# SAVINGS MOBILIZATION IN NIGERIA: EMPIRICAL INVESTIGATION OF FINANCIAL REPRESSION (1975 - 1996)

BY

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## DECLARATION

I hereby declare that this thesis is a product of my own research. It has not been accepted anywhere, to the best of my knowledge, for the purpose of awarding a Masters degree. All references have been duly acknowledged by way of bibliography at the end of the thesis.

## CERTIFICATION

This Thesis entitled 'SAVINGS MOBILIZATION IN NIGERIA: EMPIRICAL INVESTIGATION OF FINANCIAL REPRESSION (1975 - 1996)' written by ISA JIBRIN OKPE, meets the regulations governing the award of the degree of MASTER OF SCIENCE (ECONOMICS) of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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# DEDICATION

This Thesis is dedicated to my Late sister FATIMA OKPE. May God grant her soul a perfect rest, Amen.

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# ABSTRACT

Most less developed countries are conscious of the importance of savings in the development process. To adequately harness savings in Nigeria various policies have been evolved; and one of such policies was interest rate deregulation. This thesis examines savings mobilization in Nigeria. It also evaluates the non interest rate structural adjustment reform policies such as foreign exchange deregulation, commercialization and privatization. The trends in interest rate and savings are analysed. The thesis also proffers recommendations to the appropriate authorities.

Using ordinary least squares method, data from 1975 to 1996 which covered the two policy thrust - regulation and deregulation are examined, to ascertain whether interest rate had significant impact on savings during the period under study. Three regression tests were run. One covered the period of regulation (1975 to 1986), the second covered the period of deregulation (1987 - 1996), While the third covered the period of regulation and deregulation (1975 - 1996).

It was observed from the empirical investigation that interest rate deregulation had significant impact on savings than interest rate regulation, which showed that financial savings in Nigeria was not repressed during the period 1987 - 1996. While gross domestic product and lagged savings rate had a positive and significant impact on savings which revealed that real interest rate, gross domestic product and lagged savings rate are potent

factors that determine savings in Nigeria. The non-interest rate structural adjustment reform policies such as deregulation of foreign exchange, commercialization and privatization has a negative but significant impact on savings in Nigeria.

It was also shown that the non-interest rate structural adjustment programme introduced during the period of deregulation has negative and significant impact on savings.

The thesis also observed that various factors may have caused the decline in savings during the period 1975 to 1996. These factors are: a decline in per capita income; high dependency rate; the decline in foreign exchange receipts and high proportion devoted to debt servicing; leading to decline in domestic resources; low capacity utilization in manufacturing and industrial sector leading to high rate of unemployment; inaccessibility to financial institutions, especially in the rural areas; decine in population per bank branch and loss of confidence in the banking sector due to distress.

Recommendations were however drawn based on the findings of this thesis. It was recommended that interest rate should be completely deregulated, since it has a positive and significant impact on savings than interest rate regulation. The federal government should also discontinue the aspect of the non-interest rate Structural

Adjustment Policies; such as faulty foreign exchange policy, privatization and commercialization; since they have negative impact on savings.

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# Chapter 1 INTRODUCTION

## 1.1 Background to the Study

Interest rate policy has been a major issue in economic discourse in recent times. This is because of the important and supportive role it is expected to play in mobilizing savings and the efficient utilization of savings into productive investment and hence economic growth. Therefore, ensuring adequate level of interest rate is seen as an indispensable prerequisite for the development of other sectors of the economy.

The basic role of interest rate in an economy as enumerated by Lanyi and Saracoglus (1983), and reported by Sander (1987) include among others to serve as a reward for postponing current consumption; that of accumulation of monetary resources to influence on the demand and allocation of borrowed funds. Also, both the domestic interest rate together with foreign interest rate and expetced rate of inflation jointly influence whether savings are accumulated in domestic foreign assets, foreign financial assets or inflation hedges in making decision on saving and borrowing.

Prior to the introduction of the structural Adjustment Programme in Nigeria, nominal interest rate was fixed and administratively determined by the monetary authority. The aim of interest rate policy within this period was to reduce the cost of capital in order to stimulate investment for rapid economic growth (Ogiogio, 1988).

However, government intervention in the administration of interest rate within this period was associated with administrative bottlenecks, distortion in prices, inadequate mobilization of resources, allocation and the subsequent utilization of these resources in the economy.

In 1986, the Federal Government introduced the Structural Adjustment Programme in the Nigerian economy. The aim of this programme was to correct the economic imbalances that existed during the period of interest rate regulation. Within the overall package of the structural adjustment programme was the financial sector reform which includes interest rate reform.

The period from 1987 to 1996 therefore witnessed the emergence of the gradual deregulation of interest rate in Nigeria. The fixed and administered interest rate was replaced by 'market determined' interest rates. Banks were therefore allowed to negotiate their rate of interest with their customers. The aim of interest rate deregulation was to aid in the mobilization of savings and this was expected to accelerate the pace of economic growth. Therefore, ensuring adequate macroeconomic-stability was very crucial in ensuring successful financial liberalization such as interest rate reform. The liberalization of interest rate in an underdeveloped financial market, coupled with the high inflationary situation and other macroeceonomic imbalances may result in distress in the financial sector. An extremely high rate of interest may act as a disincentive to savers because savers tend to compare the nominal rate of return with the expected

increase in prices. However, the real rate rather than the nominal rate of interest is therefore very crucial in assessing savings.

It is against this background that this thesis assesses real interest rate in the mobilization of savings in Nigeria.

## 1.2 Statement of the Problem

The intermediation of funds between surplus spending units and deficit units is a crucial factor that aids in the development of other sectors of the economy. Interest rate therefore has an important and supportive role to play in the mobilization of savings in the less developed countries.

The deregulation of interest rate in Nigeria in 1987 was aimed at the mobilization of savings. However, despite this policy stance, savings have declined over time. It has become imperative therefore to investigate the various factors that inhibit the effort of savings mobilization in Nigeria.

## 1.3 Significance of the Study

The mobilization of savings has been recognized as a major factor that will accelerate the pace of economic development in the less developed countries and

therefore requires an urgent attention. To achieve this, there is the need to evolve policies geared towards increasing the flow of savings and foreign resources for development.

Nigeria, like most of the other less developed countries relies on foreign resources to finance its development projects. Such reliance has inhibited the rapid economic growth rate it has sought to achieve. This is because of the general decline of domestic financial resources, inflow of foreign direct investment which was further aggravated by the external indebtedness of the less developed countries. There is the need among the less developed countries to evolve policies geared towards increasing the flow of domestic resources and channelling them for investment without relying on industrial countries for funds. Ensuring adequate rate of return on savings will reduce the outflow of capital and encourage the inflow of resources which will enhance and accelerate the pace of economic development.

## 1.4 Objectives of the Study

The regulation and deregulation of interest rate in Nigeria has informed the need for these objectives. The specific objectives are:

(i) To investigate the impact of interest rate regulation and deregulation on savings mobilization in Nigeria;

(ii) To investigate the various trends of savings in the periods under review;

(iii) To ascertain the impact of non-interest rate structural reform policies on savings within the study period;

(iv) To highlight the factors affecting savings in Nigeria;

(v) To offer recommendations to appropriate authorities about its interest rate reform policies.

## 1.5 Hypotheses

In this thesis the following hypotheses were tested.

(i) Interest rate has no impact on savings during the period of deregulation

$$H_0 : q_2 = Q_2$$

Against the alternative hypothesis that interest rate has positive impact on savings during the period of deregulation

$$H_a : Q_2 > q_2$$

(ii) The non-interest rate structural reform policies have no impact on savings

$$H_0 : \alpha_3 = 0$$

The non-interest rate structural reform policies have significant impact on savings

$$H_a : \alpha_3 < 0$$

## 1.6 Scope and Limitation of the Study

The series analysed began in 1975 and end in 1996. The choice of this period

was made in order to capture the periods of interest rate regulation and deregulation. The period 1975 was significant because it was the beginning of the period when there was a 'boost' in real minimum wage in Nigeria. While the choice of 1996 as a terminal date was due to the fact that data for the required variables were available only up to 1996.

This study was limited by inadequate data. Some data will be used as proxy for some variables. For instance, interest rate on savings and time deposits were merged to get a new time deposit.

## 1.7 Methodology

### 1.7.1 Data Sources

This Thesis used secondary data which are obtained from the Central Bank of Nigeria publications; relevant publications of the Federal Office of Statistics, Lagos; Nigerian Deposit Insurance Corporation (NDIC); the World Bank publications as well as the International Monetary Fund publications.

### 1.7.2 Tools of Analyses

Descriptive and analytical tools are used in this thesis. The descriptive tools consist of the use of tables and percentages. The analytical tools consists of the use of ordinary least squares regression. Savings are regressed on real interest rate.

Commercial bank savings and time deposits are used as proxy for total financial savings in Nigeria. The choice of the use of Commercial Banks' savings was because commercial banks account for about 80 percent of total financial savings in Nigeria. (See Appendix B).

Separate regressions were run in order to assess the parameter estimate of savings function in Nigeria. In this connection, three types of regressions were run. The first covered the period before the liberalization of interest rate (1975 - 1986), while the second regression covered the liberalization of interest rate (1987 - 1996). The third test covered the period of interest rate regulation and deregulation, in which a dummy variable was included in the regression. The dummy variable so included in the regression took care of non-interest rate Structural Adjustment reform policies that were introduced within the period 1987 to 1996. The variable therefore took a value of 1 when interest rate was deregulated and zero when interest rate was not deregulated.

The average rate of interest between the two sub-periods were analysed in order to ascertain if there was any significant difference between interest rate in the periods being studied. To this end, the thesis employed the use of ratios and percentages.

The parameter estimates for the three periods were presented in order to offer policy recommendations on the impact of interest rate reform policies on the mobilization of savings within the period under review.

## 1.8 The Expected Results

The expected results as regard the various variables used was based on apriori expectations. In this research, it is expected that interest rate deregulation would have a positive impact on savings within the period of deregulation than the period when interest rate was administratively determined. This expectation was based on the McKinnon and Shaw (1973) complementary hypothesis - that interest rate liberalization would stimulate savings and hence investment.

The independent variables used in the regression were expected to have a positive regression coefficient on savings. The dummy variable is not expected to have a positive regression coefficient because policies such as foreign exchange deregulation, commercialization and privatization of public enterprises are expected to have a negative impact on savings.

## 1.9 Organization of Work

This thesis was divided into five chapters. Chapter One provides the background to the study which basically includes introduction; statement of the problem; significance of the study; objective of the study; hypotheses; scope and limitation of the study; methodology and expected results in that order.

Chapter Two contains the review of related literatures. In this chapter theories of interest rate and savings were analysed and various determinants of savings were reviewed in order to find gaps to be filled in the literature.

Chapter three analyses interest rate policies as well as interest rate structure in the period of regulation and deregulation. Growth rate of financial institutions and deposit mobilization were also reviewed. Also reviewed were the extent of financial intermediation as well as the effects of non-interest rate structural adjustment policies on savings. Attempt was made to provide reasons for the declining savings over time.

Chapter four presents model specification for the thesis. Various specifications were made, the models were estimated, the hypotheses tested and the regression estimated results were analysed.

Chapter five contains summary, conclusion and recommendations.

# Chapter 2 LITERATURE REVIEW

## 2.1 Introduction

The role of interest rate in stimulating savings has been an interesting issue in development literature. Various authors have formulated theories of interest rate and savings, but divergent views in their determination still exist. In this chapter an attempt was made to review theories of interest rate and savings as well as the empirical investigation put forward by various authors.

## 2.2 Theoretical Framework

The framework for this thesis was derived from McKinnon's (1973) and Shaw's (1973) financial repression hypothesis. The authors separately postulated that government intervention in the operation of the financial system often leads to inefficient operation of the financial system.. Government intervention in the form of interest rate regulation, ceiling on deposit and loan rates and official restriction such as policies, laws, regulation of taxes, distortion , quantitative and qualitative restrictions and control do not allow financial institutions to operate efficiently. The failures of banks and other financial instituttions has been blamed on government interference.

McKinnon (1973, P.69) emphasized that 'the failure of banks to earn higher

equilibrium rates of return from their privileged borrowers is reflected back on unduly low return to depositors. ..... One that may well be negative in real terms if inflation is at all significant'.

The financial repression hypothesis does not only emphasize on positive rate of return on financial assets, and the deregulation of interest rate, but also that the free play of market forces will bring about an optimal utilization of financial resources and therefore eliminate distortions in the operation of the market. Liberalization will therefore stimulate investment by permitting outside finance that will lead to economic growth.

The classical economists have recognized the importance of interest rate in stimulating savings in an economy. They highlighted three classes of savers that are responsive to interest rate changes.

The first class of savers are those who are insensitive to interest rate changes. This class of savers will be willing to save irrespective of the level of interest rate because their main aim is to save for rainy days and for safekeeping, rather than saving in order to take advantage of interest rate changes.

The second class of savers are those who save in relation to the level of interest rate. People will be willing to save if the rate of interest is just enough to induce them to do so. While the third class of savers are those who are very sensitive to interest rate changes. If

interest rate rises people take advantage of the rise in the rate of interest than when it is low.

In this analysis, the second and third classes of savers regard savings as sacrifices, abstinence or waiting to forgo present consumption in order to take advantage of the rise in interest rate.

In the classical doctrine, the relationship between interest rate and savings can be transformed into the following expression.

$$S = F(r)$$

Where

S = Savings

r = Rate of interest

The above expression simply showed that savings is a direct function of interest rate. The higher the rate of interest the higher will be the level of savings.

The classical theory has been criticised in several fronts. Keynes argued that unless the level of income is known it will not be possible to know the rate of interest. Income is therefore very important because it plays a major role in determining the level of savings.

In the classical theory also, the monetary factor in the determination of the level of interest rate was completely neglected. In Keynes analysis he considered money as having an

impact on the level of interest rate.

The liquidity preference theory was propounded by Keynes (1936) who, like the classics was of the view that market forces determine the rate of interest. In his analysis, the rate of interest is determined by the forces of demand and supply of money. The supply of money itself was seen as a major determinant of the rate of interest to a degree. The supply of money was considered to be endogenously determined and therefore perfectly inelastic. The demand for liquidity preference is therefore the desire to hold cash balances.

The rate of interest is therefore seen as a premium which has to be offered to induce people to hold wealth in some form other than hoarding. The demand for money and the rate of interest have a direct relationship with one another. In this respect, the higher the demand for money the higher the rate of interest which encourages people to save. Moreso, the lower the demand for money, the lower will be the rate of interest that will induce people to hold cash.

Three motives for saving money were stressed in the literature. They are: the transactions, precautionary and speculative motives. The transactions motive is to bridge the gap between known receipts and expenditures, while the precautionary motive is money held for unexpected expenditure. The speculative motive is money held for the purpose of avoiding capital losses in a declining security market. This motive arises out of uncertainty about the future price level and therefore depends on the rate of interest. The precautionary and

transactions motives both depend on income.

The decision to hoard and the decision to save form an interesting part of Keynes' theory. The main distinguishing feature between these two decisions was that the decision to hoard entails the desire of people to hold wealth in the form of idle balances, while the decision to save is the abstension from consumption. Therefore, the decision to hoard entails the sacrifice of future interest income and as such, the decision is related to interest rate.

The liquidity preference theory has been criticized. Jhingam (1986) observed that Keynesian theory of interest rate was not only determinate, but it was also an inadequate explanation of the determination of the rate of interest. It also treat interest rate as a purely monetary phenomenon and also neglecting real factors.

## 2.3 Theories of Savings

Various authors have propounded theories of savings. These theories include the absolute income hypothesis, the life cycle hypothesis; the permanent and relative income hypothesis. These theories will be reviewed in this section.

Keynes (1936) propounded the absolute income hypothesis in his book 'the General Theory of Employment, Interest and Money'. The hypothesis was subsequently developed by Tobin (1951).

This hypothesis was derived from Keynes' two psychological laws. In the first psychological law, the average propensity to save S/Y increases with the level of income.

This was emphasized by the savings function $S = a_0 + a_1 Y_1$ where $a < 0$ and the marginal propensity to save is $0 < a < 1$. In this specification it was observed that the average propensity to save rises with the level of income which goes to show that if $a_0 \geq 0$, the average propensity to save will be less than or equal to the marginal propensity to save.

In the Keynes second psychological law, the marginal propensity to save is seen as an increasing function of income. This can be represented by the following expression.

$$S = b + bY$$

where $b > 0$ and $b > 0$.

This specification has gone along way to show that there was no much significant difference between the average propensity and the marginal to consume or save since both of them are seen as a function of income.

The life cycle hypothesis is associated with the writings of Modigliani (1964), Ando (1963) and Brumberg (1955). In this hypothesis, savings is seen as a function of income which extends over the balance of individual life, and income that accrued within the same period is one element which contributes to shape the individual plan. Individuals will therefore accumulate enough savings over the years in order to maintain their consumption standard during retirement and to have zero assets at the end of their life horizon.

The permanent income hypothesis is attributed to Milton Friedman (1957), Ando and Modigliani (1963) who postulated that savings were a function of permanent income or wealth rather than measured income. Permanent income is directly related to individual life time income based upon the real and financial wealth which is at the disposal of an individual plus the value of one's human capital in form of inherent and acquired skill and training. Measured income was also perceived by this hypothesis as income that an individual actually received in a year. The difference between the permanent and measured income is the transitory income which may be positive or negative. In other words the higher the transitory component of income, the higher the saving ratio.

The implication of this theory is that the propensity to save varies depending on the source of income. The propensity to save depends on taste, interest rate, the ratio of human wealth and uncertainty. Uncertainty is seen as measured income originating from sources that have different permanent and transitory incomes. Therefore, the propensities to consume and to save vary. This theory is therefore based on the long run expectation over a planning period.

The relative income hypothesis is attributed to the works of Brady and Friedman (1947), Modigliani (1947) and Duesenbery (1949). Their theory hinges on savings (or consumption) of an individual or time series observation which are independent. The savings (or consumption) of an individual depends on his group, habit, and time period which are influenced by savings (or consumption) of other persons, group of time period. This theory

seems to take a different turn from other theories of savings behaviour because of its emphasis on the interdependence of individual consumption behaviour. Savings (or consumption) is "EMULATIVE", that is, the savings pattern of an individual could be greatly influenced by the saving pattern of another individual. This is because the savings pattern of individuals are influenced by the consideration of individual's social status and habit.

Inherent in this hypothesis is the emphasis that savings do not depend on the level of current income alone, but also, on the relationship between current income and the highest level of income that the household previously experienced.

## 2.4 Saving Mobilization in Development Literature

The importance of savings mobilization in the development process of the less developed countries has gained considerable recognition in development literature.

Rostow (1960) observed that for savings to be mobilized the rise in savings should follow rather than proceed the take off period. The essential condition necessary for the take off requires that the ratio of efficient investment and savings rise by say 5 percent of national income to 10 percent or more. This rise in national income will be accompanied by the development and extension of the banking institution, which will expand the supply of working capital and in most cases, also by an extension in the rate of long term financing done by central, formally organized market. Caincross (1964) observed that Rostow did not attempt to explain how the rate of 5 percent to 10 percent or more will be attained.

Morris (1967), recognized private savings as an important determinant in mobilizing savings in the less developed countries. He was of the view that to actually mobilize savings, financial institutions that collect and disburse funds should be available and accessible to the people as well as safety of funds, liquidity and interest payment on deposits should be provided. He therefore advocated for the development of cooperative societies, credit agencies, postal services, savings banks as well as development banks which will mobilize savings from various sectors of the economy.

The development of capital markets in order to develop securities and liquidity by attaching a lottery was also recognized as an important factor in mobilizing savings.

Lewis (1972) like Morris, recognized the importance of private savings in the economic development of the less developed countries. According to him savings will be mobilized if it was easy for people to borrow first and save afterwards to repay the loan. Savings therefore could be stimulated by creating institutions which lend money to small businesses through the establishment of a country wide network of savings institutions of various kinds. This includes postal services, cooperatives and building unions, as well as the integrity of the people in the financial institutions. This would go a long way in promoting savings if public agencies should concern themselves specially with making savings easy.

Myint (1971) was of the view that private savings may be increased through the improvement in market for finance or through the rise in capitalist plough back profit. The

increased savings through public channels such as taxation, marketing boards and the issuance of government securities was highly advocated. The success of these depend to a very large extent on the market factors including the stage of development of the capital market.

Kim (1982), emphasized the role of rural saving mobilization in the less developed countries. He opined that one of the prerequisites for successful rural saving mobilization was the effective linkage between the formally organized institutions and the informal system. The aim of linking the formally organized and the informal institutions was to provide the needed gateway for banking institutions to expand rural banking networks without violating existing policies on deposit rate. Consequently, at a more developed stage, the informal systems of mobilizing savings are institutionalized and fully integrated into the formal financial system.

He however observed that the objective for launching an aggressive rural savings mobilization campaign was to improve agricultural productivity, expansion of bank branches in the rural areas and the preponderance of the informal system for mobilizing savings.

## 2.5 Empirical Literature of Interest Rate and Saving in Nigeria

The relationship between interest rate and savings has been an interesting issue which has stimulated empirical investigation among economists and policy makers. In an attempt to resolve these differences, empirical researches were conducted.

Agu (1988) carried out empirical study using McKinnon's and Fry's (1980) model of financial repression hypothesis. He used time series data drawn from 1970 to 1985. He regressed real interest rate on savings and time deposit with commercial banks. The empirical investigation showed that the aspect of real interest rate of return on time deposit was negative for the entire period except in 1972, 1982 and 1985,; and for these three years it was found out that the positive rates were very low at 1.4, 0.6 and 6.9 percent respectively. It was also observed that the real rate of return on savings deposit with positive rates of interest were 0.4, 0.3 and 6.4 percent for the years 1972, 1982 and 1985 respectively.

He therefore opined that distortions in interest rate policy led to financial repression through negative real rates which imposed macroeconomic questions concerning the economy's ability to accumulate financial asset in real terms.

Agu's finding was inconclusive as he observed that the aspect of interest rate on savings deposit was constant at 3 percent for the period 1970 to 1984. His saving index showed a rising trend for the period between 1970 and 1984. He observed that for the period 1975 to 1978 interest rate was stable at 4 percent. On the contrary, saving index was much higher for the periods 1980 to 1985 when interest rate on savings deposit was adjusted upward for every two years. He opined that considerable amount of savings were wasted either in the form of hoarding or in unproductive ventures in the economy because of the low rate of return offered by banks.

He therefore concluded that low interest rate depressed savings and investments and that saving was often wasted. Thus distorting resource allocation and reducing efficiency, thereby leading to the development of parallel market where substantially high rates were paid and charged. He suggested the revision of interest rate policy with a discretionary, dynamic and flexible interest rate that would go a long way in stimulating savings.

Reichel (1991), investigated the impact of interest rate on savings in Nigeria. The ordinary least squares regression method with data from the International Monetary Fund and the World Bank from 1960 to 1987 were used. The deposit rate of interest used was subtracted by approximately one percentage point between the discount rate from 1960 to 1969.

The specification of Reichel model was based on; first the relationship between gross domestic savings rate and real interest rate.

The models

$S/Y = F(ir)$ .....eq.1

$S/Y = F(Yr, ir)$ .....eq.2

$S/Y = F(Yr, ir, S/Y_{t-1})$ .....eq.3

where

S/Y = Gross domestic savings.

Ir = Real interest rate.

Yr = Real income.

$S/Y_{t-1}$ = Lagged saving function.

In models 1, 2, and 3, the regression coefficient showed that real interest rate had a positive but statistically insignificant impact on savings, while real per capita income had a positive and statistically significant impact on savings. The lagged savings rate showed a positive and statistically significant impact on savings in Nigeria. The coefficient of determination in the models were plausible because they account for between 56 and 68 percent of the variation in the dependent variable. The Durbin Watson test showed the absence of serial correlation because Durbin Watson test was approximately 2, while the Durbin Watson in the third model showed the existence of serial correlation.

In order to account for financial savings rate to real interest rate movements, three models were formulated:

$g^{ts}r = F(ir)$ .....eq.4

$g^{ts}r = F(Yr, ir)$ .....eq.5

$g^{ts}r = F(Yr, ir, D)$ .....eq.6

where

$g^{ts}r$ = Growth rate of savings and time deposit.

Ir = Real interest rate.

Yr = Real per capita income.

D = Dummy variable.

In equations 4 and 5, the regression coefficient of real interest rate was positive but statistically insignificant, but it was positive and statistically significant at equation 6. Real per capita income in equation 5 was positive and statistically insignificant even where it was positive in equation 6, the quantitative effect of the coefficient was rather small. The dummy variable introduced to take account of the "boost" in real minimum wage in 1975 was positive but statistically insignificant. The coefficient of determination of equations 4, 5 and 6 showed that a very low variation of the dependent variable was explained by the independent variable. The Durbin Watson test in the three models showed the absence of serial correlation because it was approximately 2.

Uchendu (1993) also investigated the impact of interest rate on savings in Nigeria. The data used were derived from the World Bank table for the period 1969 to 1989, while the data for the period 1990 to 1991 were derived from the Central Bank of Nigeria (CBN). He used the ordinary least squares method with the following specifications:

$$GDS = F(GDP, RSR, FS) \quad \text{.....eq.7}$$

where

GDS = Gross domestic savings.

GDP = Gross domestic product.

RSR = Real savings rate.

FS = Foreign savings.

But

$$\frac{\delta GDS}{\delta GDP} > 0, \qquad \frac{\delta GDS}{\delta RSR} > 0, \qquad \frac{\delta GDS}{\delta FS} > 0 \quad \text{.....eq.8}$$

In his specification, gross domestic saving was mostly affected by gross domestic product, while real saving rate was deflated by inflation rate, and foreign saving was measured as the net of import and export.

The regression coefficient showed that gross domestic product and foreign savings had a positive and statistically significant impact on savings, while real interest rate had a positive relationship with savings but it was not statistically significant. The coefficient of determination ($R^2$) showed that 75 percent of the variation in the dependent variable was explained by the independent variables, while the Durbin Watson test showed the existence of serial correlation at 1.3.

He analysed financial savings in Nigeria using the following specifications:

TFS/GDP = F(SR) .....eq.9

where

SR = Nominal savings rate.

Commercial bank savings rate was used as proxy for total financial savings. The regression analysis showed that savings rate had a positive and statistically significant impact on savings, while the coefficient of determination showed that a considerable variation in the dependent variable was explained by the independent variables. The Durbin Watson statistic showed the absence of serial correlation.

Uchendu opined that interest rate policy was an effective method of mobilizing financial savings in Nigeria. He therefore concluded that interest rate policy should be fine tuned to encourage financial savings without dicouraging investment. He further observed that interest rate policy was an effective factor in mobilizing financial savings in Nigeria.

Soyibo and Adekanye (1992) investigated the determinants of savings in Nigeria within the period 1969 to 1989. The base period of 1969 was justified based on the period Nigeria adopted the strict interest rate regime. In their analysis aggregate saving was substituted for other types of savings.

The following models were modified by them. The original version of the model was

The Fry (1978) model

$$S = F(Y, P_Y, r^e, SF) \quad \text{.....eq.10}$$

where

S = Aggregate savings.

Y = Current income.

$P_Y$ = Permanent income.

$r^e$ = Real interest rate.

SF = Foreign savings.

The Yusuf and Peter (1984) model

$$GPS = F(Y_o, DY_o, GPS_{-1}, X/GDP) \quad \text{.....eq.11}$$

where

GPS = Gross private savings.

$Y_o$ = Disposable income.

$DY_o$ = Change in disposable income.

$GPS_{-1}$ = Lagged gross private savings.

X/GDP = Share of export in gross domestic product.

In the modified form of the model, four types of interest rates were used. They are three types of adjusted ex ante real interest rate and the ex post real interest rate. Three types of adjusted ex ante real interest rate are adjusted ex ante real commercial bank prime rate, adjusted ex ante real minimum term rate and the adjusted ex ante real federal savings bank rate. The data used for the ex ante real interest rate were from 1977 to 1989, while the data used for the adjusted ex ante real interest rate were from 1978 to 1989. The data used for the ex post real interest rate were from 1971 to 1989.

In the modified Fry (1978) model, the regression result showed that only lagged savings rate was a significant determinant of savings in Nigeria. The coefficient of determination showed that 93 percent of the variations in the dependent variable was explained by the independent variables.

In the modified form of Yusuf and Peter model (MYPM), the coefficients of current income showed a positive and statistically significant impact on savings of 11.0, 11.3, 10.7 and

31.0, while the coefficient of foreign savings showed a negative impact on savings. The adjusted real interest rate was not statistically significant, while the ex post real interest rate was found to have statistically significant impact on savings. The Durbin Watson statistics showed the absence of serial correlation because it was approximately 2, while the coeffecient of determination showed that 98 and 99 precent of the variation in the dependent variable was explained by the independent variable. The dummy variable introduced to capture the impact of deregulation on savings was negative and statistically insignificant.

The modified Laite and Mckinnon (1986) model showed that only lagged aggregate savings had a positive and statistically significant impact on savings in Nigeria with its coefficients of 4.0, 4.1, 3.9 and 12.0 for the periods. The non significance of other variables and the high cefficient of determination of 99 percent recorded may have indicated that there could be problem of multicollinearity.

The determinants of savings in Nigeria according to Soyibo and Adekanye are lagged aggregate savings ratio, lagged aggregate savings, current gross domestic product, foreign savings and ex post real interest rate.

They concluded that domestic savings could be held in foreign currency, while the significance of the ex post real interest rate support financial liberalization.

Mathias (1997) asserts that Soyibo and Adekanye (1992) did not give room for

comparative study because interest rate regulation and deregulation are two polict thrusts. He therefore investigated the impact of interest rate regulation and deregulation on savings from 1970 to 1994. The data used was derived from the International Monetary Fund (IMF) and World Bank research publications; Central Bank of Nigeria and the Nigerian Deposit Insurance Corporation Annual Report and Statement of Accounts which were augmented with relevant publications of the Federal Office of Statistics. He modified Yusuf and Peter's (1984) model in which the following model was derived.

The models are:

GDS = F(GDP, R1) .....eq. 12

The linear form of the model was

GDS1 = b0 + b1GDP + b2R1 + U .....eq.13

The second model used was

$GDS_2 = F(GDP_2, R_2)$ .....eq.14

The linear form of the model was

GDS2 = B0 + B1GDP2 + B2R2 + U .....eq.15

The third model was

GDS3 = F(GDP3, R3, D) .....eq.16

The linear form of the model was

GDS3 = $\alpha 0 + \alpha 1$GDP3 + $\alpha 2$R3 + $\alpha 3$D + U.....eq.17

Where

GDS = Gross domestic savings,

GDP = Gross domestic product,

D = Dummy variable,

U = Error term.

The dummy variable introduced took care of non-interestrate structural adjustment policies. This variable took a value of one when interest rate was deregulated; otherwise taking a value of zero. Three separate regressions were run. The models in equations 12 and 14 were used in estimating savings function from 1970 to 1986 and 1987 to 1994 respectively; while equation 16 was used in estimating the impact of non-interest rate structural adjustment policies.

Based on his apriori expectation, the regression coefficient of the independent variable were expected to have a positive impact on savings except the regression coefficient of the dummy variable.

The regression coefficient of equations 12 and 14 showed that the parameters estimate of income and interest rate are positive; indicating a positive relationship between the independent variables (interest rate and income) and gross domestic savings. Comparison between interest rate in the period of regulation and deregulation showed that interest rate deregulation has a higher regression coefficient than interesr rate regulation.

In equation 16, the regression coefficient of real gross domestic product and real

interest rate are positive and statistically significant; while the regression coefficient of the dummy variable showed that it was statistically insignificant at 5 percent level. He however, opined that the statistical insignificance of the dummy variable notwithstanding, the dummy variable contributes most information for the prediction of gross domestic savings during the period 1970 to 1994.

The study concluded that gross domestic savings was an increasing function of gross domestic product over the review period; and some aspects of the structural adjustment policies negatively affected savings, while interest rate component of these policies had a positive impact on savings.

He de-emphasized the re-introduction of interest rate regulation in 1994 based on the fact that it does not give room for competition within the banking industry.

## 2.6 Empirical Literature of Interest and Savings in Some less Developed Countries

Laite and Mckinnon (1986) carried out empirical investigation on savings and interest rate on six francophone countries of Benin; Ivory Coast; Niger; Senegal; Togo and Upper Volta.

The sample used consisted of 14 annual observations for each of the six Banque Centrale des Estats de l'Afrique de l'Ouest (BCEAO) member countries and covered the period 1967 to 1990.

Three models were specified in their analysis. Equations in 18 was based on the Keynesian absolute income hypothesis where it was simply a function of disposable income.

$$GPS = F(Y_o, SR) \quad \text{.....eq.18}$$

where

GPS = Gross private savings.

$Y_o$ = Disposable income.

SR = Real interest rate.

But $a_0 < 0$; $0 < a_1$ ; and $a_2 > 0$.

The model in equation 19 used the lagged saving hypothesis which was based on the theoretical postulation of the permanent income and life cycle hypothesis.

$$GPS = F(Y_D, GPS_{t-1}, SR) \quad \text{.....eq.19}$$

where

$GPS_{t-1}$ = lagged savings ratio and GPS, $Y_o$ and SR are as defined in equation 19.

$b_0 < 0$; $0 < b_1 < 1$; $0 < b_2 < 1$; and $b_3 > 0$.

The model in equation 20 used the Houthakker and Taylor (1966) dynamic adjustment hypothesis which took into consideration the possible effect of changes in income on savings.

$$GPS = F(Y_o, \blacktriangle Y_D, GPS_{t-1}, SR) \quad \text{.....eq.20}$$

where $\blacktriangle Y_D$ = change in disposable income and GPS ; $Y_o$ , $GPS_{t-1}$ and SR are as defined in equation 18 and 19.

Where $C_0 < 0$; $0 < C_1$ ; $0 < C_2$ ; $0 < C_3 < 1$ and $C_4 > 0$.

Using the weighted least square method to correct heterscedasticity, the regression test showed that in all observations interest rate was positively related to savings.

In the lagged savings model the effect of interest rate was strongly positive and significant while in the dynamic adjusted model, the interest rate variable lost much of its significance when the change in income was included in the regression.

The Keynesian income hypothesis showed a positive and statistically significant relationship between real interest rate and gross private savings.

Leite et al (1986) concluded that the level and change in disposable income and past savings performance are the major determinants of savings in the BCEAO countries.

Mwega et al (1990) investigated the impact of real interest rate on private savings in Kenya. They adopted the traditional model of Fry and Giovannin. Their data were derived from the International Financial Statistics table from 1966 to 1985.

The model used was

$S/Y_t = F(Y/POP, DY/Y, d\text{-}\Pi^e, FS/Y, S/Y_{t-1}, D80)$ .....eq.21

where

$S/Y_t$ = Private savings.

DY/Y = Real growth rate of income.

$d\text{-}\Pi^e$ = Real interest rate on deposit.

Y/POP = Real per capita income.

FS/Y = Net foreign savings.

$S/Y_{t-1}$ = Lagged private savings.

D80 = Dummy variable.

The dummy variable (D80) was introduced to capture the influence of other structural adjustment reform policies introduced by the government in the first half of the 1980s such as crawling peg exchange rate, price decontrol, trade liberalization and the control of fiscal deficit.

They used the two stage least squares (2SLS) regression method to capture the strong feed back effects from private savings rate to growth in income and inflation. It was found that real deposit rate had an insignificant impact on real savings rate in Kenya, while per capita income had a significant coefficient at 5 percent level. However, the per capita income was not significant when the growth rate of income was introduced in the analysis. It was observed that the growth rate of real income was significant at 5 percent level thereby having a significant impact on private savings.

The dummy variable had a constant significant positive coefficient in the regression. This shows that non interest rate structural adjustment policies undertaken during the 1980s had a significant positive impact on private savings.

## 2.7 Gaps in the Literature

This thesis examined empirically the determinants of savings in Nigeria and observed some shortcomings with regard to the specification of the model and variable used.

The empirical investigation by Reichel (1991) on financial savings in Nigeria showed that the model performed poorly in explaining the determinants of savings in Nigeria. The poor performance of the model can be traced to the statistical insignificance of the variables and the low coefficient of determination (R2), which showed that a significant proportion of the dependent variable was not explained by the independent variables. The insignificance of the regression result can be attributed to misspecification or the omission of some important explanatory variable in the model. This misspecification or omission could lead to questionable conclusions. It is against this background that this thesis adopted the Reichel's model.

Uchendu (1993) analysis on interest rate and savings did not give room for comparative analysis, because his analysis did not take into consideration the policies of regulation and deregulation which have different policy objectives. Therefore, for any study on interest rate and savings to be objective, it would be analytically useful to carry out comparative study on interest rate regulation and deregulation in order to ascertain if interest rate deregulation has more impact on savings than interest rate regulation or otherwise.

The use of nominal interest rate by Uchendu (1993) is misleading, because it does not take into consideration the true cost of financial return. The use of real interest rate will however remove the impact of inflation and provide a good measure of financial return.

## 2.8 The Choice of Model and Variables

### 2.8.1 The Model Used

This thesis adopts the Reichel's (1991) model. This model was used because like Reichel's it seeks to investigate the impact of interest rate on financial savings in Nigeria. In order to fill some gap in the literature certain modifications are made as regards the variables used which this thesis seeks to improve upon.

### 2.8.2 The Choice of the Variables

Most studies (Reichel, 1991, Uchendu, 1993, and Mathias, 1997) investigated the impact of interest rate on savings using gross domestic savings as proxy. Gross domestic savings embodies both private savings and public savings. Real interest rate did not affect public savings which are essentially budgetary services. Therefore, the use of gross domestic savings may distort this analysis. The data on gross private savings used by Leite and Mckinnon (1986) are not readily available in Nigeria.

However, this thesis equates financial savings with private savings because available

evidence such as Ikhide (1996) have showed that private savings constitute the bulk of financial savings in Nigeria.

The growth rate of savings and time deposit with commercial banks used by Reichel (1991) will be substituted for real savings and time deposit with commercial banks because in the classical analysis interest rate affect savings directly.

Most studies used permanent income, Leite et al (1986), change in income, Leite et al (1986) and per capita income, Reichel (1991). These variables are not used in this analysis, because the data on permanent income are not readily available in Nigeria. In the dynamic adjustment model of Leite et al (1986), interest rate loses its significance when change in income was included in the estimation of six francophone countries, while per capita income in Reichel's (1991) model of financial savings in Nigeria was not statistically significant.

In the modified Yusuf and Peter model by Mathias (1997), it was discovered that real gross domestic product (GDP) was a significant determinant of savings in Nigeria. This study therefore used real gross domestic product.

This study retained real interest rate in Reichel's (1991) model because the growth rate of savings and time deposit are interest rate sensitive. Also, it was demonstrated that higher interest rate stimulate financial savings and the coefficient are statistically significant.

Lagged variables are important explanatory variables in most economic relationhips because economic behaviour in anyone period is to a great extent determined by past experiences and past pattern of behaviour (Koutsoyiannis, 1977). To this end, the inclusion of lagged savings showed the extent to which savings in the present period was influenced by savings in the past.

Mwega et al (1990) demonstrated that the dummy variable introduced to take account of non-interest rate structural adjustment reform policies had a significant positive impact on savings. Therefore, the dummy variable used to capture the "boost" in real minimum wage in Reichel's (1991) model will be extended to take account of the non- interest rate structural adjustment reform policies such as foreign exchange deregulation, commercialization and privatization.

The reason for the extension of the dummy variable in Reichel's (1991) model was that his analysis stopped in 1987, thereby undermining the full impact of interest rate deregulation which started in 1987. Therefore, to adequately understand the impact of interest rate on savings in the period 1987 to 1996 will be appreciated because it gives room for comparative study which is long enough for any meaningful research to be undertaken.

# Chapter 3 AN OVERVIEW OF MACROECONOMIC POLICY MEASURES AND SAVINGS MOBILIZATION IN NIGERIA, 1975 -1996

## 3.1 Introduction

Chapter two focused attention on the review of related theories of interest rate as well as theories of savings behaviour. Also reviewed were savings mobilization and various empirical investigations of interest rate and savings.

In this chapter an attempt was made to review macroeconomic policy measures in the process of savings mobilization in Nigeria within the period of regulation and deregulation.

## 3.2 An Analysis of Interest Rate Policies in Nigeria

Over the years interest rate policy has been one of the policies introduced within the financial system designed to mobilize savings in Nigeria. The mobilized funds are intended to be channelled into productive investment in the economy. The responsibility for the formulation of interest rate policy is vested on the Central Bank of Nigeria.

Before the introduction of the Structural Adjustment Programme, interest rate was institutionally and administratively determined by the Monetary Authorities in line with the Federal Government macroeconomic objectives such as price stability.

The power to control the structure of interest rate was contained in the banking amendment act of 1962, which stated that;

(i) 'the rate of interest charged on advances, loans and credit facilities or paid on deposit by licensed banks shall be linked to the minimum rediscount rate of the Central Bank subject to the stated minimum and maximum rate of interest. When so approved the rate shall be the same for all licensed banks.....'.

(ii) 'the interest rate structure of each licensed bank shall be subject to the approval of the Central Bank of Nigeria' (Reported by Falegan, 1987, P.139).

The 1969 bank decree (section 14) gave the Central Bank of Nigeria (CBN) powers not only to control but to determine and prescribe minimum and maximum interest rate chargeable by banks (Agu, 1988). Up till now the structure of interest rate in Nigeria has been subject to the approval of the Central Bank of Nigeria.

Various reasons have been advanced for the administration of interest rate in Nigeria. It was observed by Agu (1988) that the administration of low interest rate in Nigeria was to enable the government to borrow from the public at low cost; stimulate investment, to strengthen the financial system and also the usury law which limits the payment of interest rate on moral ground.

During the period of regulation the structure of the economy was classified into three broad categories viz: the preferred, the less preferred and others. This

classification enabled government to direct financial institutions to lend funds at concessionary rates to sectors classified as priority ones which the federal government considered very vital to the economy. The concessionary rate was itself low, averaging about 7.25 percent between 1978 and 1985 (CBN Brief, 1994 Series). The preferred sectors could not get the concessionary loans as banks preferred to lend to sectors where the rate of interest was high. The low interest rate on deposit within this period did not only hinder domestic savings mobilization but impeded an efficient allocation of scarce capital.

The advent of the structural adjustment programme resulted in a radical departure from the dictum of control of interest rate and monetary management. It introduced market oriented development process with emphasis on small government; efficient resource allocation and market determined prices. The major policies of the Structural Adjustment Programme include trade liberalization, deregulation of interest rates, public sector reform, privatization and commercialization.

### 3.2.1 Interest Rate Structure During the Period of Regulation

Interest rate control techniques which were in vogue in 1970s continued up to 1986. This period witnessed the fixing of interest rate by the Monetary authorities. This means that from time to time, the Monetary Authorities adjusted the rate of interest in order to achieve certain macroeconomic objectives such as money supply and

inflation rate. Table 3.1 below shows the structure of interest rates from 1975 to 1996.

Interest rate on deposit range from 2.5 percent in 1975 to 10 percent in 1986, while lending rate ranged between 6 percent and 22.5 percent in the same period. The minimum rates set by the Central Bank for rediscounting first class securities is very important. This is because the rediscount rate influenced commercial bank liquidity, hence the cost of loanable funds. That is, it drew the line for minimum lending rates charged by commercial banks.

The minimum rediscount rate ranged between 3.5 percent in 1975 and 10 percent in 1986, with an average of 6.6 percent for the period. Treasury bill rate ranged between 2.5 percent and 8.5 percent for same period and averaged 5.5 percent for the period. The minimum rediscount rate and treasury bill rate was set with a differential of 13.5 percent from 1975 to 1986. Minimum rediscount rate within this period was set between 1 percent and 1.5 percent above the treasury bill rate for the period 1975 to 1986.

With the lending rate, the margin between the minimum and the maximum lending rates was as wide as 3 percent in 1975, 4 percent in 1976 and 1977. However, the margin between the minimum and the maximum lending rates was 4 percent for the period 1978 to 1981 and 3 percent point between 1982 and 1985. The year 1986 showed a very wide margin of 11 percent between the minimum and maximum lending

rates. Banks took advantage of these differentials in concentrating their loans portfolio at the maximum lending end of the market (Falegan, 1987).

Analysis of the minimum rediscount rate on the one hand and minimum and maximum lending rates on the other hand was also very important because it influences commercial bank liquidity, hence the cost of funds to the economy. However, in 1975, the margin was 2.5 percent and 5.5 percent to 6 percentage points for maximum lending rates for the periods 1977 to 1983. In 1984 to 1985, the minimum rediscount rate was higher than the minimum lending rate of 0.5 percent 2/3 percentage point respectively. The maximum lending rate shows a range of 3 percent for the same period. The year 1986 showed a wide margin between the minimum rediscount rate and the maximum lending rate at 12.5 percentage point for the year.

Another remarkable differential existed in the lending and savings deposit rate. Between 1975 and 1983, the range between the minimum lending rate and savings deposit rate was 1.5 percent to 3 percent respectively. They were at par in 1984 at 9.5 percentage point. In 1986, however, the minimum lending rate exceeded the savings rate by 2 percent. Between the maximum lending rate and savings deposit rate, the spread was between 5 percent to 6.5 percentage point from 1975 to 1986.

However, there was a wide margin of 13 percentage point in 1986. The wide differential between the lending rate and savings rate discouraged savings in financial

assets thereby, inducing excessive demand for credit.

### 3.2.2 Interest Rate Structure During the Period of Deregulation

The distortion created by the administration of interest rate prompted the federal government to deregulate interest rate in 1987.

The deregulation of interest rate was contained in the Central Bank of Nigeria's annual report (1987 P.8). According to the report,

(i) 'All controls on interest rate were removed in line with the emphasis on deregulation of the economy'.

(ii) 'In order to serve as a signal to the desired direction of interest rate charges, the minimum rediscount rate would continue to be fixed by the Central Bank of Nigeria'.

The year 1987 witnessed the begining of the gradual deregulation of interest rate in the Nigerian economy in line with the Federal Government's directives. In the period of deregulation commercial and merchant banks were allowed to negotiate their rate of interest with their customers. The Central Bank of Nigeria therefore adopted the policy of fixing only the minimum rediscount rate to indicate the desired direction of interest rate charged during the year.

In January 1987, the minimum rate of interest payable on savings and time

Table 3.1: Interest Rate Structure in Nigeria 1975 to 1996

| Year | Minimum rediscount Rate | Treasury Bill Rate | Deposit Rates | | | | | Lending Rates | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 3 months | 3-6 months | 6-12 months | Over 12 months | Savings Rate | Minimum | Maximum |
| 1975 | 3.50 | 2.50 | 3.00 | 3.50 | 3.50 | 4.00 | 4.00 | 6.00 | 9.00 |
| 1976 | 3.50 | 2.50 | 2.50 | 3.50 | 3.50 | 3.50 | 4.00 | 6.00 | 10.00 |
| 1977 | 4.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.50 | 4.00 | 6.00 | 10.00 |
| 1978 | 5.00 | 4.00 | 4.75 | 2.50 | 5.25 | 5.50 | 5.00 | 7.00 | 11.00 |
| 1979 | 5.00 | 4.00 | 4.75 | 5.00 | 5.00 | 5.50 | 5.00 | 7.00 | 11.00 |
| 1980 | 6.00 | 5.00 | 5.75 | 6.00 | 6.25 | 6.50 | 6.00 | 7.50 | 11.50 |
| 1981 | 6.00 | 5.00 | 5.50 | 6.00 | 6.25 | 6.50 | 6.00 | 7.50 | 11.50 |
| 1982 | 8.00 | 7.00 | 7.25 | 7.50 | 7.75 | 8.00 | 7.50 | 10.50 | 14.00 |
| 1983 | 8.00 | 7.00 | 7.25 | 7.50 | 7.75 | 8.00 | 7.50 | 9.50 | 13.00 |
| 1984 | 10.00 | 8.50 | 9.75 | 9.50 | 9.75 | 10.00 | 9.50 | 9.50 | 13.00 |
| 1985 | 10.00 | 8.50 | 9.25 | 9.50 | 9.75 | 10.00 | 9.50 | 9.30 | 13.00 |
| 1986 | 10.00 | 8.50 | 9.25 | 9.50 | 9.75 | 10.00 | 9.50 | 11.50 | 22.50 |
| 1987 | 12.75 | 11.75 | 14.90 | 15.30 | 15.10 | 15.80 | 14.00 | 15.00 | 20.50 |
| 1988 | 12.75 | 11.75 | 13.40 | 12.10 | 13.70 | 14.30 | 14.00 | 16.30 | 18.40 |
| 1989 | 18.50 | 17.50 | 18.90 | 21.60 | 21.40 | 21.20 | 16.40 | 25.50 | 25.70 |
| 1990 | 18.50 | 17.50 | 19.60 | 20.50 | 22.10 | 23.00 | 18.80 | 26.00 | 26.50 |
| 1991 | 14.50 | 15.00 | 15.71 | 17.09 | 20.10 | 20.10 | 14.29 | 20.20 | 25.00 |
| 1992 | 17.50 | 21.00 | 20.80 | 22.30 | 22.10 | 20.50 | 16.10 | 28.40 | 29.00 |
| 1993 | 26.00 | 26.90 | 25.32 | 26.09 | 26.20 | 28.02 | 16.66 | 29.80 | 31.20 |
| 1994 | 13.50 | 12.50 | 13.40 | 13.80 | 14.10 | 14.20 | 12.30 | 20.20 | 21.00 |
| 1995 | 13.50 | 12.50 | 13.60 | 13.70 | 14.00 | 14.30 | 12.60 | 20.20 | 20.80 |
| 1996 | 13.50 | 12.50 | 12.30 | 12.80 | 13.20 | 13.30 | 10.10 | 19.10 | 20.80 |

Source: CBN Annual Report and Statement of Accounts, Various Issues.

deposit were revised from 9.5 percent and 8.5 percentage point to 11 percent and 12 percentage points respectively. The maximum lending rate was retained at 15 percentage point. The minimum rediscount rate which was fixed at 15 percent in August, 1987 was reduced to 12.75 percent as at December, 1987 (CBN Brief, 1994 Series).

From 1987 to 1996, the minimum rediscount rate ranged between 12.75 percent and 26.0 percentage point with an average of 16.1 percent. The differential between the minimum rediscount rate and treasury bill rate for the period 1989 to 1990 and 1994 to 1996 was 1 percentage point above the treasury bill rate. While the period 1991 and 1993 treasury bill rate rose above the minimum rediscount rate with a differential of 0.9 percent to 3.5 percentage point.

The spread between the minimum and maximum lending rates also differ. The spread between them ranged from 15 percent to 31.2 percentage point for the period 1987 to 1996. With an average of 22.07 percent to 23.9 percentage point respectively. However, the gap narrowed for the period 1989, 1990 and 1992.

Particularly revealing was the spread between the minimum rediscount rate on the one hand and the minimum and maximum lending rates on the other. The spread between the minimum lending rate and minimum rediscount rate ranged between 2.3

percent and 10.9 percentage point from 1987 to 1996. While maximum lending rate and minimum rediscount rate ranged between 5.2 percent and 11.5 percentage point for the same period.

In order to mobilize savings in the economy, saving deposit showed an upward trend for the entire period of deregulation except for the period 1994 to 1996. On the average however, the increase was 14.5 percentage point for the period 1987 to 1996. The spread between the minimum lending rate and the savings deposit rate ranged between 1 percent to 13 .14 percentage point for the period 1987 to 1996. While the spread between the maximum lending rate and savings deposit rate ranged between 4.4 percent to 14.5 percentage point above the savings deposit rate. This wide differential has the impact of discouraging investment as people will prefer to save their surplus funds in order to take advantage of the wide differential that existed between the maximum lending rate and savings deposit rate.

It would be seen in table 3.1 that all categories of interest rates started to rise from 1989 when the minimum rediscount rate was adjusted to 18.50 percentage point. This upward differentials between the various rates of interest continued especially between savings rate and lending rate. The high interest rate that was observed was the consequence of tight liquidity measures especially in the last quarter of 1989.

Conventionally, the minimum rediscount rate as well as the treasury bill rate

were expected to provide a base for the directions of savings and lending rates, but rather, it was the savings and lending rates that dictated the direction (Umoh, 1995).

The reason for the behaviour of interest rate during this period of deregulation was stated in the CBN Brief, 1994 Series which included among others:

> the high rate of domestic inflation arising from huge fiscal deficit,; the undue discretion which the deregulation of interest rate conferred as well as the arbitraging activities of market speculation; technical insolvency and serious cash flow problem on the part of the weak banks resulting in distress borrowing and the use of stabilization security; and the system of allocation of foreign exchange both of which induced the sterilization of large funds at the Central Bank of Nigeria.

The distortions that were observed in the structure of interest rate, especially in 1993, prompted the Federal Government to reregulate interest rate in 1994. Deposit rates were fixed at between 12 percent and 15 percent per annum, while lending rate was fixed at 21 percent.

In the Central Bank of Nigeria Monetary Guidelines of 1995, a policy of guided deregulation was adopted as opposed to the administratively controlled measures of 1994. Banks and other financial institutions were required to maintain a spread of 7.5 percentage points between the deposit and lending rate subject to a maximum lending

rate of 21.0 percent. However, in October 1, 1996, the cap on interest rate was removed and the treasury bill and minimum rediscount rates were to reflect prevailing market conditions.

## 3.3 Development of the Financial Institution 1975 to 1996

The Nigerian econpmy has undergone considerable changes in terms of structure and activities in order to enhance and accelerate the pace of economic growth. The growth rate of the economy was also associated with the growth of the financial institutions.

The primary function of the financial system has been highlighted by Levine (1996, P.6) who gave five basic functions:

(i) Facilitate the trading, hedging, diversifying and pooling of risk;

(ii) Allocate resources;

(iii) Monitor managers and exert corporate control;

(iv) Mobilize savings; and

(v) Facilitate the exchange of goods and services.

To a very large extent the Nigerian financial system has performed these functions over time.

Before the introduction of the structural adjustment programme and the subsequent liberalization of the banking sector, the number of commercial bank offices increased to 29 with 481 rural and 829 urban branches, while the number of merchant banks increased from 5 in 1975 to 12 in 1986 with 27 branches (see table 3.2).

Table 3.2: Growth of Nigerian Financial Institutions

| Bank | 1975 | 1980 | 1986 | 1987 | 1990 | 1992 | 1994 | 1996 |
|---|---|---|---|---|---|---|---|---|
| Commercial Bank | 17 | 20 | 29 | 34 | 42 | 65 | 65 | 64 |
| Rural Bank branch | - | 168 | 481 | 529 | 765 | 774 | 763 | 675 |
| Urban Bank branch | - | 565 | 829 | 947 | 1,169 | 1,495 | 1,634 | 1,727 |
| Merchant Bank | 5 | 6 | 12 | 16 | 49 | 54 | 51 | 51 |
| Branches | - | 12 | 27 | 33 | 74 | 116 | 144 | 147 |
| Community Bank | - | - | - | - | 1 | 401 | 910 | 1,366 |
| Foreign Exchange | - | - | - | - | 83 | 132 | na | na |
| Finance Companies | - | - | - | na | na | 666 | na | na |
| Peoples' Bank | - | - | - | na | na | 228 | 275 | 278 |
| Deposit Insurance Corp. | - | - | - | - | 1 | 1 | na | na |
| Unit Trust | - | - | - | - | 1 | 10 | na | na |
| Stock Brokers | - | - | 23 | 23 | 80 | 14 | na | na |
| Mortgage Bank | - | - | - | - | 1 | 145 | na | na |
| Discount Houses | - | - | - | - | - | 3 | 3 | 5 |

Source: CBN Annual Report and Statement of Accounts Various Issues
Nigerian Structural Adjustment Programme World Bank Report 1994.
Note: na = Not Available.

Another significant change that took place in the financial sector was the ownership structure of commercial banks which was in private hands in 1975. The Federal Government decided to acquire 40 percent of the equity of banks which was later increased to 60 percent in 1976.

The uneven geographical spread of financial institutions, banks and branches was very evident before the structural adjustment reform policy. Post office bank was the only bank that was established freely in the rural areas. The Federal Government therefore evolved a policy through which commercial banks were required to establish rural bank branches before setting up an urban bank branch. Ikhide (1996) gave the reason that compelled the Federal Government to evolve the policy aimed at establishing rural bank branches. This includes the mobilization of savings in the rural areas; allocation of credit to productive activities; linkage of the money market and also to serve as a back up institution for some government programmes such as green revolution and operation feed the nation programmes. The number of commercial banks gradually increased between 1987 and 1996. Commercial bank branches increased from 34 in 1987 with 947 urban and 529 rural branches to 68 offices with 675 rural and 1727 urban branches in 1996.

Phenomenal increases were also recorded for merchant banks which increased from 16 with 33 branches in 1987 to 51 with 147 branches in 1996.

The period 1987 to 1996 witnessed the emergence of new breed of banks and different banking products. Nwadike (1990), reported by Soyibo et al (1992), observed the existence of 151 banking products.

The number of stock brokage firms increased from 23 in 1987 to 140 in 1992. To further complement bank facilities in the rural areas for saving mobilization in the rural and urban centres, the Federal Government through its reform policy package established the peoples Bank and community Banks in 1989 and 1990 respectively. The number of Peoples banks increased from 228 to 278 in 1992 and 1996 respectively. Community banks also recorded a spectacular growth rate from 1 in 1990 to 1,366 in 1996. This policy was intended to bring banking services to the rural and urban communities who had no access and collaterals to meet the requirements of commercial banks.

### 3.3.1 Other Measures Introduced in the Financial Sector During the Period of Deregulation

Within the period of deregulation a significant change that took place in the financial sector was the promulgation of the Central Bank of Nigeria's Decree number 24 and Banks and Other Financial Institutions Decree (BOFID) number 25 of 1991. This decree gave the Central Bank of Nigeria more flexibility in regulating and supervising the banking sector and licensed finance houses which had hitherto operated outside any legal framework (CBN Brief, 1994 Series). To further augment the

monetary policy objectives was the shift from direct to indirect monetary control measures through the open market operation (OMO).

To provide deposit insurance and confidence in the financial sector the Nigerian Deposit Insurance Corporation (NDIC) was established by decree 22 of 1988. The NDIC was mandated to examine the books and affairs of insured banks and other deposit taking financial institutions and apply adequate sanctions and corrective measures when lapses are observed as well as undertake the liquidation of failed banks (CBN/NDIC Collaborative Study, 1995).

Another significant change that was put in place to strengthen the functional system and to protect it from the adverse effect of liberal policy on the licensing of new banks, the minimum paid up capital of merchant and commercial banks stood at ₦40.0 Million and ₦50.0 Million respectively.

In order to encourage the inflow of foreign exchange the system of foreign currency Domiciliary Accounts and the Inter-bank foreign exchange market (IFEM) was introduced.

To adequately carry out the challenges posed by the increase in the number of banks and to ensure an efficient payment system between banks the inter-bank settlement system was introduced.

To strengthen the supervisory role of the Central Bank of Nigeria (CBN) and enhance sound financial system was the promulgation of three banking laws which are the CBN Decree Number 24 of 1991 which enlarges the powers of the Central Bank of Nigeria with the responsibilities of maintaining monetary stability and sound financial system and to facilitate the use of market based instruments of monetary control. The second law introduced was the Banks and other Financial Institutions Decree (BOFID) Number 25 of 1991 which replaced the Central Bank of Nigeria Act of 1958 (as amended). This decree contained the following elements as stated by Odozi (1995) which are (i) the centralization of the functions of bank licensing, regulations and supervision in the Central Bank of Nigeria, (ii) provision for changes to be made to some aspects of the law without recourse to a new legislation, (iii) strengthening of the supervisory powers of the Central Bank of Nigeria regarding keeping of proper books of accounts by financial institutions, the control of distressed banks and winding-up of failed institutions; (iv) enlargement of the duties and responsibilities of directors and external auditors of banks; and (v) bringing under the regulatory/supervisory purview of the Central Bank of Nigeria all non-bank financial institutions whose activities influenced the economy in a significant way.

In order to recover debt and to deal with defaulting banks, the Federal Government promulgated the failed banks (Recovery of Debts) and Financial Malpractices Decree 18 in November, 1994. In order to minimize the opprtunity not covered by the Decree, it was extended to include other financial institutions. The main

objective of the decree is to facilitate recovery of non-performing debt and to penalize culprits who had engaged in malpractices.

Another measure was the withdrawal of government deposits in merchant and commercial banks to the Central Bank of Nigeria. This measure was to prevent such accounts from discouraging healthy competition in savings mobilization and to check excess liquidity in the banking system (Odozi, 1995).

## 3.4 Trend in Institutional Savings

Analysis of the various trends of institutional savings will be carried out with a view to identifying various financial measures put in place.

The increase in the number of banks which was associated with the increase in economic activities also witnessed the increase in savings though in nominal terms.

Table 3.3 shows institutional savings in nominal terms which revealed that institutional savings have been on the increase over time. As at December, 1975, institutional savings stood at ₦1,815.2 Million from where it increased to ₦5,769.9 Million in 1980. There was a continuous increase from its 1980 level to ₦13,934.1 Million in 1986. The increase in total institutional savings within this period could be attributed to the increase in revenue from oil and expansionary monetary policy

embarked upon by the Federal Government.

The period of deregulation shows the emergence of the increase in institutional savings. It increased from ₦18,676.3 Million in 1987 to ₦29,651.2 Million in 1990. There was a gradual and sustained increase which was maintained up till 1996 when it stood at ₦158,147.4 Million.

Table 3.3: Institutional Savings 1975 - 1996

| Year | Total Institutional Savings (₦Million) | Annual Growth Rate (%) | Consumer Price Index (1985 = 100) | Real Institutional Savings (₦Million) | Annual Growth Rate (%) |
|---|---|---|---|---|---|
| 1975 | 1,815.2 | 59.6 | 20.7 | 8,769.1 | 0.19 |
| 1976 | 2,255.3 | 24.2 | 25.6 | 8,809.9 | 0.5 |
| 1977 | 2,592.8 | 15.0 | 29.6 | 8,759.5 | -0.6 |
| 1978 | 3,009.7 | 16.1 | 34.5 | 8,723.9 | -0.4 |
| 1979 | 4,161.8 | 41.7 | 38.5 | 10,810.3 | 19.3 |
| 1980 | 5,769.9 | 37.9 | 42.3 | 13,640.4 | 20.8 |
| 1981 | 6,562.6 | 17.8 | 51.2 | 12,817.6 | -6.4 |
| 1982 | 7,514.4 | 10.0 | 55.1 | 13,637.8 | 6.0 |
| 1983 | 9,443.9 | 26.3 | 67.9 | 13,908.6 | 2.0 |
| 1984 | 10,988.1 | 17.8 | 94.8 | 11,590.8 | -20.0 |
| 1985 | 12,521.8 | 14.3 | 100.0 | 12,521.7 | 7.4 |
| 1986 | 13,934.1 | 7.5 | 105.4 | 13,220.3 | 5.3 |
| 1987 | 18,676.3 | 34.0 | 116.1 | 16,086.6 | 17.8 |
| 1988 | 23,249.0 | 24.5 | 181.2 | 12,830.7 | -25.4 |
| 1989 | 23,801.3 | 2.4 | 272.7 | 8,728.2 | -47.0 |
| 1990 | 29,651.2 | 24.6 | 293.2 | 10,113.0 | 12.5 |
| 1991 | 37,692.6 | 27.1 | 330.9 | 11,391.0 | 11.2 |
| 1992 | 53,641.8 | 45.0 | 478.4 | 11,421.8 | 0.3 |
| 1993 | 83,027.9 | 52.5 | 751.9 | 11,085.1 | -3.0 |
| 1994 | 90,410.9 | 9.1 | 1,180.7 | 7,657.5 | -44.8 |
| 1995 | 120,538.5 | 23.7 | 2,040.4 | 5,943.4 | -28.8 |
| 1996 | 158,147.4 | 23.4 | 2,638.1 | 5,994.7 | 0.9 |

Source: CBN Annual Report and Statement of Accounts, Various Issues.

The mobilization of saving in the rural areas was also important. Table 3.4 shows that rural savings increased from ₦1,229.2 million in 1987 to ₦19,542.3 million in 1993.

A close look at table 3.3 shows that there was a remarkable difference between the nominal and real institutional savings using 1985 as the base year (1985 = 100) for the period 1975 to 1996. The table showed that there was a slight decline in total institutional savings of ₦8,759.5 Million to ₦8,723.9 Million for the period 1977 and 1978 respectively. It significantly increased from ₦10,810.3 million to ₦13,220.3 million between 1979 and 1986. During the period of financial reform institutional savings declined continuously from ₦16,086.6 million to ₦5,994.7 million between 1987 and 1996 respectively.

In terms of real growth rate, there was a significant improvement of 19.3 percent, 20.8 percent, 17.8 percent and 12.5 percent for the years 1979, 1980, 1987 and 1990 respectively. The annual growth rate recorded during the years 1979, 1980 and 1990 could be attributed to the moderate rate of inflation of 11.8 percent, 9.9 percent and 7.5 percent respectively (see Appendix E), while the growth rate recorded in 1987 could be attributed to the speculative tendency that resulted from the deregulation of interest rate.

The negative real growth rate recorded from 1988 to 1995 with the exception

of 1990, 1991 and 1992 may have been caused by the high inflationary rate which ranged from 38.3 percent to 72.8 percent. Moreso, the negative real growth rate recorded in 1989 of 47.0 percent may have been initiated by the withdrawal of government deposits from the commercial and merchant banks, while the negative growth rate recorded for the years 1993, 1994 and 1995 could be attributed to distress in the banking sector.

Appendix B shows the contribution of financial sector to the total institutional savings. It was revealed that the contribution of commercial banks to total institutional savings ranged from 82.4 percent to 87. 8 percent for the period 1975 to 1986 respectively. Within the period of deregulation the contribution of commercial banks declined from 80.8 percent to 73.1 percent for the period 1987 and 1993.

Merchant banks' share to total institutional savings, though less than 4.0 percent in 1975, increased significantly from 10.0 percent in 1981 to 12.5 percent in 1986. Within the period of the Structural Adjustment Reform the contribution of merchant banks to total institutional savings stood at 15.1 percent in 1987. From 1988 to 1996 the contribution fluctuated between 12.5 percent to 23.2 percent.

The contribution of Federal Savings Bank and Mortgage Bank to total institutional savings was less than 3.0 percent throughout the period under review. While the contributions of the National Provident Fund (NPF) to total institutional

savings ranged between 4.1 percent to 9.0 percent for the period 1975 to 1986. However, its contribution to total institutional savings declined continuously from 3.3 percent in 1987 to 1.0 percent in 1995.

On the whole it was generally observed that from 1975 to 1996 commercial banks dominated in the mobilization of institutional savings in Nigeria.

Table 3.4: Deposit Mobilization of Rural Branches of Commercial Banks, 1987 - 1993 (₦million)

| Year | Amount (₦Million) |
|---|---|
| 1987 | 1,229.2 |
| 1988 | 1,378.4 |
| 1989 | 5,722.0 |
| 1990 | 8,360.1 |
| 1991 | 10,580.7 |
| 1992 | 4,612.2 |
| 1993 | 19,542.3 |

Source: CBN Statistical Bulletin 1994.

## 3.5 Interest Rate and Savings Mobilization

One of the essential prerequisites for promoting savings mobilization for development lies in the formulation of interest rate policies hitherto pursued by the

monetary authority. One of these policies was the removal of regulation on interest rate.

In this thesis savings and time deposits with commercial banks was used as proxy for total institutional savings. This was because savings and time deposits with commercial banks, constitute the bulk of total institutional savings. (See Appendix B).

In the period of regulation savings and time deposit rose from ₦1,572.4 million to ₦5,163.2 million and ₦11,487.7 million in 1975, 1980 and 1986 respectively, while the average deposit rate of interest was 3.6 percent, 6.1 percent and 9.6 percent for the same period. This shows that as interest rate was adjusted upward, savings responded to the adjustment in interest rate. From 1987, when average deposit rate of interest was adjusted upward from its 1986 level of 9.6 percent to 14.9 percent savings rose to ₦15,088.7 million (see table 3.5).

However, with the upward adjustment of interest rate to 20.4 percent and 24.5 percent savings rose from ₦43,438.8 million to ₦60,895.9 million for the period 1992 and 1993 respectively, while for the period 1994 to 1996 when interest rate was relatively stable savings shows an upward trend from ₦76,127.8 million to ₦125,997.9 million respectively.

In general, it was observed that both the average rate of interest as well as savings moved in the same direction. It was observed that the average rate of interest and savings

Table 3.5: Interest Rate and Commercial Bank Savings and Time Deposits

| Year | Average Rate of Interest (%) | Savings and Time Deposits(₦) |
|---|---|---|
| 1975 | 3.6 | 1,572.4 |
| 1976 | 3.4 | 1,979.2 |
| 1977 | 3.3 | 2,255.1 |
| 1978 | 4.6 | 2,601.7 |
| 1979 | 5.2 | 3,702.1 |
| 1980 | 6.1 | 5,163.2 |
| 1981 | 6.1 | 5,796.1 |
| 1982 | 7.6 | 6,338.2 |
| 1983 | 7.6 | 8,082.9 |
| 1984 | 9.7 | 9,391.3 |
| 1985 | 9.6 | 10,550.9 |
| 1986 | 9.6 | 11,487.7 |
| 1987 | 14.9 | 15,088.7 |
| 1988 | 13.5 | 18,397.2 |
| 1989 | 19.9 | 17,813.3 |
| 1990 | 20.8 | 23,137.1 |
| 1991 | 17.5 | 30,359.7 |
| 1992 | 20.4 | 43,438.8 |
| 1993 | 24.5 | 60,895.9 |
| 1994 | 13.6 | 76,127.8 |
| 1995 | 13.6 | 96,535.4 |
| 1996 | 12.3 | 125,997.9 |

Source: CBN Annual Report and Statement of Accounts, Various Years.

and time deposits are higher during the period of deregulation than the period of regulation (see table 3.5).

## 3.6 Bank Distress During the Period of Deregulation

Whenever banks are distressed it led to the refusal of depositors to place deposits with such banks. This invariably shows that the higher the number of distressed banks the higher the rate of people who will not place deposits with such banks. Savings will however, not be encouraged as people will either purchase goods with their surplus funds or in the alternative bury it under their pillows where they could easily get access to them. Trust and confidence are crucial for the smooth operations of banks.

Table 3.6 shows the number of banks that were distressed from 1989 to 1996. The number of merchant banks that were distressed increased from 16 in 1994 to 20 in 1996, representing a proportion of 31.4 percent to 39.2 percent of distressed banks. While the number of commercial banks that were distressed increased from 8 in 1989 to 30 in 1996, representing a proportion of 17 percent and 46.9 percent that were distressed.

Table 3.6: Health of Licensed Banks

Merchant Banks

| Year | Total Number | Number Distressed | Proportion Distressed (%) | Proportion Healthy (%) |
|---|---|---|---|---|
| 1989 | 34 | 0 | 0 | 100 |
| 1994 | 51 | 16 | 31.4 | 68.6 |
| 1995 | 51 | 20 | 39.2 | 60.8 |
| 1996 | 51 | 20 | 39.2 | 60.8 |

Commercial Banks

| Year | Total Number | Number Distressed | Proportion Distressed (%) | Proportion Healthy (%) |
|---|---|---|---|---|
| 1989 | 47 | 8 | 17 | 83 |
| 1994 | 65 | 25 | 38.5 | 61.5 |
| 1995 | 64 | 31 | 48.0 | 52.0 |
| 1996 | 64 | 30 | 46.9 | 53.1 |

Source: NDIC Annual Report 1996
NDIC Report, June 1996

### 3.6.0 Causes and Consequences of Bank Distress

### 3.6.1 Causes of Bank Distress

A number of factors may have been responsible for the distress that was experienced in the banking sector during the period of deregulation. Some of the factors that cause such distress are reviewed in this section.

### 3.6.1.1 Frauds and Forgeries

The quest to get rich quickly, coupled with the economic hardship faced by many bank staff forced them to collude with other bank staff (insider) and non-bank staff (outsider) to defraud banks which exposed their professional incompetence and greed.

Nigerian Deposit Insurance Corporation (1996 P.32) report revealed that the most common types of frauds and forgeries were presentation of forged cheques, granting of unauthorized loans; unauthorized overdrafts; posting of fictitious credit; suppression of cheques; abuse of medical scheme; and fraudulent transfers and withdrawals.

Table 3.7: Amount Involved in Frauds and Forgeries in Banks

| Year | Amount involved (₦Million) | Number of Fraud Cases |
|---|---|---|
| 1991 | 360.19 | 159 |
| 1992 | 351.93 | 154 |
| 1993 | 1,377.15 | 108 |
| 1994 | 2,655.71 | 152 |
| 1995 | 1,006.28 | 127 |
| 1996 | 1,542.91 | 587 |

Source: NDIC Annual Report

The amount involved in fraud and forgeries increased significantly during the period of the Structural Adjustment Programme. The amount involved increased from

₦360. 19 million in 1991 to ₦2,655.71 million in 1994. However, there was a substantial decline in 1995 at ₦1,006.28 million from where it rose to ₦1,542.9 million in 1996. The number of reported cases of fraud and forgeries stood at 159 in 1991 and later declined to 108 in 1993 from where it escalated to 587 in 1996 (see table 3.6).

#### 3.6.1.2 Dearth of Experienced or Qualified Personnel

The proliferation of banks since 1986 and the search for qualified personnel led to the employment of inexperienced and unqualified staff who had no practical knowledge in banking. This calibre of staff took far-reaching decisions on vital issues which may not be appropriate for the general wellbeing of banks. This has eventually led to the early stress on banks.

#### 3.6.1.3 Ownership Structure of Banks

The indigenization decree which gave Nigerians greater opportunities to manage the banking sector which was formally in the hands of expartriates led to the appointment of incompetent and unqualified groups of people to management positions. Such appointments were not in the best interest of the banking sector because deficient decisions were taken.

### 3.6.1.4 Political Instability

Political stability has significant impact in the economy in which various economic agents are influenced through different types of policies. Confidence on the financial sector, abscence of disruption and relative certainty are very crucial in mobilizing savings. The political instability that was experienced since 1993, coupled with the general economic crisis led to panic withdrawal of funds from the banking sector. These instability aggravated the already weak capital base of banks thereby contributing to the strain in the sector.

### 3.6.1.5 Capital Requirements of Banks

The capital requirements of banks are the basis which banks fall on whenever financial disequilibrium are observed.

Table 3.8 shows the adjusted shareholders' funds and the capital requirements of banks for the years 1995 and 1996. The adjusted shareholders' funds declined from a negative level of ₦ 8,791.1 million in 1995 to a negative level of ₦ 791.2 million in 1996. The shortfall of capital requirements of merchant banks declined from ₦ 11,672.7 million in 1995 to ₦5,803.1 million in 1996. While the shortfall of capital requirements of commercial banks declined from ₦27,162.3 million to ₦18,859.6 million in 1996. On the whole, table 3.7 indicates that both merchant banks and

commercial banks required on the aggregate, the sum of ₦24,662.7 million of additional fund in 1996 in order to meet the minimum capital fund required by bank regulators as well as the level required for their operations. The capital requirements of insured banks are under capitalized for their level of operations. The under capitalization was mainly due to the huge amount of non-performing loans and the high incidence of fraud and forgeries.

Table 3.7: Insured Banks' Capital Shortfall

| Banks | Number of Banks | | Adjusted Shareholders' Funds (₦M) | | Capital Requirements (₦M) | |
|---|---|---|---|---|---|---|
| | 1995 | 1996 | 1995 | 1996 | 1995 | 1996 |
| Merchant | 51 | 51 | (4,869.1) | (1,961.8) | 11,672.7 | 5,803.1 |
| Commercial | 64 | 64 | (3,922.0) | 1,171.0 | 27,162.3 | 18,859.6 |
| Industry | 115 | 115 | (8,791.1) | (791.2) | 38,835.0 | 24,662.7 |

Source: NDIC Annual Report 1996.

### 3.6.1.6 Regulatory Constraints

The phenomenal increase in the number of banks and non-bank financial institutions was one of the features of financial deregulation. The massive increase in the number of banks led to a lot of competition such as interest rate speculation and foreign exchange deals. At the same time weak banks that could not withstand such

competition were not allowed to leave the system even though they were no longer viable.

The second regulatory problem was the massive withdrawal of public funds from the commercial banks and merchant banks to the Central Bank of Nigeria in 1989. This massive withdrawal was too sudden as banks were not prepared for it. This greatly affected the viability of banks most especially the new generation banks that could not get alternative deposits.

Another regulatory problem of the banks was the compulsory financing of government fiscal deficit by the Central Bank of Nigeria.

The persistence of government deficit financing was also marched with government restrictive monetary policy based on imposition of credit ceilings that will minimize the impact of other policies, but the existence of large excess liquidity triggered off inflationary rate and posed a problem for open market operation. The Central Bank's use of stabilization security in order to mop excess liquidity ran into serious problems as such attempts destabilized the monetary market and put pressure on interest rate (Jimoh, 1994).

Table 3.9 shows the fiscal deficit of the Federal government sponsored by the Central Bank within the period of deregulation.

Table 3.9: Fiscal Deficit and Central Bank of Nigeria Finances to the Federal Government, 1989 - 1992 (₦million)

| Year | Fiscal Deficit (₦MILLION) | CBN Financing (₦MILLION) | Proportion of Fiscal Deficit Financed by CBN (%) |
|---|---|---|---|
| 1987 | 5,889.7 | 1,475.6 | 24.4 |
| 1988 | 12,224.5 | 9,156.7 | 74.9 |
| 1989 | 15,134.3 | 10,708.6 | 70.9 |
| 1990 | 22,116.1 | 18,172.8 | 82.4 |
| 1991 | 35,700.0 | 32,848.5 | 91.9 |
| 1992 | 44,200.0 | 44,994.3 | 101.9 |

Source: CBN Annual Report and Statement of Accounts. Various Issues.

The proportion however increased from 24.4 percent to 82.4 and 101.9 percent for the period 1987, 1990 and 1992 respectively.

### 3.6.1.7 Unhealthy Competition among Banks

The phenomenal increase in the number of banks and non-bank financial institutions in the financial scene is one of the features of financial deregulation. The number of banks increased from 34 in 1987 to 65 in 1994, while the number of urban bank branches increased from 947 in 1987 to 1,727 in 1996 (see table 3.4). The deregulation therefore, resulted in the proliferation of banks which brought about a lot competition most especially on interest rate and foreign exchange. This led to impudent

and unprofessional practices, as banks tried to outdo one another most especially the new generation banks. These unscrupuous practices therefore compounded the problem of instability in the banking system.

### 3.6.2 Consequences of Bank Distress

The banking system was not spared the distress that occurred in the entire economy.

Public confidence in the banking system was seriously weakened as depositors lost a lot of money in insolvent banks that had to be liquidated. So many of the distressed banks found it difficult to meet the obligation of depositors in the withdrawal of funds and moreso they found it difficult to retain their customers not to mention attracting new depositors. This however, has a concomitant effect on banks as their deposit base was weakened.

The subcommittee of the Financial Services Regulation Coordination Committee (FSRCC) on financial sector observed that other consequences of distress to include, disintermediation and demonetization resulting in massive portfolio shift to safer assets such as foreign exchange and foreign currency-denominated assets, short term government securities and non-monetary assets or inflation hedges; crowding out of real sector in the provision of credit in an attempt to reduce risk exposure; resolving the

problem of distress in the system increase the cost of supervision and regulation and financial increase in unemployment and its attendant social implication (see CBN/NDIC Collaborative Studies, 1995 P.18).

## 3.7 Banking System and Loanable Funds

To assess the relationship between finance and economic growth table 3.10 summarized the financial intermediary during the period of regulation and deregulation. The table shows the ratio of monetary liabilities to gross domestic product (M, plus interest bearing liabilities of banking system plus demand and interest bearing liabilities).

The money supply (M2) and gross domestic product ratio (GDP) within the period 1975 to 1996 financial intermediary ranged between 0.17 to 0.34 and averaged 0.27. However, during the period of deregulation this ratio fluctuated between 0.15 and 0.29 for the period 1987 to 1996 and averaged 0.24. This ratio shows a decline to the loanable capacity of the banking system. This ratio however, shows a poor link between broad money supply (M2) and the level of investment in the economy.

To measure savings habit in the Nigerian economy the ratio of institutional savings to money supply was used (Soyibo and Adekanye, 1992). This ratio varied from 36.7 percent to 56.0 percent and averaged 46 percent for the period 1975 to 1986. During the period of deregulation the proportion ranged between 33.8 percent and 62.7

Table 3.10: Financial Intermediary Indicators (₦Million)

| Year | Total Institutional Savings | Money Supply (M2) | Gross Domestic Product | Ratio of Savings to GDP | M2/GDP | Ratio of Savings to M2 (%) |
|---|---|---|---|---|---|---|
| 1975 | 1,815.2 | 3,622.4 | 21,558.8 | 8.4 | 0.17 | 50.1 |
| 1976 | 2,255.3 | 5,278.9 | 27,297.5 | 8.3 | 0.19 | 42.7 |
| 1977 | 2,592.8 | 7,057.5 | 32,747.3 | 7.9 | 0.22 | 36.7 |
| 1978 | 3,009.7 | 7,699.5 | 36,083.6 | 8.3 | 0.21 | 39.1 |
| 1979 | 4,161.8 | 9,857.4 | 43,150.8 | 9.7 | 0.23 | 42.2 |
| 1980 | 5,769.9 | 14,397.4 | 50,848.6 | 11.4 | 0.28 | 40.1 |
| 1981 | 6,562.6 | 15,548.1 | 50,749.1 | 13.0 | 0.31 | 42.2 |
| 1982 | 7,514.4 | 16,894.0 | 51,709.2 | 14.5 | 0.33 | 44.5 |
| 1983 | 9,443.9 | 19,368.9 | 57,142.1 | 16.5 | 0.34 | 48.8 |
| 1984 | 10,988.1 | 21,600.5 | 63,608.1 | 17.3 | 0.34 | 50.9 |
| 1985 | 12,521.8 | 23,818.6 | 72,355.4 | 17.3 | 0.33 | 52.6 |
| 1986 | 13,934.1 | 24,592.7 | 73,061.9 | 19.1 | 0.34 | 56.7 |
| 1987 | 18,676.3 | 29,994.6 | 108,885.1 | 17.2 | 0.28 | 62.7 |
| 1988 | 23,249.0 | 42,280.3 | 145,243.3 | 16.0 | 0.29 | 55.0 |
| 1989 | 23,801.3 | 46,222.9 | 224,796.9 | 10.6 | 0.21 | 51.5 |
| 1990 | 29,651.2 | 64,902.9 | 260,636.7 | 11.4 | 0.25 | 45.7 |
| 1991 | 37,692.6 | 86,152.5 | 324,010.0 | 11.6 | 0.27 | 43.8 |
| 1992 | 53,641.8 | 128,283.7 | 549,808.8 | 9.8 | 0.23 | 41.8 |
| 1993 | 83,027.9 | 192,458.6 | 697,095.2 | 11.9 | 0.28 | 43.1 |
| 1994 | 90,410.9 | 267,759.8 | 914,900.0 | 9.9 | 0.29 | 33.8 |
| 1995 | 120,538.5 | 295,211.8 | 1,977,700 | 6.1 | 0.15 | 40.8 |
| 1996 | 158,147.4 | 371,105.2 | 2,356,600 | 6.7 | 0.16 | 42.6 |

Source: CBN Statistical Bulletin 1994 and Annual Report and Statement of Accounts 1996.

percent and averaged 46.1 percent for the period 1987 to 1996. In general, the proportion of institutional deposit to money supply varied between 33.8 percent and 62.7 percent and averaged 45.8 percent for the period 1975 to 1996. This ratio shows that on the average about 46 percent of money supply was saved which shows a rather poor banking habit of Nigerians.

### 3.8 The Impact of Non-interest Rate Structural Adjustment Policies on Savings

The decline in domestic resources mobilization was aggravated by the emergence of the global oil glut and the subsequent collapse of the oil market that was observed in the country. In order to stem excessive importation which was experienced during the oil boom era and to encourage the rapid inflow of foreign exchange, the over valued naira was depreciated gradually. This policy however, led to the era of exchange rate deregulation through the introduction of the second tier foreign exchange market in 1986 and the foreign exchange market in 1987. There was also the introduction of the inter bank foreign exchange market, the bureau de change introduced in 1989 and the reintroduction of the Dutch auction system (DAS). These various arrangements failed to achieve the stated objectives of improving the allocative efficiency of the foreign exchange market and a realistic exchange rate for the naira. This constituted a drain on the nation's resources. To further worsen the situation, the Nigerian external debt stock and debt servicing increased. The external debt stock increased from

US$25,574 Million in 1986 to US$33,364.0 Million in 1991. It however declined to US$28,060.0 Million in 1996 (see table 3.11). The external debt stock constituted a major obstacle to Nigeria's economic growth. When the nation's external debt stock was served a large proportion of current resources was deployed to service past consumption with little resources left for savings.

Table 3.11: Selected Macroeconomic Indicators, 1986 - 1996

| Year | External Debt Stock US$ Million | External Reserve US$Million | External Debt Service Ratio (%) | Capacity Utilization (%) |
|---|---|---|---|---|
| 1986 | 25,574.0 | 1,081.6 | 28.0 | 38.9 |
| 1987 | 28,296.0 | 1,107.8 | 11.9 | 40.4 |
| 1988 | 30,693.0 | 611.4 | 25.7 | 41.5 |
| 1989 | 31,586.0 | 1,759.1 | 23.1 | 42.5 |
| 1990 | 33,099.0 | 3,885.5 | 26.8 | 39.0 |
| 1991 | 33,364.0 | 4,486.7 | 29.1 | 39.4 |
| 1992 | 27,544.0 | 712.6 | 20.1 | 41.8 |
| 1993 | 28,749.0 | 1,330.1 | 17.9 | 37.2 |
| 1994 | 29,428.9 | 1,659.0 | 17.3 | 30.4 |
| 1995 | 32,584.8 | 1,441.0 | 15.2 | 29.3 |
| 1996 | 28,060.0 | 4,074.7 | 13.3 | 32.5 |

Source: CBN Annual Report and Statement of Accounts, Various Issues.

The decline in foreign exchange receipt and the high proportion devoted to debt servicing whose proportion increased from 11.9 percent in 1987 to 29.1 percent in 1991 before it declined to 13.3 percent in 1996 has over time reduced domestic economic

activities. This tended to have significant impact on domestic capacity utilization, production and a concomitant increase in unemployment level. The domestic capacity utilization declined from 40.4 percent in 1987 to 39 percent in 1990 before finally terminating in 32.5 percent in 1996.

The main argument given for the commercialization and privatization of public enterprises in Nigeria, was that the public enterprises were overstaffed thereby putting strain on government finances in terms of the payment of workers emoluments. It therefore follows that in order to ensure the economic viability of the privatized and commercialized enterprises the redundant staff were laid off, thereby compounding the unemployment situation. Table 3.12 shows the unemployment situation during the period of deregulation. The number of the unemployed both at the lower and at the professional and executive levels ranged from 99,934 to 160,184 throughout the entire period 1987 to 1996. The deteriorating level of unemployment has a concomittant impact of depressing the ability to save among income recipients since the dependency ratio was high Mathias, 1997).

Table 3.12: Registered Unemployment in Nigeria, 1987 - 1996

| Year | Lower Grade Workers | Professional and Executive | Total |
|---|---|---|---|
| 1987 | 145,084 | 15,100 | 160,184 |
| 1988 | 116,162 | 16,293 | 132,455 |
| 1989 | 96,055 | 14,281 | 110,336 |
| 1990 | 89,752 | 10,182 | 99,934 |
| 1991 | 110,513 | 12,624 | 123,137 |
| 1992 | 90,507 | 34,185 | 124,692 |
| 1993 | 90,523 | 34,078 | 124,601 |
| 1994 | 86,389 | 34,012 | 120,401 |
| 1995 | 84,402 | 33,927 | 118,329 |
| 1996 | 83,411 | 30,467 | 113,878 |

Source: CBN Bulletin Vol.5 No.1, June, 1994.
CBN Annual Report and Statement of Accounts for the Year Ended 1996.

## 3.9 Factors Affecting Savings Mobilization in Nigeria

Numerous obstacles seem to have inhibited the effort of savings mobilization in Nigeria.

One of the major determinants of savings in Nigeria is per capita income (Mathias, 1997). Although low saving capacity has been attributed to low income levels, an increase in per capita income ceteris paribus will increase savings. Table 3.13

Table 3.13: Real per Capita GDP 1975 to 1996

| Year | Population (Million) | Real GDP (₦Million) | Real Per Capita GDP (₦Million) |
|---|---|---|---|
| 1975 | 61.0 | 104,148.8 | 1,707.4 |
| 1976 | 63.0 | 106,630.9 | 1,692.6 |
| 1977 | 65.0 | 110,632.8 | 1,702.0 |
| 1978 | 67.0 | 104,590.2 | 1,561.1 |
| 1979 | 69.0 | 112,079.2 | 1,624.3 |
| 1980 | 71.0 | 120,209.5 | 1,693.1 |
| 1981 | 73.0 | 99,119.3 | 1,357.8 |
| 1982 | 76.0 | 93,846.1 | 1,234.8 |
| 1983 | 78.0 | 84,156.3 | 1,078.9 |
| 1984 | 81.0 | 67,097.2 | 828.4 |
| 1985 | 83.0 | 72,355.4 | 871.8 |
| 1986 | 86.0 | 69,318.7 | 806.0 |
| 1987 | 88.0 | 93,785.6 | 1,065.8 |
| 1988 | 83.2 | 80,156.4 | 963.4 |
| 1989 | 84.9 | 82,433.8 | 971.0 |
| 1990 | 86.7 | 88,893.8 | 1,025.3 |
| 1991 | 88.5 | 97,917.8 | 1,106.4 |
| 1992 | 91.5 | 114,926.6 | 1,256.0 |
| 1993 | 94.1 | 92,711.2 | 985.2 |
| 1994 | 96.8 | 77,487.9 | 800.5 |
| 1995 | 99.5 | 96,927.1 | 974.1 |
| 1996 | 102.3 | 89,329.4 | 873.2 |

Source: Population figure from 1975 to 1987 was derived from the World Bank table 1994, while the population figures from 1988 to 1996 were derived from the CBN Annual Report and Statement of accounts, Various Issues.

shows that per capita income has declined over time and it has made significant impact on savings. Over the years there has been a continuous increase in population from 16 million in 1975 to 102.3 million in 1996. In real terms gross domestic product shows a downward trend, it declined from ₦120,209.5 million in 1980 to ₦89,329.4 million in 1996. With the continuous increase in population and the gradual decline in real gross domestic product, there was the tendency for per capita income to decline which affected savings mobilization effort. The real per capita income declined throughout the period 1975 to 1996 (see table 3.13).

Another significant factor which affected savings mobilization effort was the dependent population. Kenneth (1992) has demonstrated that the high rate of dependency ratio reduces the ability of households to save. This was because the population of the working class will divert a larger proportion of their earnings for the upkeep of the dependent population thereby serving as a disincentive to save.

A major obstacle for saving mobilization effort was the unwillingness and low opportunities to save especially in the rural areas. Many people within the rural areas may not be willing to save because they are not exposed to the advantages they would derive by depositing their surplus funds in the bank. Such advantages may be for speculative purposes or for safe keeping. They may therefore decide to bury their surplus funds in the ground or to hide it in the ceiling.

The uneven geographical spread of financial institutions and banks, coupled with inadequate infrastructure such as roads, telecommunication, electricity, etc. often times frustrates the efforts of savings mobilization in the rural areas.

Another important factor that affect savings mobilization is that growth in savings resulting from increase in real income is not channelled into productive uses that would enhance economic growth. The increase in income only result in massive increase in consumption (especially of imported goods) or in a growth of hoarded or unproductive savings (Denis et al 1984).

To further compound the problem of savings mobilization is the population per bank branch. Available data from the CBN and NDIC Collaborative Study (1995) revealed that the ratio of population per bank branch has improved significantly from 144,954 in 1975 to 24,145 in 1994. The Nigerian position was however a far cry from 6,000 and 4,000 per bank branch recorded for the United States and United Kingdom in 1975 respectively (Ogiogio, 1991). Moreso, many of these banks such as the community banks, peoples' bank, mortgage banks and finance houses are already out of the scene.

Another constraint to savings mobilization is bank failure. Trust and confidence are very crucial for the smooth operation of banks. If bank failure occurs and continues unabated it erodes depositors' confidence and makes it difficult for banks to retain their

customers. The Federal Government in an attempt to arrest bank failure and to restore confidence in the banking sector promulgated the Failed Bank and Financial Malpractices Decree in 1994, to deal with people that are involved in such fraudulent acts which eventually is responsible for such distress. The Failed Bank and Financial Malpractices Decree is a necessary but not a sufficient condition. If the large chunk of depositors' money trapped in such banks are not paid, bank confidence will never be restored.

The high rate of unemployment has been identified as another factor that inhibits the effort of savings mobilization. If bank failure occurs companies cannot obtain necessary credit facilities to expand production. This action obviously affect companies as factories would not be able to expand production, thereby operating below production capacity, unemployment will therefore result from retrenchment and the inability to engage new labour force from the labour market.

The deregulation of foreign exchange market; removal of subsidies on petroleum products and increases in tariffs of public utilities by a hundred percentage points,; privatization and commercialization of public enterprises are among other factors that led to the decline in savings since the period of deregulation. These policies led to increases in cost of production which exerts upward movement in the prices of commodities. At high level of prices of commodities a given level of expenditure can be financed with high proportion of income as inflation rates accelerate and so little or

nothing is left for savings.

# Chapter 4 MODEL SPECIFICATION AND ESTIMATION OF REGRESSION RESULTS

## 4.1 Introduction

McKinnon and Shaw (1973) hypothesis was built on the premise that governments intervention in the financial sector most, especially the banking sector in form of interest rate regulation, quantitative and qualitative controls inhibit the full operations of the market mechanism. They therefore advocate for a positive rate of return on financial assets and financial liberalization. This chapter tests the efficacy of interest rate deregulation in the process of savings mobilization in Nigeria.

## 4.2 Explanation of the Variable

The variables used in this thesis are real savings rate, real gross domestic product, real interest rate, lagged savings rate and a dummy variable.

The dependent variable used in this research was the real savings rate. However, savings and time deposit with commercial bank was used as proxy because commercial banks account for 80.0 per cent of total institutional savings in Nigeria. (See Appendix B).

The data used were commercial bank saving and time deposit rates. Real values

were obtained by deflating the data of commercial bank savings and time deposits with the appropriate price index.

The independent variable used were real domestic product, real interest rate, lagged savings rate and the dummy variable. These variables influenced the dependent variable (real savings) and they are equally inluenced by variables outside the model.

The value for real gross domestic product was obtained by deflating nominal gross domestic product against the appropriate consumer price index. The data on real interest rate was obtained by subtracting the rate of inflation from the nominal interest rate. To avoid the problem of multicollinearity in this test both savings and time deposit rates of interest were combined to a new average interest rate. The average annual real interest rate was used. While the dependent variable was lagged by one period.

The dummy variable used took care of non-interest rate structural adjustment reform policies that were introduced within the period 1987 to 1996, this variable took a value of 1 when interest rate was deregulated otherwise taking a value of zero.

To estimate the parameters of the model the ordinary least squares method was used. Two different functional relationships were used : linear and logaritmic functions.

## 4.3 Criteria Used in Assessing Regression Coefficients

The student t-statistic was used to determine the statistical reliability of the variable as implied in the regression. To test whether the change in the parameter are statistically significant, the student t-statistic was used at 5 percent level of significance. The t-calculated was compared to the t- tabulated to arrive at a conclusion as to whether the change in the parameters are statistically significant, if the t calculated is greater than the t tabulated it therefore means that the change in the economic relationship being studied are statistically significant or if the t- calculated is less than the t- tabulated it therefore follows that the change in the economic variable being studied is not statistically significant. The coefficient of determination ($R^2$ ) was used to measure the rate at which the dependent variable is explained by the independent variable if the coefficient of determination is greater than 50 percent, it therefore means that a significant proportion of the dependent variable has been explained by the independent variable. The Durbin Watson statistic of approximately 2.0 would be indicative of the absence of serial correlation.

## 4.4 Model Specification

The models below were used to test the hypotheses in section 1.5. They were used to assess the impact of real interest rate and the mobilization of savings in Nigeria for the period 1975 to 1996. This broad division covers the period of interest rate

regulation and deregulation in Nigeria. This division was undertaken in order to assess the efficacy of the McKinnon and Shaw (1973) financial repression hypothesis.

To this end the linear and the logarithmic functions was analysed to capture these periods.

The linear form of the model was

$$SR_i = F(GDP_i, R_i, SR_{i-1}) \quad \text{.....4.4.1}$$

The functional form of the linear model becomes

$$SR_i = q_0 + q_1 GDP_i + q_2 R_i + q_3 SR_{i-1} + U_t \quad \text{.....4.4.2}$$

The logarithmic form of the model becomes

$$\text{Log } SR_i = q_0 + q_1 \text{ LogGDP}_i + q_2 \text{Log } R_i + q_3 \text{ Log } SR_{i-1} + U_t \quad \text{.....4.4.3}$$

where,

SR = Real Savings Rate

GDP = Real Gross Domestic Product

R = Real Interest Rate

$Sr_{i-1}$ = Lagged Savings Rate

To capture the period of deregulation (1987 to 1996) the following model was

used.

$$SR_2 = F(GDP_2, R_2, SR_{2-1}) \quad \text{.....4.4.4}$$

The functional form of the linear model was

$$SR_2 = Q_0 + Q_1 GDP_2 + Q_2 R_2 + Q_3 SR_{2-1} + U_t \quad \text{.....4.4.5}$$

The logarithmic form of the model was

$$\text{Log}SR_2 = Q_0 + Q_1 \text{Log } GDP_2 + Q_2 \text{Log } R_2 + Q_3 \text{Log } SR_{2-1} + U_t \quad \text{.....4.4.6}$$

The model used for estimating financial savings for both periods (1975 to 1996) was:

$$SR_3 = F(GDP_3, R_3, SR_{3-1}, D87) \quad \text{.....4.4.7}$$

The linear form of the model was

$$SR_3 = \alpha_0 + \alpha_1 GDP_3 + \alpha_2 R_3 + \alpha_3 SR_{3-1} + \alpha_4 D87 + U_t \quad \text{.....4.4.8}$$

The logarithmic form was

$$\text{Log } SR_3 = \alpha_0 + \alpha_1 \text{Log } GDP_3 + \alpha_2 \text{Log } R_3 + \alpha_3 \text{Log } SR_{3-1} + \alpha_4 D87 + U_t \quad \text{.....4.4.9}$$

where SR, GDP, R and $SR_{-1}$ are as defined in equation 4.3.1 and D87 was dummy variable. This variable (D87) was used to capture the non-interest rate Structural Adjustment reform polices. The dummy variable in 4.3.9 was not log because the logarithmic value of 1 is equal to zero. In the model, $q_i$ , Q and $\alpha$ (where i = 1, 2,.....,n) are the various regression coefficients, while $q_0$, $Q_0$ and $\alpha_0$ are the intercepts of the regression equations. $U_t$ is the error term which takes into consideration the influence of other factors not considered in the equation and the error that occurs in the course of the measurement of data.

Based on previous studies and apriori expectations, all the $\alpha_1$ except $\alpha_5$ are expected to have a positive regression coefficient. If $Q_2 > q_2$, it means that interest rate deregulation has more impact on savings than interest rate regulation. That is financial savings has not been repressed during the period of deregulation and if $q_2 = Q_2$ interest rate has no impact on savings at all, while if $Q_2 < q_2$ interest rate regulation has more impact on savings than interest rate geregulation, that is savings has been repressed during the period of deregulation.

The $\alpha_0$, $q_0$ and $Q_0$ could be positive or negative signs. In these thesis equations 4.4.1, 4.4.4 and 4.4.7 were estimated.

## 4.5 The Estimated Results

### 4.5.1 The Linear Form

For the Period 1975 to 1986

$$SR = -1823.8 + 0.034\ GDP_1 + 73.28\ R_1 + 0.965\ SR_{-1} \quad \text{.....eq. 4.5.1.1}$$

$$(1.84) \qquad (2.76)^{*} \qquad (5.19)^{*}$$

$R^2 = 0.83$

DW = 1.92

No. of observations = 11

t - values are in parenthesis.

*Significant at 5.0 percent.

For the Period 1987 to 1996

$$SR = -3382.59 + 0.064\ GDP_2 + 53.83\ R_2 + 0.775\ SR_{2-1} \quad \text{.....eq. 4.5.1.2}$$

$$(1.63) \qquad (3.01)^{*} \qquad (4.44)^{*}$$

$R^2 = 0.84$

DW = 1.51

No. of observations = 10

t - values are in parenthesis.

*Significant at 5.0 percent.

For the Period 1975 to 1996

$SR_3 = -875.27 + 0.035GDP_3 + 57.55R_3 + 0.835\ SR_{3-1} - 348.75D87$..... eq. 4.5.1.3

$(2.143)^*$ $(4.370)^*$ $(7.044)^*$ (0.706)

$R^2 = 0.85$

DW = 1.51

No. of observations = 21

t - values are in parenthesis.

* Significant at 5 per cent.

### 4.5.2 The Logarithmic Form

For the Period 1975 to 1986

$\text{Log } SR_1 = -2.547 + 0.495\text{LogGDP}_1 + 0.051\text{Log } R_1 + 1.035\text{Log } SR_{1-1}$ ...eq. 4.5.2.1

$(2.60)^*$ $(2.68)^*$ $(5.69)^*$

$R^2 = 0.84$

DW = 1.82

No of observations = 11

t - values are in parenthesis.

* Significant at 5 percent.

The Period 1987 to 1996

$\text{Log } SR_2 = -2.931 + 0.712\ \text{LogGDP}_2 + 0.055\ \text{Log } R_2 + 0.848\ \text{Log } SR_{2-1}$

(1.46) $(2.56)^*$ $(4.48)^*$

.....eq.4.5.2.2

$R^2 = 0.83$

DW = 2.44

No. of observations = 10

t - values are in parenthesis.

* Significant at 5 percent.

For the Period 1975 to 1996

$$\text{Log } SR_3 = -2.004 + 0.493\text{Log } GDP_3 + 0.054\text{Log } R_3 + 0.902\text{Log } SR_{3-1} - 0.056D87$$

$$(2.78)^* \qquad (4.12)^* \qquad (7.52)^* \qquad (2.30)^*$$

..... Eq. 4.5.2.3.

$R^2 = 0.86$

DW = 2.1

No of observations = 21

t - values are in parenthesis.

* Significant at 5 percent.

In the equations, the number in parenthesis below each estimated parameter are their respective t -statistics and below each equation is the coefficient of determination

($R^2$) and the Durbin Watson test (DW) as well as the level of significance.

## 4.6 Test of Hypotheses Using the Linear and Logarithmic Equations

The linear form of the model in section 4.5.1 presents the regression coefficient with respect to real interest rate between the period of regulation and deregulation. The regression coefficient of equations 4.5.1.1 and 4.5.1.2 was compared. The regression coefficient of interest rate are 73.28 and 53.83 for the period of regulation and deregulation respectively. The regression coefficient of the period of regulation was greater than the period of deregulation. Both periods however showed that interest rate regulation and deregulation have significant impacts on savings.

The hypothesis in section 1.5(ii) was tested in equation 4.5.1.3. The coefficient of -348.75 of the dummy variable showed that non-interest rate Structural Adjustment reform policies has an inverse relationship with savings. In this sub section 1.5 (ii) the regression coefficient of the independent variables are compared. The regression sign of gross domestic product of 0.035, real interest rate of 57.6 and lagged saving rate of 0.84 suggested a positive response of the variables to savings, while the regression coefficient of -348.4 of the dummy variable suggests a negative response of the variable to savings. Therefore a 100 percent increase in gross domestic product led to 3.5 percent increase in real savings. A 100 percent increase in real interest rate and lagged savings rate led to 576 percent and 84 percent increase in real savings respectively.

While on the contrary a 100 percent increase in dummy variable led to 3,488 percent decline in savings. Their t - values are also compared, because they show the statistical significance of these variables as implied in the regression and the tabulated values. The value for gross domestic product, real interest rate and lagged savings rate are 2.143, 4.37 and 7.04 and their respective t - tabulated were 2.12, which showed that their t - calculated are higher than the t - tabulated. This therefore showed that changes in real savings are affected by changes in real interest rate, gross domestic product and lagged savings rate. While the t - calculated of -0.71 of the dummy variable and t - tabulated of 2.12 showed that the dummy variable has a negative and statistically insignificant impact on savings.

The statistical insignificance of the dummy variable notwithstanding, it however contributed significantly to the prediction of savings in Nigeria for the period 1975 to 1996. Based on this information, this research rejects the null hypothesis and accepts the alternative hypothesis that non-interest rate structural Adjustment reform policies has significant impact on savings in Nigeria ($\alpha_3 < 0$).

The logarithmic form of the model was also used to evaluate the impact of interest rate on savings in Nigeria. The hypothesis in section 1.5 (i) was tested by comparing 4.5.2.1 and 4.5.2.2. The interest elasticity of savings in the period of regulation and deregulation showed that their coefficients are 0.051 and 0.055 respectively. The interest elasticity of savings during the period of deregulation was

greater than the period of regulation. This research therefore rejects the null hypothesis and accepts the alternative hypothesis that interest rate deregulation has a positive impact on savings ($Q_2 > q_2$ ).

Testing the hypothesis in sub section 1.5 (ii), the regression coefficient of equation 4.5.2.3 was used. The regression coefficient of the dummy variable in relation to other variables are compared. The dummy variable has a regression coefficient of -0.056 which conforms with this expectation that non-interest rate structural adjustment reform policies has inverse relationship with savings. The regression coefficient of the dummy variable and other variables are evaluated. Comparing the dummy variable with other variables showed that the regression coefficient of real gross domestic product, real interest rate and lagged savings rate are 0.493, 0.054 and 0.902 respectively and has a positive relationship with savings. This showed that a 100 percent increase in gross domestic product led to 49.3 percent increase in savings. A 100 percent increase in interest rate led to 5.4 percent increase in savings; while a 100 percent increase in lagged savings rate led to 90.2 percent increase in savings. The regression coefficient of the dummy variable of -0.056 showed it was the only variable among the independent variables that has an inverse relationship with savings.

The regression coefficient of the regression also showed their various t - values which are equally important. The regression coefficient of gross domestic product, real interest rate, lagged savings rate and dummy variable are 0.49, 0.054, 0.902 and 0.056

with their respective t - values of 2.78, 4.12, 7.52 and -2.30, while the tabulated value was 2.120. If the negative sign of the dummy variable is ignored then the variables have significant impact on savings.

The inverse relationship of dummy variable and the statistical significance at 5 percent showed that this research rejects the null hypothesis and accepts the alternative hypothesis that non-interest rate structural adjustment reform policies has significant impact on savings ($\alpha_3 < 0$).

## 4.7 Explanation of the Regression Results Using the Linear and Logarithmic Equations

*Equation 4.5.1.1 identified real interest rate, gross domestic product and lagged* savings rate as the determinants of savings in Nigeria for the period 1975 to 1986. The regression test showed the estimated coefficient of gross domestic product, real interest and lagged savings of 0.034, 73.28 and 0.97 respectively. Their respective t - calculated of 1.84, 2.76 and 5.19 are higher than the t - tabulated of 2.37 with the exception of the gross domestic product. The low t - calculated of the gross domestic product showed that gross domestic product has a positive but statistically insignificant impact on savings, while real interest rate, and lagged savings rate have statistically significant impact on savings during the period.

Equation 4.5.1.2 established gross domestic product, real interest rate and lagged savings rate as the determinants of savings in Nigeria during the period of deregulation.

The estimated coefficient of real interest rate and lagged savings rate are 53.83 and 0.76 respectively. Their respective t - calculated are 3.01 and 4.44 while their t - tabulated was 2.45. This showed that real interest rate and lagged savings rate have significant impact on savings. The coefficient of gross domestic product was 0.06 and its t - calculated of 1.63 showed that gross domestic product has an insignificant impact on savings.

On the whole section 4.5.1.3 indicated that real interest rate, gross domestic product, lagged savings rate and dummy variable were the determinants of savings during the period 1975 to 1996. The estimated coefficients of real interest rate, gross domestic product, lagged savings rate and dummy variable are 57.55, 0.035, 0.835 and -348.75 have their various t - values of 4.37, 2.143, 7.044 and -0.706 respectively, while their t - tabulated was 2.12. This showed that with the exception of the dummy variable all the variables have significant impacts on savings.

In interpreting the regression test in equations 4.5.2.1, this research identified gross domestic product, real interest rate and lagged savings rate as the determinants of savings in Nigeria for the period 1975 to 1986. The regression coefficient of gross domestic product, real interest rate and lagged savings rate of 0.495, 0.051 and 1.035 with their t - values of 2.60, 2.68 and 5.69 has a positive and statistically significant impact on savings at 5 percent level.

Equation 4.5.2.2 examined gross domestic product, real interest rate and lagged savings rate as the determinants of savings in Nigeria for the period 1987 to 1996. The regression coefficient of real interest rate and lagged savings rate are 0.055 and 0.848 with their respective t - values of 2.56 and 4.48 while their t - tabulated was 2.365. Therefore, real interest rate and lagged savings rate have a positive and significant impact on savings. While the coefficient of gross domestic product of 0.712 with its low t - value of 1.46 showed that gross domestic product has a positive but statistically insignificant impact on savings in Nigeria.

Equation 4.5.2.3 also identified gross domestic product, real interest rate, lagged savings and dummy variable in Nigeria from 1975 to 1996. The regression coefficient of gross domestic product, real interest rate, lagged savings and dummy variable are 0.493, 0.054, 0.902 and -0.056 with their respective t - values of 2.78, 4.12, 7.52 and -2.30. Ignoring the negative sign of the dummy variable showed that all the variables have a positive and significant impact on savings in Nigeria.

The various coefficients of determination ($R^2$ ) of the linear and the logarithmic forms were presented. The coefficient of determination of equations 4.5.1.1, 4.5.1.2 and 4.5.1.3 showed that at least more than 80 percent of the variation in the dependent variable were explained by the independent variables. While the coefficient of determination of equations 4.5.2.1, 4.5.2.2 and 4.5.2.3 showed also that more than 80 percent of the variation in the dependent variables were explained by the independent

variables.

The Durbin Watson statistic of equations 4.5.1.1, 4.5.1.2 and 4.5.1.3 was also tested. The test showed the absence of serial autocorrelation because the Durbin Watson statistic was approximately 2. While the Durbin Watson test in equations 4.5.2.1 and 4.5.2.3 equally showed the absence of serial autocorrelation. However, equation 4.5.2.2 showed the existence of serial autocorrelation because the Durbin Watson test was more than 2, that is 2.44.

## 4.8 Observations

This research viewed empirically the determinants of savings in Nigeria. However, the following observations were made.

i) The result presented in equations 4.5.1.1 and 4.5.1.2 showed that the estimated coefficient of interest rate regulation and deregulation are high and significant determinants of savings in Nigeria. Though the parameter estimates of interest rate were higher during the period of regulation than the period of deregulation which showed that the significance of interest rate in both periods do not conform with theory it will produce conflicting results. This is because interest rate regulation and deregulation are two policy thrusts and they have different policy objectives.

ii) The regression results presented in equations 4.5.2.1 and 4.5.2.2 revealed that the logarithmic form of the model showed the best result because the results showed that

interest rate deregulation has significant impact on savings than interest rate regulation. The logarithmic form of the model therefore, conformed with the framework that interest rate deregulation has more impact on savings than interest rate regulation. The logarithmic form of the model will be used to proffer recommendations to policy makers.

# Chapter 5 SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1 Summary and Conclusion

The importance of savings in the Nigerian economy abound because of the role it has been playing in the development of the economy. The Federal Government in an attempt to aid the development of the economy introduced various policies, some of the policies include interest rate regulation and deregulation. This study observed that during the period of regulation the Federal Government gave directive to the financial institutions most especially the banking sector on the level of interest rate. The rationale for the regulation of interest rate was to stimulate investment in the economy.

In 1987, the Federal Government liberalized the financial sector and with this there was the emergence of the gradual deregulation of interest rate. The aim of this policy was to aid in the mobilization of savings in the economy. This period of deregulation also witnessed the proliferation of banks and other financial institutions as well as the introduction of various policies aimed at ensuring confidence in the banking sector.

This thesis investigated savings mobilization in Nigeria. Empirical investigation of financial repression (1975 - 1996). In this regard interest rate between both periods - regulation and deregulation was compared. To achieve this, Reechel's (1991) model

was adopted with a view to investigating if savings was repressed during the period under study.

This thesis has improved on two basic pitfalls on the empirical investigation of interest rate and savings in Nigeria.

The adopted Reichel's (1991) model has shown clearly that Reichel's analysis suffered from the omission of some explanatory variables which this thesis has improved upon as shown by significant t - values and high coefficient of determination ($R^2$).

Uchendu's (1993) investigation of interest rate and savings was equally improved upon. This thesis did a comparative study of interest rate regulation and deregulation. It was shown that interest rate deregulation has more impact on savings than interest rate regulation. This result conforms with Mathias (1997) findings on interest rate and savings in Nigeria.

This thesis has shown empirically that savings within the period of deregulation was not repressed and that other factors may have been responsible for the decline in savings over time.

It was also demonstrated that the non-interest rate Structural Adjustment policies support the position that policies such as faulty foreign exchange policies,

commercialization and privatization has negative, but significant impact on savings. This result also conformed with Mathias' (1997) result.

The empirical investigation revealed that gross domestic product and lagged savings rate have a positive and significant impact on savings in Nigeria in the period 1975 to 1996.

It was also shown in this thesis that over the time savings has been on a downward trend. Some of the factors responsible for the decline in savings are low per capita income; high dependency rate; decline in foreign exchange receipts and high proportion devoted to debt servicing, leading to decline in domestic resources; low capacity utilization leading to high rate of unemployment; inaccessibility to financial institutions, especially in the rural areas; decline in population per bank branch and loss of confidence in the banking sector due to distress.

## 5.2 Recommendations

It was discovered in the course of this work that government intervention in the financial institutions inhibits development in the sector. Such interference include; interest rate regulation, qualitative and quantitative control. Therefore we recommend complete deregulation of interest rate in Nigeria. Since deregulation of interest rate has positive and significant impact on savings than interest rate regulation.

The non-interest rate structural adjustment reform policies such as faulty foreign exchange policy, privatization and commercialization should be discouraged by the government since they have negative impact on savings.

The decline in per capita income is also of great concern. The decline in real gross domestic product and the continuous increase in population will be inimical to increase in income and savings. Therefore, the continuous increase in population should be checked. It is worthwhile to recommend that adequate birth control measures be put in place. Such controls include discouraging early marriages, self restraint during marriage, child spacing and the use of contraceptives should be vigorously pursued. Also, couples should be adequately educated about the danger of keeping large families. This will go a long way in reducing population and the dependency ratio. If this is religiously pursued along with other policies, per capita income will rise and savings will increase.

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People in the rural areas must be educated on the availability of savings facilities.

This is necessary because it enables people in the rural areas to be enlightened about the advantage that is derived from savings. Therefore, financial institutions should be encouraged to establish more rural bank network that will be accessible and acceptable in order to create confidence in the minds of the rural populace. In this connection therefore, information disemination through the local government areas will go a long way in encouraging peopole to save.

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Banks should ensure that those they employ are professionals with relevant qualifications and experience in financial management and are experts in their disciplines, who will make useful contributions towards efficient management, and development of banks should be encouraged. Those already on the job need constant training to update their knowledge, expertise and technique.

The endless queues and long hours of waiting in banks by customers for business transactions is one characteristic feature of urban bank network. As such banks should ensure a comprehensive computerization of their operations. This will increase efficiency and ease long queues that have been experienced in the urban branches.

It was also evident that after banking hours of 3.00 p.m. on Mondays and 1.30 p.m on Tuesdays to Fridays people still go through the back doors of banks to transact their businesses. Some banks have taken corrective measures by extending their banking hours to 5.00 p.m. daily. This will give organizations ample time to transact their businesses and lodge their deposit with their various banks.

Mobilizing savings, trust and confidence are very important. To achieve this the Federal Government in 1994 promulgated the failed bank and financial malpractices decree which was extended to include other financial institutions. This decree will go a long way to facilitate the recovery of non performing debt and to penalize culprits who had engaged in malpractices.

To restore confidence in the banking sector, the monetary authorities should ensure that those whose monies are trapped in the distressed banks are promptly paid and all interests due on them. This will restore lost confidence in banks and thereby increase savings.

The failure of banks has been variously blamed on the activities of the Central Bank. There is the need for constant supervision of banks and other financial institutions by the Central Bank. Penalties should be imposed on banks that fail to carry out its instructions. The Central Bank should constantly monitor and advise the commercial banks whenever the need arises.

The external sector is very important if savings are to be mobilized. To adequately mobilize savings in the economy, efforts should be made towards encouraging foreign inflow of resources. This will go a long way to increasing production in industry and manufacturing and hence employment and savings.

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APPENDIX A: SAVINGS STATISTICS (CUMULATIVE) 1975 - 1996 (₦MILLION)

| Year | Savings & Time Deposit with *Commercial* Banks | National Provident Fund | Federal Savings *Bank* | Federal Mortgage Bank | Time Deposit with Merchant *Banks* | Premium Bond Savings *Certificate* & Stamps | Life Insurance | Total |
|---|---|---|---|---|---|---|---|---|
| 1975 | 1572.4 | 159.9 | 8.1 | 11.3 | 63.4 | 0.1 | N.A | 1,815.2 |
| 1976 | 1979.2 | 193.9 | 6.9 | 16.3 | 58.9 | 0.1 | - | 2,255.3 |
| 1977 | 2255.1 | 230.4 | 8.0 | 16.8 | 82.4 | 0.1 | - | 2,592.8 |
| 1978 | 2601.7 | 269.9 | 8.1 | 19.2 | 110.7 | 0.1 | - | 3,009.7 |
| 1979 | 3702.1 | 306.7 | 7.7 | 27.9 | 117.3 | 0.1 | - | 4,161.8 |
| 1980 | 5163.2 | 338.9 | 7.3 | 40.7 | 219.7 | 0.1 | - | 5,769.9 |
| 1981 | 5796.1 | 375.3 | 7.1 | 56.0 | 328.0 | 0.1 | - | 6,562.6 |
| 1982 | 6338.2 | 411.5 | 4.0 | 69.3 | 691.3 | 0.1 | - | 7,514.4 |
| 1983 | 8082.9 | 472.3 | 5.0 | 89.9 | 793.7 | 0.1 | - | 9,443.9 |
| 1984 | 9391.3 | 504.1 | 8.0 | 114.0 | 970.6 | 0.1 | - | 10,988.1 |
| 1985 | 10,550.9 | 540.5 | 8.1 | 104.0 | 1,318.2 | 0.1 | - | 12,521.8 |
| 1986 | 11,487.7 | 577.4 | 8.1 | 121.1 | 1,739.7 | 0.1 | - | 13,934.1 |
| 1987 | 15,088.7 | 614.0 | 16.9 | 133.7 | 2,822.8 | 0.2 | | 18,676.3 |
| 1988 | 18,397.2 | 651.0 | 22.4 | 195.5 | 3,982.8 | 0.1 | | 23,249.0 |
| 1989 | 17,813.3 | 699.1 | 37.5 | 213.2 | 3,970.7 | 0.1 | 1,067.4 | 23,801.3 |
| 1990 | 23,137.1 | 732.5 | - | 304.6 | 4,349.4 | - | 1,136.6 | 29,651.2 |
| 1991 | 30,359.7 | 650.0 | - | 433.7 | 5,007.0 | - | 1,242.2 | 37,692.6 |
| 1992 | 43,438.8 | 719.8 | - | 729.4 | 8,342.5 | - | 1,411.3 | 53,641.8 |
| 1993 | 60,895.9 | 766.8 | - | 819.5 | 19,296.8 | - | 1,569.9 | 83,027.4 |
| 1994 | 76,127.8 | 757.9 | - | 816.7 | 11,315.8 | - | 1,392.7 | 90,410.9 |
| 1995 | 96,535.4 | 731.4 | - | 894.9 | 22,376.8 | - | N.A | 120,538.5 |
| 1996 | 125,997.9 | N.A | - | 472.4 | 29,731.9 | - | 1,945.2 | 158,147.4 |

Source: CBN Annual Report and Statement of Accounts, Various Issues.

APPENDIX B: ANALYSIS OF CUMULATIVE SAVING IN NIGERIA, 1975 - 1996 (₦MILLION)

| Year | Savings & Time Deposit with Commercial Banks | National Provident Fund | Federal Savings Bank | Federal Mortgage Bank | Time Deposit with Merchant Banks | Premium Bond Savings Certificate & Stamps | Life Insurance | Total | Real Annual Growth Rate (%) |
|---|---|---|---|---|---|---|---|---|---|
| 1975 | 7,896.1 (86.6) | 772.5 (8.8) | 39.1 (0.5) | 54.6 (0.6) | 306.3 (3.5) | 0.5 n | N.A - | 8769.1 (100) | 0.19 |
| 1976 | 7,731.3 (87.8) | 757.4 (8.6) | 27.0 (0.3) | 63.7 (0.7) | 230.1 (2.6) | 0.4 n | N.A - | 8809.9 (100) | 0.5 |
| 1977 | 7,618.6 (87.07) | 778.4 (8.9) | 27.0 (0.3) | 56.8 (0.7) | 278.4 (3.2) | 0.3 n | N.A - | 8759.5 (100) | -0.6 |
| 1978 | 7,541.2 (86.4) | 782.3 (9.0) | 23.5 (0.3) | 55.7 (0.6) | 320.9 (3.7) | 0.3 n | N.A - | 8723.9 (100) | -0.4 |
| 1979 | 9,615.8 (86.8) | 796.6 (7.2) | 20.0 (0.2) | 72.9 (0.7) | 304.7 (5.2) | 0.3 n | N.A - | 10810.3 (100) | -19.3 |
| 1980 | 12,206.1 (87.8) | 801.2 (5.8) | 17.3 (0.1) | 96.2 (0.7) | 519.4 (5.6) | 0.2 n | N.A - | 13640.4 (100) | 20.8 |
| 1981 | 11,320.5 (83.7) | 733.0 (5.4) | 13.9 (0.1) | 109.4 (0.8) | 640.6 (10.0) | 0.2 n | N.A - | 12817.6 (100) | -6.4 |
| 1982 | 11,503.1 (84.4) | 746.8 (5.5) | 7.3 (0.1) | 125.8 (0.9) | 1254.6 (9.2) | 0.2 n | N.A - | 13637.8 (100) | 6.0 |
| 1983 | 11,904.1 (85.6) | 695.6 (5.0) | 7.4 (0.1) | 132.4 (1.0) | 1168.9 (8.4) | 0.2 n | N.A - | 13908.6 (100) | 2.0 |
| 1984 | 9,906.4 (85.5) | 531.8 (4.6) | 8.4 (0.1) | 120.3 (1.0) | 1023.8 (8.8) | 0.1 n | N.A - | 11590.8 (100) | -20.0 |
| 1985 | 10,550.9 (84.3) | 540.5 (4.3) | 8.1 (0.1) | 104.0 (1.0) | 1318.2 (10.5) | 0.1 n | N.A - | 12521.7 (100) | 7.4 |
| 1986 | 10,899.2 (82.4) | 547.8 (4.1) | 7.7 (0.1) | 114.9 (0.9) | 1650.6 (12.5) | 0.1 n | N.A - | 13220.3 (100) | 5.3 |
| 1987 | 12,996.3 (80.8) | 528.9 (3.3) | 14.6 (0.1) | 115.2 (0.7) | 2431.4 (15.1) | 0.2 n | N.A - | 16086.6 (100) | 17.8 |
| 1988 | 10,153.0 (79.1) | 359.3 (2.8) | 12.4 (0.1) | 107.9 (0.8) | 2198.0 (17.1) | 0.1 n | N.A - | 12830.7 (100) | -25.4 |
| 1989 | 6,532.2 (74.8) | 256.4 (2.9) | 13.8 (0.2) | 78.2 (0.9) | 1456.1 (16.6) | 0.1 n | 391.4 (4.5) | 8728.2 (100) | -47.0 |
| 1990 | 7,891.2 (78.0) | 246.8 (2.4) | N.A - | 103.9 (1.0) | 1483.4 (14.7) | N.A - | 387.7 (3.8) | 10113.0 (100) | 12.5 |
| 1991 | 9,174.9 (80.6) | 196.4 (1.7) | N.A - | 131.1 (1.2) | 1513.2 (13.3) | N.A - | 375.4 (3.3) | 11391.0 (100) | 11.2 |
| 1992 | 9,080.0 (79.5) | 150.5 (1.3) | N.A - | 152.5 (1.3) | 1743.8 (15.3) | N.A - | 295.0 (2.6) | 11421.8 (100) | 0.3 |
| 1993 | 8,098.9 (73.1) | 104.0 (1.0) | N.A - | 109.0 (1.0) | 2566.4 (23.2) | N.A - | 208.8 (1.9) | 11085.1 (100) | -3.0 |
| 1994 | 6,447.7 (84.2) | 64.2 (1.0) | N.A - | 69.2 (1.0) | 958.4 (12.5) | N.A - | 118.0 (1.5) | 7657.5 (100) | -44.8 |
| 1995 | 4,731.2 (79.6) | 35.8 (1.0) | N.A - | 79.7 (1.3) | 1096.7 (18.5) | N.A - | N.A - | 5943.4 (100) | -28.8 |
| 1996 | 4,776.1 (79.6) | N.A - | | 17.9 (0.3) | 1127.0 (18.8) | N.A - | 73.7 (1.2) | 5914.7 (100) | 0.9 |

NOTE: Figures in parentheses are in percentages, n = negligible, N.A = not available. Values are computed in real term at 1985 prices (1985 = 100).

APPENDIX C: COMMERCIAL BANKS' BRANCHES CLOSED DOWN AS AT DECEMBER 31 1996

| NAME OF BANK | URBAN | RURAL | TOTAL |
|---|---|---|---|
| African Continental Bank | - | 38 | 38 |
| Cooperative and Commerce Bank | 8 | 6 | 14 |
| Cooperative Bank | - | 4 | 4 |
| Mercantile Bank | 9 | 4 | 13 |
| National Bank | 1 | 13 | 14 |
| Nigeria- Arab Bank | - | 6 | 6 |
| Nigerian Universal Bank | - | 5 | 5 |
| North-South Bank | 6 | - | 6 |
| Tropical Commercial Bank | 1 | 2 | 3 |
| TOTAL: | 25 | 78 | 103 |

Source: CBN Annual Report and Statement of Account 1996

APPENDIX D: REAL GROSS DOMESTIC PRODUCT

| YEAR | COMPOSITE CONSUMER PRICE INDEX | NOMINAL GDP (₦MILLION) | REAL GDP (₦MILLION) |
|---|---|---|---|
| 1975 | 20.7 | 21,558.8 | 104,148.8 |
| 1976 | 25.6 | 27,297.5 | 106,630.9 |
| 1977 | 29.6 | 32,747.3 | 110,632.8 |
| 1978 | 34.5 | 36,083.6 | 104,590.2 |
| 1979 | 38.5 | 43,150.8 | 112,079.2 |
| 1980 | 42.3 | 50,848.6 | 120,209.5 |
| 1981 | 51.2 | 50,749.1 | 99,119.3 |
| 1982 | 55.1 | 51,709.2 | 93,846.1 |
| 1983 | 67.9 | 57,142.1 | 84,156.3 |
| 1984 | 94.8 | 63,608.1 | 67,097.2 |
| 1985 | 100 | 72,355.4 | 72,355.4 |
| 1986 | 105.4 | 73,061.9 | 69,318.7 |
| 1987 | 116.1 | 108,885.1 | 93,785.6 |
| 1988 | 181.2 | 145,243.3 | 80,156.4 |
| 1989 | 272.7 | 224,796.9 | 82,433.8 |
| 1990 | 293.2 | 260,636.7 | 88,893.8 |
| 1991 | 330.9 | 324,010.0 | 97,917.8 |
| 1992 | 478.4 | 549,808.8 | 114,926.6 |
| 1993 | 751.9 | 697,095.2 | 92,711.2 |
| 1994 | 1,180.7 | 914,900.0 | 77,487.9 |
| 1995 | 2,040.4 | 1,977,700.0 | 96,927.1 |
| 1996 | 2,638.1 | 2,356,600.0 | 89,329.4 |

Source: CBN Annual Report and Statement of Accounts, Various Issues

APPENDIX E: REAL INTEREST RATE

| Year | Nominal Average Interest Rate on Deposit | Inflation Rate (%) | Real Average Interest Rate on Deposit (%) |
|---|---|---|---|
| 1975 | 3.6 | 33.9 | -30.3 |
| 1976 | 3.4 | 21.2 | -17.8 |
| 1977 | 3.3 | 15.4 | -11.9 |
| 1978 | 4.6 | 16.6 | -12.0 |
| 1979 | 5.2 | 11.8 | -6.6 |
| 1980 | 6.1 | 9.9 | -3.8 |
| 1981 | 6.1 | 20.9 | -14.8 |
| 1982 | 7.6 | 7.7 | 0.1 |
| 1983 | 7.6 | 23.2 | -15.6 |
| 1984 | 9.7 | 39.6 | -29.9 |
| 1985 | 9.6 | 5.5 | 4.1 |
| 1986 | 9.6 | 5.4 | 4.2 |
| 1987 | 14.9 | 10.2 | 4.8 |
| 1988 | 13.5 | 38.3 | -24.7 |
| 1989 | 19.9 | 40.9 | -21.0 |
| 1990 | 20.8 | 7.5 | 13.3 |
| 1991 | 17.5 | 13.0 | 4.5 |
| 1992 | 20.4 | 44.5 | -24.5 |
| 1993 | 24.5 | 57.2 | -40.0 |
| 1994 | 13.6 | 57.0 | -43.4 |
| 1995 | 13.6 | 72.8 | -59.2 |
| 1996 | 12.3 | 29.3 | -17.0 |

Source: CBN Annual Report and Statement of Accounts, Various Issues

*Real Interest Rate is computed by subtracting Inflation Rate from Nominal Interest Rate.

APPENDIX F: COMMERCIAL BANK SAVINGS AND TIME DEPOSIT

| Year | Composite Consumer Price Index | Nominal Savings Rate with Commercial Banks (₦Million) | Real Savings Rate with Commercial Banks (₦Million) |
|---|---|---|---|
| 1975 | 20.7 | 1,572.4 | 7,596.1 |
| 1976 | 25.6 | 1,979.2 | 7,731.3 |
| 1977 | 29.6 | 2,255.1 | 7,618.6 |
| 1978 | 34.5 | 2,601.7 | 7,541.2 |
| 1979 | 38.5 | 3,702.1 | 9,615.8 |
| 1980 | 42.3 | 5,163.2 | 12,206.1 |
| 1981 | 51.2 | 5,796.1 | 11,320.5 |
| 1982 | 55.1 | 6,338.2 | 11,503.1 |
| 1983 | 67.9 | 8,082.9 | 11,904.1 |
| 1984 | 94.8 | 9,391.3 | 9,906.4 |
| 1985 | 100.0 | 10,550.9 | 10,550.9 |
| 1986 | 105.4 | 11,487.7 | 10,899.2 |
| 1987 | 116.1 | 15,088.7 | 12,996.3 |
| 1988 | 181.2 | 18,397.2 | 10,153.0 |
| 1989 | 272.7 | 17,813.3 | 6,532.2 |
| 1990 | 293.2 | 23,137.1 | 7,891.2 |
| 1991 | 330.9 | 30,359.7 | 9,174.9 |
| 1992 | 478.4 | 43,438.8 | 9,080.0 |
| 1993 | 751.9 | 60,895.9 | 8,098.9 |
| 1994 | 1,180.9 | 76,127.8 | 6,447.7 |
| 1995 | 2,040.4 | 96,535.4 | 4,731.2 |
| 1996 | 2,638.1 | 125,997.9 | 4,776.1 |

Source: CBN Annual Report and Statement of Accounts, Various Issues

* Real Savings Rate = $\frac{\text{Nominal Savings Rate}}{\text{Price Index}} \times 100$

APPENDIX G: DATA USED IN ESTIMATING FINANCIAL SAVINGS IN NIGERIA 1975 TO 1996

| Year | Real Savings and Time Deposit with Commercial Banks (₦Million) | Real GDP (₦Million) | Real Average Interest Rate on Deposit (%) |
|---|---|---|---|
| 1975 | 7,596.1 | 104,148.8 | -30.3 |
| 1976 | 7,731.3 | 106,630.9 | -17.8 |
| 1977 | 7,618.6 | 110,632.8 | -11.9 |
| 1978 | 7,541.2 | 104,590.2 | -12.0 |
| 1979 | 9,615.8 | 112,079.2 | -6.6 |
| 1980 | 12,206.1 | 120,209.5 | -3.8 |
| 1981 | 11,320.5 | 99,119.3 | -14.8 |
| 1982 | 11,503.1 | 93,846.1 | 0.1 |
| 1983 | 11,904.1 | 84,156.3 | -15.6 |
| 1984 | 9,906.4 | 67,097.2 | -29.9 |
| 1985 | 10,550.9 | 72,355.4 | 4.1 |
| 1986 | 10,899.2 | 69,318.7 | 4.2 |
| 1987 | 12,996.3 | 93,785.6 | 4.8 |
| 1988 | 10,153.0 | 80,156.4 | -24.7 |
| 1989 | 6,532.2 | 82,433.8 | -21.0 |
| 1990 | 7,891.2 | 88,893.8 | 13.3 |
| 1991 | 9,174.9 | 97,917.8 | 4.5 |
| 1992 | 9,080.0 | 114,926.6 | -24.5 |
| 1993 | 8,098.9 | 92,711.2 | -40.0 |
| 1994 | 6,447.7 | 77,487.9 | -43.4 |
| 1995 | 4,731.2 | 96,927.1 | -59.2 |
| 1996 | 4,776.1 | 89,329.4 | -17.0 |