Gordon (1988), Denison (1985), Bishop (1989), Nordhaus (1982), Baily (1982), Jorgenson (1990), Greenwood & Yorukoglu (1997), and Hobijn & Jovanovic (2001)) have suggested some alternatives associated with measurement error, legal and human environment, technological depletion and slow commercial adaptation, oil price, and the beginning of a new industrial revolution. Some of these explanations can also be attributed to Nigeria, and one cannot debunk the possibility of these causes of slow-down in productivity, one should rather have the opinion that many factors have contributed to it.

The long-run sources of economic growth indicate that productivity from labour and capital has been very low over the years. This gives an indication why poverty has been on its increase in Nigeria since the rate of productivity growth (if very low) could have an adverse effect on the future real wages, the standard of living and the social security system of an economy (Abel & Bernanke, 2005:215). Despite increased economic growth since 1999, real per capita income as at 2005 was about N1800 (local currency unit) which is similar to the 1970s level (Figure 2.3). This is a significant indication that the country is breaking free from its past economic bondage of corruption and mismanagement, although still facing the problem of severe poverty among its people. Statistics from the Federal Office of Statistics of Nigeria indicate that the number of poor in Nigeria has been rising over the years from about 18.5 million in 1980 to about 36 million in 1985, 40 million in 1992 and about 71 million in 1996. By the end of 2005, estimated poor rose to 94.7 million.

The next section of this study, dwells on the performance of poverty in Nigeria over the years, despite success associated with economic growth in certain periods.

3.3 NIGERIA POVERTY PERFORMANCE

3.3.1 Measurement of Poverty

Throughout history, many researchers and organisations across the world have attempted to measure poverty. Because of the different views about the concept of poverty it is evident that there exists no uniform measure for measuring poverty. It is furthermore difficult to find a definitive and universally-accepted way to measure poverty, because it is a phenomenon that affects many aspects of human condition, including physical, moral and psychological. Poverty is defined by the World Bank (1990) as the inability to maintain a minimum standard of living and this has been analysed in ‘absolute’ and ‘relative’ terms. Although there is a vast body of literature debating whether poverty is relative or absolute, the view that poverty is relative is now widely accepted. Since resource requirements for many basic functioning are relative, the poverty line or measurement must be put at a higher level in rich countries than in poor countries (Marx and Bosch, not dated).

Most of the analyses about poverty have followed the conventional view of insufficient income for securing basic goods and services. Others view poverty as a function of education, health, life expectancy, and child mortality etc. Tomori et al. (2005) specify two type of poverty namely income poverty and basic needs poverty (a lack of food, education, health care etc). They further linked poverty in developed countries to be income-determined, while in the case of developing countries poverty can be attributed to the deprivation and lack of access to basic services. The poor has also been identified by their low levels of consumption and expenditures on goods and services, which have also been generally used in conceptualizing poverty and the construction of poverty lines (Blackwood and Lynch 1994). There is increasing emphasis on the multidimensionality of poverty and social exclusion, and on the need to incorporate indicators relating to dimensions other than income (Soede, 2007).

According to the “vicious cycle” hypothesis of the orthodox Western views on poverty, a person is poor because he is poor, and will remain poor forever unless that person’s income level increases significantly enough to pull that person from poverty. To the classical school of thought, such improvement can only be real and sustained if the population growth is controlled and the economic growth impediments are eliminated. Others also believe that the explanation for poverty can be linked to the person’s apparent lack of response to normal monetary incentives for hard work. This means that a poor person is the cause of his/her own poverty.

3.3.2 Profile of poverty in Nigeria

Poverty in Nigeria has been seen as a serious problem that seems to be almost unsolvable. An estimated 70 per cent of the population live under US\$1 a day between 1994 and 2002. Despite the huge natural resources (oil, gas, solid minerals etc.), Nigeria has been endow with, the country is still rated among the poorest in the world (World Bank; 2004).

Table 3.7: Nigerian Human Development and Poverty Index.

	Life expectancy at birth (Years)	Combined primary, secondary, and tertiary gross enrolment ratio (%)	GDP per capita (PPP US\$)	Probability of not surviving past age 40 (%)	People without access to an improved water source (%)	Children underweight (% ages 0-5)
Human Development Index	46.6	52.5	1,852			
Human Poverty Index				39	53	29

Source: UNDP, Human Development Report 2008.

The Human Development Indicators (HDI) 2008, which use a wider definition of well-being, ranked Nigeria as the 154th out of 177 countries, based on available data. It measures human development in three dimensions, as indicated in table 3.7. In the case of Nigeria life expectancy at birth is about 46.6 years, the general school enrolment ratio is about 53 per cent and the GDP

per capita is about US\$1,852 (PPP). These indicators tend to provide a rough picture of the country's socio-economic development.

The Human Poverty Index (HPI) focuses on the proportion of people below a threshold in the same dimension of human development and represents a multi-dimensional alternative to the US\$1 a day poverty measure (HDI, 2008). The HPI (37 per cent) ranked Nigeria as the 111th of 135 developing countries from which the index was calculated. The indicators show that Nigerians have about 39 per cent chance of not living past the age of 40 whereas people with no access to an improved water source average about 53 per cent of its population. The proportion of children under the age of 5 years who are underweight is about 29 per cent (table 3.7).

The level of poverty in Nigeria has also been surveyed by the Federal Office of Statistics (FOS) of Nigeria over the years. This was through the National Consumer Survey conducted in 1980, 1985, 1992 and 1996. In the absence of an official definition, the poverty line was obtained by calculating two-thirds of the mean per capita household expenditure. Table 3.8 shows the profile of poverty based on the surveys conducted in these years⁷.

Table 3.8: Nigerian Poverty Profile 1980 to 1996 (% Population)

	1980	1985	1992	1996
National	27	46	42	67
Sectors:				
Urban	17	38	37	59
Rural	28	51	46	71
Zones:				
North East	36	55	54	67
North West	38	52	37	68
North Central	32	51	46	66
South East	12	30	41	68
South West	13	39	43	67
South-South	13	46	41	67
Household Head:				
Male	27	47	43	68
Female	29	39	40	60
Occupation:				
Professional/Tech.	17	36	35	28

⁷ The criteria used by the FOS in measuring these indices may be different from the UNDP.



Administration	45	25	22	6
Clerical	10	29	34	35
Sales worker	15	36	33	30
Services	21	38	38	34
Agriculture	31	53	48	73
Production/Transportation	23	46	41	47
Manufacture	12	31	33	26
Apprentice/Student	2	37	42	33
Others	15	40	43	24
Occupation:				
Farming	31	53	48	73
Non-Farming	16	37	36	58
Education:				
None	30	51	46	74
Primary	25	50	43	61
Secondary	19	41	30	54
Post Secondary	21	26	26	48
Household Size				
1	0.2	2.5	2.8	13
2-4	9	27	19	52
5-9	30	59	45	75
10-14	48	75	63	88
15-19	61	84	81	94
20 and above	81	75	93	95

Source: Federal Office of Statistics (FOS) and Ogwumike(2003)

In 1980, about 27 per cent of the population lived below the poverty line. It increased dramatically to 46 per cent in 1985 (an increase of about 70 per cent). This could be attributed to the negative economic growth and the positive population growth rates (which amounted to an increase of about 10 million) experienced in this period. The period between 1985 and 1992 saw a decline in national poverty by about 4 percentage points. However, this was not readily appreciated by most Nigerians because it did not compensate them for the rapid increase in income between the early 70s till 1980 when income starts falling (Ajayi, 1992). The high population growth also resulted in an increase of about 7 million in the poor population between 1985 and 1992. The post-SAP era recorded another upsurge in poverty level among Nigerian

populace of about 67 per cent in 1996. This is more or less a to about 60 per cent increase compared to the 1992 estimate⁸.

Studies on the severity of poverty in Nigeria have found that poverty was more pronounced among the rural than the urban population (World Bank 1996; Canagarajah et.al, 1997). Poverty in the urban areas has also increased over the years, from about 17 per cent in 1980 to about 59 per cent in 1996. There was no serious decline in poverty in urban areas between 1985 and 1996 when the national poverty declined to about 42 per cent, as much of this was felt in the rural areas where the poverty level declined from 51 per cent to 46 per cent. This could be linked to the massive rural-urban migration experienced during this period and the collapse of the oil revenue, which led to a massive importation of food to augment the declining production capacity in the agricultural and industrial sectors (Ogwumike, 2003). On the whole, however, rural poverty has been higher than urban poverty over the years, rising from about 28 per cent to about 71 per cent between 1980 and 1996.

Looking at the severity of poverty among the six geo-political zones of Nigeria, the three northern zones of the country (North East, West and Central) were found to be seriously embedded in poverty, especially between 1980 and 1985. The average level of poverty in the northern zones ranged between about 35.3 per cent in 1980 and about 52.5 per cent in 1985. Comparing this to the poverty levels in the southern zones (South-South, East, and West), which averaged about 12.7 per cent in 1980 and about 38.3 per cent in 1985, one can deduce that poverty grew progressively higher from the south to the north of the country. The wide gap in poverty between the north and the south started shrinking after 1985, and by 1992 the average poverty rate in the northern zones was about 45.6 per cent as opposed to about 41.7 per cent in the southern zones. This increased to about 67 per cent in the northern zones and 67.3 per cent in

⁸ Updated data on national poverty survey is not readily available. According to recent World Bank research, the developing world is poorer than previously thought, but not less successful in the fight against poverty. Poverty has been more widespread over the past 25 years than previously estimated, but there has also been strong overall progress toward reducing poverty (Chen and Ravallion, 2008).

the southern zones in 1996, which indicate a 0.3 per cent higher level of poverty in the southern part of the country.

Gender poverty has been increasing over the years from about 27 per cent of males and about 29 per cent of females in 1980 to about 68 per cent of males and 60 per cent of females in 1996. Male poverty levels over the years have been higher than female levels, except for 1980 when female poverty was 2 per cent higher than male poverty. Male poverty level declined at the same rate (4 per cent) as that of the national poverty level between 1985 and 1992. But there seems to be no great change in female poverty level during this period; instead there was a slight increase by about 1 per cent.

Occupational classification of poverty in Nigeria has shown that poverty is more pronounced in the agricultural sector (farming) with about 31 per cent in 1980, 53 per cent in 1985, and down to 47 per cent in 1992. it picked up drastically to about 73 per cent in 1996. The non-farming occupation on the average experienced a slight fall in poverty by 1 per cent between 1985 and 1992. The poverty level within this occupation rose in general from 16 per cent in 1980 to about 58 per cent in 1996, which is about 15 per cent below that of the farming population.

Analysing the Nigerian poverty profile in terms of the level of education, it is obvious from table 3.8 that the higher the level of education the lower will be the per centage of people living in poverty. The highest poverty rate has been recorded when the population had very little education, whereas the lowest when the population had been in a post-secondary phase. About 30 per cent of the population with no education and 21 per cent in the post-secondary level were living in poverty in 1980, while in 1996 this rose to about 74 per cent and 48 per cent of the population with no education and those at the post secondary level, respectively. This is an indication of how important the educational sector is in alleviating poverty in Nigeria.

The aggregate picture on poverty rates by household size shows that there has been a general increase in the severity of poverty among the different household sizes and it tends to increase as

the household size increases. Between 1985 and 1992 the rate of poverty among the different households declined, except for household sizes of above 20⁹.

3.3.3 Poverty reduction strategies in Nigeria

Many macroeconomic policies have been introduced in Nigeria to reduce the level of poverty among its population. These policies were targeted towards rural development and improvement in the agricultural sector, which were perceived to have contained most of the population living in poverty. The World Bank (1996) analysed the aspect of poverty in Nigeria to be concentrated in communities that lack basic services such as roads, potable water supply, safe sanitation and access to health and education services. These are characteristics of people living in rural communities and their main occupation is subsistence farming which goes with large household sizes.

About four development plans have been prepared and executed since political independence in 1960. Although poverty reduction was not the direct focus of these development plans, it will undoubtedly have alleviated poverty if the objectives were achieved accordingly. The first National Development Plan (NDP), 1962 to 1968, stated that:

‘The basic objective of planning in Nigeria is not merely to accelerate the rate of economic growth and the rate at which the level of the population can be raised; it is also to give her an increasing measure of control over her own destiny’.¹⁰

The main objective of the plan was the achievement and maintenance of the highest rate of increase in the standard of living and the creation of the necessary conditions to this end, including public support and awareness of both the potentialities that exist and the sacrifices that will be required.¹¹

⁹ A breakdown of the current poverty profile data similar to table 3.8 is not available.

¹⁰ NDP 1962-68 (Federal Ministry of Economic Development, Lagos), p.3.

¹¹ Ibid., p.46

The second NDP was a build up on the first NDP, and it claims that national planning should be aimed at the transformation of the whole society (Ekundare,1971). The plan stated that:

‘the present plan...recognizes explicitly the possibilities of using planning as a deliberate weapon of social change by correcting defects in existing social relations in various spheres of production, distribution and exchange.’¹²

The fundamental objective of the plan was to establish Nigeria firmly as

- A united, strong and self-reliant nation;
- A great and dynamic economy;
- A just and egalitarian society;
- A land of bright and full opportunities for all citizens; and
- A free and democratic society.¹³

Nigeria’s third NDP 1975 to 1980 suggested that the fastest and most effective ways to achieve development were to make judicious use of then oil revenue to build the social and economic infrastructures and rapidly transform the nature of economic activities. The goals listed in the third NDP were economic growth and development, price stability, and social change.¹⁴ This was to be achieved by given top priority to the manufacturing sector in the belief that a solid industrial base was the firmest foundation for self-sustained growth (Wolgin,1978).

The major objective of the fourth NDP (1981 to 85) major objective was to bring about improvement in the living condition of the Nigerian populace, in addition to the three policy goals inherited from the third NDP. This objective appeared to be directed at fighting poverty,

¹² Second NDP 1970-74 (Federal Ministry of Information, Lagos), p.37.

¹³ Ibid., p.32.

¹⁴ Central Planning Office, Federation of Nigeria, Third NDP, 1975-80, p. 30-1.

since its main emphases were to raise the real income of an average Nigerian and also to close the huge inequality gap among its population.

During the eras of national development plans, there were many poverty-related government programmes that sprang up in support of the attainment of the various objectives specified in the plans. These were the River Basin Development Authority (RBDA), the Agricultural Development Bank (ADB), the Agricultural Credit Guarantee Scheme (ACGS), and the Rural Electrification Scheme (RES). Other programmes just before the advent of SAP included Operation Feed the Nation (OFN), Free and Compulsory Primary Education (FCPE), Green Revolution, and the Low Cost Housing Scheme. Although these programmes were designed to directly or indirectly solve the problem of poverty in Nigeria, they were not entirely successful as most of them were not sustainable due to a lack of focus.

The worsening state of the Nigerian economy, characterised by a collapse of social and economic infrastructure, high external and domestic debt, real sector dominated by primary production, high level of poverty, dysfunctional education system, and high rate of unemployment has led to the introduction of National Economic Empowerment and Development Strategy (NEEDS). This program covered the period 2004 to 2007 and served as a medium-term plan for economic recovery, growth and development of the nation. The main goals of NEEDS were to reduce poverty, create wealth, and generate employment in the society and to re-orientate the citizens about their value system. The overall performance of NEEDS between 2004 and 2007 was hailed by the IMF Country Report as remarkable. In fact, many aspects of the economy, such as the macroeconomic environment, civil service reforms and due process, banking consolidation/emergence of mega banks, privatisation and liberalisation, have surpassed its expectations. However, there are weaknesses in a few areas such as monitoring and evaluation, and effective coordination and implementation which still need to be tackled, while poverty reduction, employment generation and power supply have still not yet reached the stage where it should be (IMF: 2007).

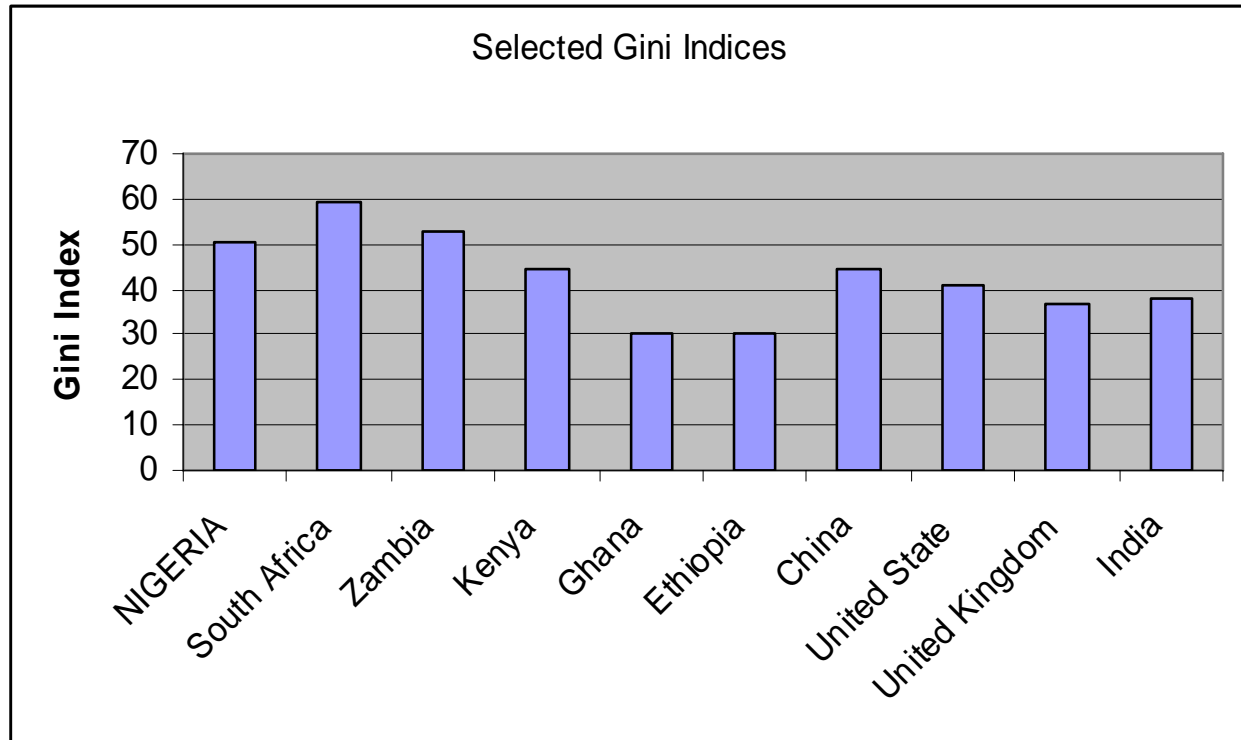
3.2.4: Challenges to poverty alleviation in Nigeria

The high level of poverty in Nigeria is related to the profile of social indicators discussed earlier. The concurrent political instability, woefully poor governance and the high level of corrupt practices can be pointed out as the key factors accounting for the staggering level of poverty. The lack of good governance and the long history of political unrest have also contributed greatly to the problem of poverty in Nigeria. The misuse of public funds by political leadership has led to a massive decline in the quality of public services. The provision of basic infrastructure (i.e roads, electricity, water, etc) is still at its lowest level and this has led to inadequate inflow of private investment into the country. Lack of enforcement of the rule of law has given the political leadership an opportunity to direct public funds to other component of government expenditure where corrupt practices are more visible. These have had severe negative impacts on the wellbeing of the Nigerian citizens.

The current state of the Nigerian economy appears to have been trapped in poverty. The return to democratic dispensation is a highly welcome development and although there has been some encouraging progress, the basic problem of lack of good governance, corruption, and among many the lack of attention to basic human needs are still the country's key poverty challenges.

In addition, these challenges have created a huge inequality of income within Nigerian society. This is also a sign of poor governance performances that are entrenched in the system. Unequal opportunities among the Nigerian populace make it more difficult to achieve the Millennium Development Goals (MDG), since economic potentials remain unutilised. The absence of better developed infrastructures, high quality of human capital and institutions prevent the country from participating in the global financial market. Over the years the widening inequality has been the one factor responsible for poor growth in developing countries. The large growth-poverty gaps that exist in developing countries are results of the increasing income inequalities in these countries (WESS, 2006).

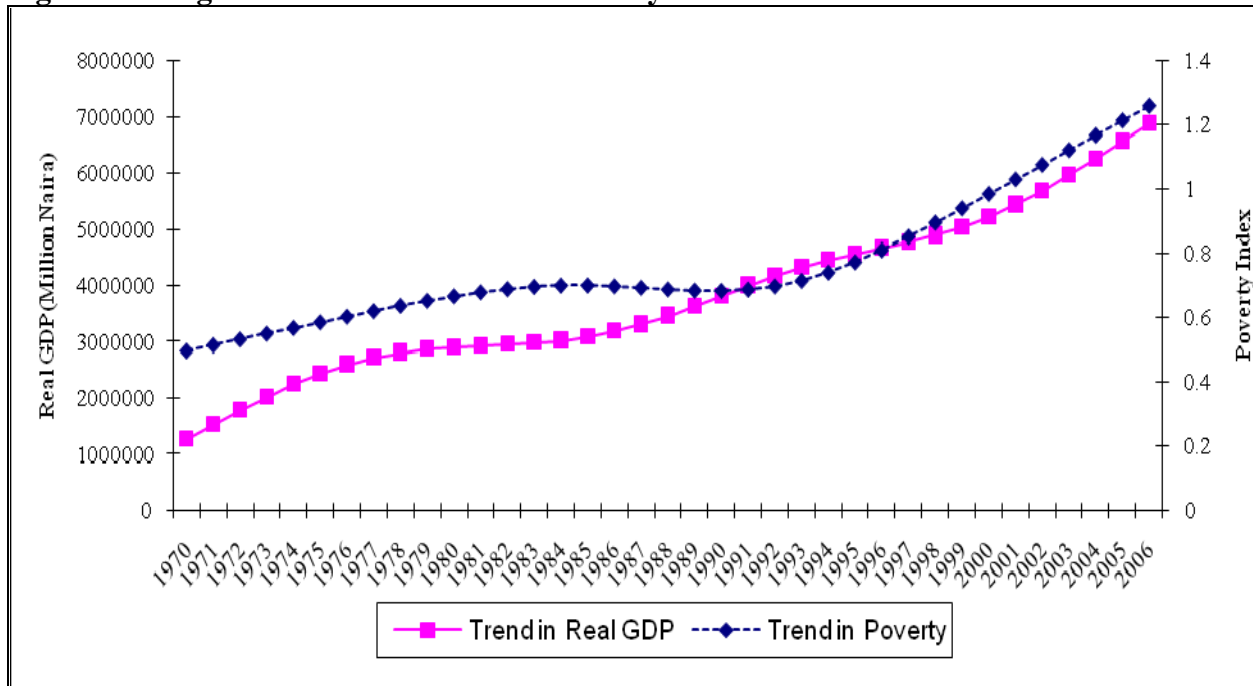
Figure 3.7: Nigeria Inequality Relative to other Countries



Source: UNDP, Human Development Report 2008.

The skewed distribution of income in Nigeria shown in figure 3.7 compared to other African, developing and developed economies put the country among the top unequal societies in the world. As a result, embedded economic inefficiencies and common social unrest in Nigeria can be attributed to the high income inequality. According to the World Bank Development Indicators, Nigeria has a Gini index of 0.51, which means that about half of the population of Nigeria does not benefit from generated income. This is a major challenge to the country—to provide for a better life for the majority of citizens, the Nigerian Government and civil society must empower that section of the population not benefiting from the immense wealth Nigeria is endowed with.

Figure 3.8: Nigeria’s Economic Growth-Poverty Performance



Source: World Bank; World Development Indicators

As discussed earlier, the growth of an economy is expected to translate to improvement in welfare conditions of the general populace. Increases in GDP that will lead to a significant reduction in the level of poverty through increased domestic investment which will generate significant employment in the economy should be the major focus within the policy environment.

However, a rise in real GDP should be pro-poor leading to employment generation that will translate into a reduction in poverty over the long run. Figure 3.8 reveals the Growth-Poverty performance of Nigeria over the years. There has been a sustained increase in the trend of both the GDP and poverty since 1970, indicating the presence of serious socio-economic constraints impeding a long-term pro-poor growth in the country. Therefore, there is need to investigate further the cause of the existing gap between economic growth and the level of poverty in the country. This will lead us to first delve into the various theories of growth and poverty that existed in the literature.

3.4 CONCLUSION

This chapter reviewed and analysed major economic development in the history of Nigeria's economy. It revealed the impressive and unimpressive economic situations faced by the country over the years, as well as how these transformed and improved the socio-economic condition of its people.

Despite its resource endowment (human and oil resources), the country is still far from reaching its full potential of sustained economic growth and employment generation expected to alleviate the country's high level of poverty. The historical performance of the country reveals significant socio-economic constraints as predominant impediments to a high and sticky level of poverty in the economy. Sources of economic growth show the importance of an increasing domestic investment that will kick-start the economy, as well as the urgent need to break the structural impediments constraining the economy. This analysis has shed light on the macroeconomic environment of Nigeria. The next chapter develops a framework for analysing the growth-poverty divergence of the country.