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FINANCIAL SECTOR REFORMS AND THE PERFORMANCE OF THE NIGERIAN ECONOMY

TAIWO P. OGUN AND ANTHONY ENISAN AKINLO

Abstract. Using descriptive statistics and Vector Autoregressive Model, we investigated the impact of financial sector reforms on the performance of the Nigerian economy. The paper is justified given the need to provide empirical evidence on the effectiveness of financial reform in promoting saving, investment and growth. The paper found that the means of performance indicators - saving rate, investment ratio and growth of real GDP, were very low relative to pre-reform period and their correlation with financial indicators were mostly low or negative under reform. Evidence from the VAR analysis also showed that shocks to financial indicators either had negative or insignificant positive effect on the saving rate investment and growth during reform. Complementing financial reforms with structural reforms, therefore, is necessary to promote growth in Nigeria.

1. Introduction

In 1986, Nigeria like other developing countries embraced the idea to reform its financial sector. The motivation for financial sector reforms could be attributed to three main reasons. First, given the macroeconomic imbalances (severe balance of payments, increased debt burden, high inflation and unemployment etc) in the 1980s, the launching of the IMF supported Structural Adjustment Programme (SAP) in 1986 made it a necessary precondition. The introduction of SAP, thus, witnessed the adoption of a landmark economic reforms and a shift from economic regulation to deregulation in Nigeria. Another vital reason for financial reform could be ascribed to the recent persuasion from the theoretical arguments made in support of liberalization. Many authors (Mckinnon, 1973, Shaw, 1973, Fry, 1978) have demonstrated that government restrictions on the financial sector such as interest rate ceilings, high reserve requirements and directed credit policies distort the process of financial development and hinder growth. McKinnon (1973) and Shaw (1973) hypothesized that financial repression occurs when nominal lending and deposit rates are low and administratively determined in the presence of high rate of inflation. On the last note, the impetus to reform the financial sector in Nigeria also reflects the shift in the philosophical underpinning of economic policies in the global economy at the 1980s. For instance, the standard ten reform packages articulated by the "Washington Consensus" for developing countries under economic crisis in the 1980s include among others interest rate liberalization, trade liberalization, economic deregulation which are vital aspects of financial sector reforms.

Like in other developing countries, financial reform forms a core element of economic reforms in Nigeria. As pointed out in Baliamoune and Chowdhury(2003), financial reform involves the elimination of credit control, deregulation of interest rates, easing of entry into the financial

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Taiwo P. Ogun is professor in the Department of Economics at the Obafemi Awolowo University, Ile-Ife, Nigeria. E-mail: tpogun@oauife.edu.ng.
Anthony Enisan Akinlo is professor in the Department of Economics at the Obafemi Awolowo University, Ile-Ife, Nigeria. E-mail: aakinlo@oauife.edu.ng.

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services industry, development of capital market, increased prudential regulation and supervision, and liberalization of international capital flows. Ezirim and Muoghalu (2004) noted that financial sector reforms "represent the various transformations and policy adjustment and overhaul that are directed to the art, policies, and activities of financial institutions and markets overtime in response to the nominated need for operational improvement and growth of both the institutions and the general economy". The reform of the financial sector was expected to promote financial savings, reduce the distortions in investment decisions, and induce more effective intermediation between savers and investors (Oresotu, 1992).

With the adoption of financial reform in Nigeria, one of the basic issues that have been of crucial interest to academic and policy makers is whether the various reforms in the financial sector have sufficiently led to the deepening and development of the financial markets so as to promote economic growth. The relevance of this question can be ascribed to the understanding that a necessary precondition for financial reforms to cause economic growth is the existence of financially deep and developed economy. Given this backdrop, the basic objective of this paper is to empirically investigate the impact of financial sector reforms on the performance of the Nigerian economy. Specifically, the study investigates the impact of financial sector reforms on savings, investment and growth in Nigeria.

This paper is justified for two main reasons. First, the study seeks to provide empirical evidence on the controversy surrounding the role of financial reform in the literature. For instance, the financial crises in Asian economies in the 1990s have questioned the rationale for financial reform in developing countries. Second, financial reform is a recent phenomenon in Nigeria, as such, not much, to our knowledge have been done to unravel the impact of this reform measures on the economy. The only known studies on this area were conducted at the early years of reforms when it was rather too early to conclude that these reforms were unsuccessful.

The rest of this paper is organized as follows: Section 2 examines financial sector reform in Nigeria. Section 3 focuses on the methodology for the study. The empirical results and analysis is considered in section 4. Section 5 concludes and makes policy recommendations based on the findings of this paper.

2. Financial Sector Reforms in Nigeria[1]

The broad objectives of financial sector reform in Nigeria are to promote financial savings, increase the level of domestic investment by providing effective intermediation between lenders and borrowers. To achieve these objectives, measures that have been adopted in reforming the financial sector in Nigeria context, following Ojo (1993), can be categorized into five. These include: reform of the financial structure, monetary policy reforms, foreign exchange market reforms, liberalization of capital movement and capital market reform. These measures are discussed in turn.

2.1. **Reform of the financial structure.**

Measures adopted under this sub-heading were meant to foster competition in the banking sector, strengthen the supervisory role of monetary authorities and enhance public sector relationship with the financial sector. Some of the significant measures adopted include:

(i) Establishment of the Nigerian Deposit Insurance Corporation (NDIC) through the promulgation of Decree No. 22 of 15th June 1988 to insure the deposit in depository financial institutions.

(ii) Withdrawal of public sector accounts from banks to forestall unhealthy competition in savings mobilization and the introduction of the auction-based system for the issuance of treasury bills in 1989.

(iii) Enactment of CBN Decree No. 24 and Banks and Other Financial Institutions (BOFI) Decree No. 25 in 1991 to strengthen the supervisory roles of monetary authorities. These

[1]This section benefited greatly from Ojo, O.(1993), Oresotu, O.(1992) and Ikhide, S.I.(1997).

Decrees were also complemented with other enactments such as Failed Banks (Recovery of Debt) and Financial Malpractices in Banks Decree (1994), CBN (Amendment) Decree No. 3. 1997, CBN (Amendment) Decree No. 37, 1998). BOFI (Amendment) Decree No. 4, 1998, BOFI (Amendment) Decree No. 4, 1999 and CBN (Amendment) Decree No. 41; 1999.

(iv) Licensing of more banks to increase the competition in the financial system in 1992.

(v) Mergers and acquisition in the banking industry beginning with the issuance of the Central Bank of Nigeria's Guidelines and Incentives on Consolidation in the Nigerian Banking Industry of 5th August, 2004.

2.2. **Monetary Policy Reform.** Monetary policy reform measures are those designed to stabilize the economy in the short-run and to induce the emergence of market-oriented financial sector for effective mobilization of savings and efficient resource allocation (Oresotu, 1992). These measures include:

(i) Greater discretion was given to banks in the allocation of credit in 1987. The former 18 sector classification was reduced to only two sector categorization requiring 50 percent of bank credit to be channeled to agriculture and manufacturing while the remaining 50 percent of bank credit was to be allocated to other sectors. Apart from greater discretion to banks in the allocation of their credit, regulatory measures that used to discriminate between commercial and merchant banks (in relation to liquidity ratios, cash reserve requirement and credit ceiling) were unified to give similar treatment to banks in general.

(ii) Interest rate deregulation: Prior to January 1987, interest rates were fixed and administratively determined by the Central Bank in Nigeria. However in January 1987, a partial deregulation was attempted. Moreover by August, 1987, all rates became market–determined.

(iii) Banks were encouraged to pay interest (jointly negotiated by banks and their customers) on current deposit in 1989.

(iv) The shift from direct to indirect monetary control in June 1993.

2.3. **Foreign Exchange Market Reforms.** In the face of inability of exchange control system to achieve internal balances in the short term and guarantee external equilibrium, the Exchange control system was discarded. The major reforms in the foreign exchange market in Nigeria include:

(i) Introduction of Second-tier Foreign Exchange Market (SFEM) in September, 1986. Under this system a dual exchange rate system (first and second-tiers) was adopted. The first tier market, which was applied to debt service payments and other public sector disbursement, was managed while the second-tier was allowed to be controlled by the market forces.

(ii) On July, 1987, the first tier and second tier markets were merged and a unified foreign exchange market (FEM) was established. The Dutch Auction System (DAS) of foreign exchange pricing was extensively used under FEM.

(iii) Introduction of Inter-bank Foreign Exchange market (IFEM) and Bureaux de Change in 1989.

(iv) Abolition of IFEM in 1990 due to spurious demand for foreign exchange.

(v) The DAS was reintroduced and used throughout 1991.

(vi) Deregulation of the official exchange rate of the naira in March 1992.

(vii) Institutionalization of Autonomous Foreign Exchange Market (AFEM) in 1995.

(viii) Abolition of official exchange rate due to incidence of round tripping associated with this fixed rate and reconstitution of AFEM into the Inter-bank Foreign Exchange Market (IFEM) in 1999.

(ix) Re-introduction of the Dutch Auction System in 2002.

2.4. **Liberalization of capital movement.** As a result of deregulation of foreign exchange market, existing restrictions on capital transfers were abolished. All that was needed to facilitate capital transfer was evidence of importation and exportation to be provided to the Federal

Ministry of Finance (FMF). Moreover, with the introduction of Nigerian Enterprises Promotion Decree of 1989, foreigners are now free to invest in the country.

2.5. **Capital Market Reforms.** The basic reforms in the capital market include:
- interest rate deregulation;
- privatization of erstwhile public institutions;
- debt conversion programme;
- deregulation of the capital market;
- reconstitution of the Securities and Exchange Commission;
- the reduction of the withholding tax on dividend, and
- alleviating the difficulty involved in listing, disclosures and checking insider trading.

Apart from the above reforms, the Nigerian Enterprise Promotion Decree of 1989 as well as the Exchange Control Act of 1962 were also repealed in attempt to break down the barriers to capital inflow.

Given the above background, it becomes salient that financial sector reform in Nigeria has been basically directed towards the abolition of interest rate controls, abolition of direct controls on credit, removal of limits on the scope of banking activities, abolition of foreign exchange control and free entry of foreigners to domestic financial markets.

3. Theoretical Framework and Literature Review

In the light of the importance of finance in the economy, developing countries, in the 1980s, have reformed their financial sectors. The development of the financial sector, otherwise refers to as "financial development", according to Drake (1980) is "the expansion and elaboration over time of the financial structure (the institutions, instruments, and activities)". Despite the increasing urge for financial sector reforms and financial development, the role of the latter in the growth process has been theoretically controversial (Luintel and Khan, 1999). Raghbendra (2003) identified four different theoretical perspectives on the role of finance in the growth and development process.

One theoretical view derived from the Harrod (1939), Domar (1947), Tobin (1955), Solow (1956) and Swan (1956). These authors argued that economic growth is largely the result of factors emanating from the real sector of the economy. Here financial development and economic growth are not causally related. In this perspective, economic growth is viewed as a product of real sector resulting from such factors as savings and investment and technological progress. This argument emanates from the school of thought that ignores institutional background of growth process in developing countries.

A second view is that financial development follows economic development. Economic growth, it is argued, induces changes in financial institutions and practices. In support of this view, Robinson (1952) argued that, "by and large, it seems to be the case that where enterprise leads finance follows." Kuznets (1955) also maintained that financial markets begin to grow as economy approaches the intermediate stage of the growth process and develop once the economy becomes matured. Chandavarkar (1992) also noted that "none of the pioneers of development economics lists finance as a factor in development." Luintel and Khan (1999) stated that this view regards finance as handmaiden to enterprise by responding to the demand for the particular types of financial services generated by economic development.

A third theoretical proposition as explored by Raghbendra (2003) maintained that financial development is a determinant of economic growth. According to this school of thought, financial development is an important factor influencing economic growth. Two versions of this school exist. The first reasoned that financial development is a precondition for economic growth, while the second version argued that sophisticated financial systems help invigorate the climate for rapid economic growth provided that there are no other impediments to economic development. McKinnon (1973), Shaw (1973), Fry (1978) and Kapur (1976) who are strong advocates of this theoretical view maintained that financial development played a key role in the process

of economic growth. Specifically, they advocated for a liberal financial system in order to mobilize increased volume of financial saving and allocate it to productive investment, thereby contributing to economic growth. McKinnon and Shaw proposition is that a repressed financial sector interferes with development in several ways: savings vehicles are not well developed, financial intermediaries that collect savings do not allocate them efficiently among competing uses, and firms are discouraged from investing because of financial policies that reduce the returns to investment or make them uncertain; thereby retarding the growth process.

A final point of view ascribed to authors such as Keynes (1936), Krugman (1998) and Singh (1997) state that financial development is an obstacle to economic growth. This is because of the inherent instability in the financial system. Thus, this line of thought argued that there is a role for government intervention in the working of financial markets. This is in sharp contrast to the work of McKinnon and Shaw (1973) where it was argued that state intervention in formal markets leads to their repression and therefore, stunts economic growth.

The theoretical exposition done so far indicates that the role of financial sector reform or development in stimulating economic growth is controversial. Two main implications could be inferred. First, the issue of the role of finance in economic growth is an empirical one. Second, the reform of the financial sector in an attempt to achieve financial development may not be entirely beneficial but could also attract some costs. In the light of the theoretical controversy on the role of finance, several authors have empirically investigated the link between financial development and growth in developed and less developed countries.

Goldsmith (1969) documented the role of financial markets in economic development using the sample of 36 countries drawn from both developed and developing countries over the study period 1860 to 1930. This paper showed that there is a positive relationship between the ratio of financial institutions' assets to GNP and output per person. Goldsmith data further showed that (with some exception) periods of more rapid growth in the economy have been accompanied by an above average rate of financial development.

Fry (1980) investigated the impact of financial sector reform in seven Asian countries. In this paper, the author found a positive relationship between economic growth and the deposit rate. In the light of these findings, the author argued that the McKinnon-Shaw thesis which advocated for higher interest rates as a means of mobilizing financial resources for investment in the productive sector of the economy is consistent. In support of Fry's study, the World Bank (1989) reported a positive association between real interest rate and growth. Moreover, King and Levine (1992) reached similar conclusions to that of Schumpeter (1934). Using a broad set of financial depth indicators to analyze a cross-section of 80 countries from 1960-89. The study found that financial development has predictive power for future growth. This finding provides evidence of the causal relationship that runs from financial development to growth.

In recent decades, the banking sectors of many industrialized countries have been subjected to various forms of deregulation. Apparently, the policy makers in these countries believe that improving the efficiency and performance of financial systems is better implemented through deregulatory policies aiming at increasing bank competition on price, product, services, and territorial rivalry (Smith, 1997). However the empirical evidence on the impact of such initiatives has been mixed.

Motivated by the need to provide further empirical study on the link between financial intermediation and economic growth, Bloch and Tang (2003) used both time-series country-specific and cross-country methodologies for 75 countries. The majority of countries studied were developing countries with emerging market economies. Using simple correlation coefficients between the ratio of private credit to GDP and GDP growth for individual countries, their results show a lack of robustness in the relationship between financial development and economic growth. Specifically, Bloch and Tang found that only 26 countries out of 75 showed a positive correlation with only one country having a significant relationship at 5% level; whereas, 49 countries showed a negative correlation, out of which 21 were statistically significant at the conventional 5% level. This further cast doubt on the conclusion that there is a positive

correlation between financial development and economic growth. Even when a different measure of financial development was employed in the test, the results were not different. However, when the authors employed cross-country regression, they obtained a highly significant coefficient of the financial indicator-private credit to GDP- as explanatory variable of growth in GDP per capita. The coefficient was equally significant when a balanced panel data approach was used. Thus, there is contradiction between time-series studies, on the one hand and cross-country and panel data studies on the other.

In the context of the Nigerian economy, Soyibo and Adekanye, (1992) found that the role of an efficient banking system in economic growth and development lies in savings mobilization and intermediation. Banks, according to these authors are financial intermediaries, whose functions are mainly to channel funds from surplus economic units to deficit units to facilitate trade and capital formation.

Olomola (1997) empirically investigated the relationship between financial deepening (associated with the deregulation of the financial sector in Nigeria) and real private sector investment for the period 1960-96. Using Ordinary Least Square (OLS) techniques, the study found that a positive and significant relationship exists between real private sector investment and financial deepening. Olomola concluded that improved financial intermediation would help bridge the gap between domestic saving and investment in Nigeria. Essien and Onwioduokit (1998) have also examined the effects of financial liberalization on savings mobilization in Nigeria for 1987-93 using quarterly data and error correction model. They found that there was no long-run equilibrium relationship between savings and its various determinants.

In the face of the reform of the financial sector in Nigeria, Ikhide and Alawode (2001) examined the impact of these reforms on macroeconomic stability in Nigeria. Using discriminant analysis, these authors found that the health of the banking sector deteriorated following the adoption of financial reforms in Nigeria. The major factor identified by these authors as responsible for this phenomena is the wrong sequencing responsible for the poor performance of the financial reforms.

Nyong (2000) examined critical factors that influence savings and therefore capital formation and growth in Nigeria. The study examined the macroeconomic importance of savings in Nigeria, the rationale for the financial liberalization and the adjustment programs adopted in Nigeria to correct the perceived distortions in the Nigerian economy. The study found that capital inflows are detrimental to national savings, all things being equal. The study also indicated that taxation on income, expansion of bank branch offices, real interest rates and financial liberalization, may not lead to increase in savings mobilization in Nigeria.

Ezirin and Muoghalu (2004) examined the effect of financial sector reforms on commercial banks operations in Nigeria by comparing two decades: 1976-1985 and 1986-1995. In this paper, various indices of firms performance such as return on equity investment(ROE), return on total assets (ROA), deposit assets ratio (DAR), total deposit ratio(TDR), total investment ratio(TINVR), etc., were used. The paper concluded that the performance of commercial banks was significantly different under deregulated regime compared with regulated one. Specifically the study indicated that the period of financial reform (1986-1995) is more favorable to commercial banks in Nigeria than the pre-reform period(1976-1985).

From the theoretical and empirical survey it becomes apparent that the impact of the financial sector as well as its reform on the economy is controversial. In some studies it has been argued that financial reform may not lead to increase in saving, investment and growth. In Nigeria, in particular, existing studies have not been able to provide concrete evidence on the impact of financial sector reforms on the economy. The dearth of conclusive evidence on this issue can be ascribed to the fact that financial sector reform is a recent phenomenon in Nigeria. Most studies were conducted at the early phase of reforms; when it was rather difficult to measure the effectiveness of financial reform. Using recent data, this paper empirically investigates

the impact of financial sector reforms on the performance of the Nigerian economy. Specifically, the study examines whether financial sector reforms has improved saving and investment vehicles as well as growth in Nigeria.

4. Methodology

To examine the impact of financial sector reforms on the performance of the Nigerian economy, this paper adopts statistical and econometric approach. The statistical approach, basically a "before and after approach" involves the comparison of indicators of financial reform before and under reform. To achieve the objective of this paper using the first approach, we initially compute various indicators of financial reform as well as indicators of economic performance before and after the reform and conventional descriptive statistics are applied to assess the effectiveness of financial reform. These indicators of financial reform include:

(i) Real interest rates (RR): This indicator is a measure of financial liberalization; financial sector reform is expected to transform the existing negative real interest rate to positive in post reform period.

(ii) Ratio of broad money to GDP-M2Y: This is a measure of financial depth. The greater the ratio of broad money to GDP in reform period relative to pre-reform period, the greater the financial depth.

(iii) Ratio of reserve money to deposits-RD: This is a measure of effectiveness of financial intermediaries. The lower the ratio of reserve money to deposit under reform relative to the pre-reform period, the more efficient financial intermediaries.

(iv) Ratio of market capitalization to GDP(MKY): This measure is used as a proxy for stock market development (Garcia and Lin, 1999). The higher this ratio relative to pre-reform period, the more developed the stock market.

(v) Private sector credit ratio (PSCY): If the volume of credit to the organized private sector under reform is greater relative to the pre-reform period, the more effective the allocation of financial resources.

Economic performance in the study is proxied by the ratio of saving to GDP (SR), investment-GDP ratio(IY) and rate of growth of real GDP (GRGDP). We further test the importance of the shocks to indicators of financial reforms on the variances of performance indicators by specifying a Vector Autoregressive (VAR) model. A vector autoregressive process of order p, VAR (p), for a system of k variables can be written as:

$$X_t = \alpha + \beta(L)X_t + u_t \tag{4.1}$$

where Xt is a (k x 1) vector of endogenous variables, α is a (k x 1) vector of constants, $\beta(L)$ is a (k x k) matrix of polynomials in the lag operator L, and ut is a (k x 1) vector of serially uncorrelated white noise residuals. The order of the VAR, (p), is very important since its results crucially depend on it. In VAR model the indicators of financial reform and economic performance enter as endogenous variables. In the estimated VAR model, the Impulse Response Functions (IRFs) are used as analytical tool. The IRFs indicate the direction and size of the effect of a one standard deviation shock to one variable on other system variable over time.

In the study, data covering the period 1970-2004 were obtained from the International Financial Statistics (IFS) – a publication of International Monetary Fund. The choice of this period is informed by two main reasons. First, this period coincides with the era of economic regulation (1970-1985) and economic deregulation (1986-2004). With the adoption of structural adjustment programme (SAP) in 1986, several reforms basically directed at the financial sectors were initiated. Second, the period after 2004 corresponds with the period of merger and acquisition in the Nigerian banking industry due to the upward review of the minimum capital base to N25 billion by the Central Bank of Nigeria.

5. Empirical Results

To investigate the impact of financial sector reforms on the performance of the Nigerian economy, the empirical analysis begins with the assessment of various indicators of financial reform during the pre-reform and reform era. Table I reports the summary statistics of various measures of financial sector reform during the period 1970-85 and 1986-2004. While the mean ratio of broad money to GDP(M2Y) and private sector credit to GDP(PSCY) increased from 21.87% and 10.18% in the pre-reform period to 23.46% and 13.27% respectively, the standard deviation (and variance) for these ratios declined. The increase in mean ratio M2Y indicates that financial sector reform has led to financial depth in Nigeria while the increase in the mean ratio of private sector credit to GDP (PSCY) implies that there is an improved allocation of financial resources under reform relative to the pre-reform period characterized by high level of credit to the government sector. Table I further shows that the average real interest rate(RR) which is negative during the period 1970-1985 also remains negative under reform while its standard deviation and variance increase during the period 1986-2004. This result is quite contrary to theoretical expectation. Following financial reform, market determined interest rates should result in modestly positive real interest rate. This implication of persistent negative real interest rate is that borrowers have no incentives to invest in productive activities and as a corollary the productivity of the economy will be affected. The high negative real interest rate in Nigeria during reform could be attributed to high inflation rate as well as the inconsistent policy measure during the period 1987-1993. For instance, the policy of interest rate deregulation which began in 1987 was later reversed in 1992 and 1993.

Table I: Descriptive Statistics

1970-1985	M2Y (%)	PSCY (%)	RR (%)	RD (%)	MKY (%)	IY (%)	SY (%)	GRGDP (%)
Mean	21.87	10.18	-10.44	15.22	4.71	18.70	18.68	4.71
Median	21.86	9.45	-9.54	13.66	2.73	20.69	17.22	1.16
S.Deviation	8.86	5.02	8.65	9.29	3.68	6.73	8.25	21.13
Variance	78.51	25.19	74.80	86.33	13.56	45.32	67.98	446.46
Kurtosis	-1.60	-1.48	0.40	-0.92	-1.90	-1.36	-1.32	4.64
Skewness	-0.03	0.35	-0.65	0.64	0.32	-0.08	0.03	2.10
Minimum	10.04	3.86	-30.46	5.05	0.58	8.32	4.51	-16.44
Maximum	33.40	18.29	1.06	31.97	9.85	28.34	31.13	66.24
Obs.	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00
1986-2004	**M2Y (%)**	**PSCY (%)**	**RR (%)**	**RD (%)**	**MKY (%)**	**IY (%)**	**SY (%)**	**GRGDP (%)**
Mean	23.46	13.27	-11.70	23.07	9.75	9.04	12.65	4.37
Median	24.40	13.06	0.46	23.70	9.20	8.92	10.56	2.86
S.Deviation	5.36	3.31	21.16	9.21	3.94	2.79	10.77	16.67
Variance	28.72	10.98	447.77	84.88	15.55	7.78	116.09	277.73
Kurtosis	-0.68	-0.59	-0.13	-1.08	2.31	0.74	0.95	-0.40
Skewness	-0.45	0.40	-0.99	-0.33	1.61	0.71	0.64	0.43
Minimum	13.11	8.90	-60.31	8.77	5.74	5.31	-8.88	-18.82
Maximum	32.31	20.41	12.24	37.21	20.10	16.15	38.38	37.88
Obs.	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00

Source: Authors' Computation

The analysis of the ratio of reserve money to deposits (RD) and market capitalization to GDP (MKY) also show that while the mean ratios increased under reform, the standard deviation of RD increased while that of MKY decreased. The increase in the mean ratio and standard

deviation of RD during reform implies that financial intermediaries were largely inefficient during this period while increase in MKY and declining standard deviation indicates the growth and stability of the stock market under reform in Nigeria. These results are in support of Anderson and Tarp (2003) who argued that the increased competition in the banking sector following financial sector reform may not necessarily induce efficient financial intermediation. The high mean of M2Y relative to MKY under the pre-reform and reform period also shows that the activities of financial institutions (banks) dominate that of the stock market in Nigeria.

To investigate the performance of economy under reform, Table I indicates that the investment and saving ratios (IY and SY) as well as the growth of the real GDP (GRGDP) declined under financial reform in Nigeria. This result is contrary to a priori expectation since financial reform is expected to increase saving, investment and ultimately growth in the economy. The decline in these performance indicators under financial reform may be ascribed to the instability in macroeconomic environment characterized by high inflation, severe balance of payment situation etc.

In Table II, we examine correlations between different indicators of financial reform and performance indicators, IY, SY and GRGDP. Importantly, we initially look at the correlation between M2Y and MKY. The M2Y is a measure of financial depth and the level of development of financial intermediaries, while MKY is a measure of stock market development. Theoretically, the correlation between M2Y and MKY may be positive or negative. When the activities of the financial intermediaries and stock market complement each other, then a positive correlation exists between M2Y and MKY. Under this situation, financial institutions and the stock market grow together. The reverse holds if financial institutions and the stock market are substitutes. Table II also shows that a positive (though low) correlation exists between M2Y and MKY under financial reform in Nigeria. This implies that both financial institutions' activities and that of the stock market have been complementing each other.

Table II: Estimated Correlation Matrix of Variables (Sample: 1986-2004)

	M2Y (%)	PSCY (%)	RR (%)	RD (%)	MKY (%)	IY (%)	SY (%)	GRGDP (%)
M2Y(%)	1.00							
PSCY(%)	0.78	1.00						
RR(%)	0.07	0.20	1.00					
RD(%)	-0.03	-0.01	-0.23	1.00				
MKY(%)	0.18	0.52	0.31	0.15	1.00			
IY(%)	0.58	0.37	0.10	-0.02	0.37	1.00		
SY(%)	0.03	-0.22	0.27	-0.14	-0.12	0.01	1.00	
GRGDP(%)	-0.31	-0.27	0.17	-0.09	-0.01	-0.18	0.48	1.00

Source: Authors' Computation

The correlation of investment ratio (IY) with various indicators of financial reform (M2Y, PSCY, RR, RD, MKY) shows that the financial deepening measured by M2Y is positively related to investment-GDP ratio (IY). A positive (though low) correlation also exists between PSCY, RR and MKY and IY while a negative correlation exists between RD and the latter. There is also positive but low correlation between the saving rate (SY), financial depth (M2Y) and real interest rate (RR) while a negative but low correlation also exists between SY, PSCY, RD, and MKY. The negative correlation between SY and RD implies that the inefficiency of financial intermediaries negatively affects savings while the positive correlation between saving rate and real interest rate suggest that the substitution effect outweighs the income effect in Nigeria. All the financial sector indicators, with the exception of real interest rate (RR), are negatively correlated to the growth of real GDP and their correlation coefficients are very low.

The above results indicate that most indicators of financial reform are negatively correlated with saving rate. Moreover the correlation of the latter with M2Y, though positive is very low under reform. This suggests that financial sector reform has not increased saving in Nigeria. The analysis also reveals that though most indicators of financial reform are positively correlated with investment ratio (IY), these correlations are very low. With respect to growth of real GDP(GRGDP) the results further indicates that most financial indicators are negatively correlated with this variable. All these results suggest that the performance of the economy under financial reform has been very poor.

We further test the robustness of the above findings, by utilizing econometric approach. Specifically, the Vector Autoregressive (VAR) methodology is employed and the impulse response functions (IRFs) are used as analytical tool. To achieve this objective, we initially carry out a unit root test. This becomes crucial since recent innovation in econometric modeling has shown that most macroeconomic variables are non-stationary in their levels but most adequately represented by first difference (Dickey, Jensen and Thornton, 1991).

Table III: Unit Root Test (Sample period 1986-2004)

Panel A:							
Variables	Levels	First Diff.	Second Diff.	Order of integration	Critical value (5%) level	Critical value (5%) 1st Diff.	Critical value (5%) 2nd Diff.
M2Y	-2.29	2.88**	-4.32	1	-3.05	-3.07	-3.08
PSCY	-1.66	-2.70**	-3.61	1	-3.05	-3.07	-3.08
RR	-2.98	-4.98*	-6.10	1	-3.05	-3.07	-3.08
RD	-2.15	-2.00	-2.95**	2	-3.05	-3.07	-3.08
MKY	0.65	-1.22	-3.06**	2	-3.05	-3.07	-3.08
IY	-1.21	-1.94	-5.19*	2	-3.05	-3.07	-3.08
SY	-3.05**	-4.22*	-5.67	0	-3.05	-3.07	-3.08
GRGDP	-6.05*	-5.91*	-5.81	0	-3.05	-3.07	-3.08
Panel B:							
Variables	Levels	First Diff.	Second Diff.	Order of integration	Critical value (5%) level	Critical value (5%) 1st Diff.	Critical value (5%) 2nd Diff.
M2Y	-2.14	-2.96	-4.31	2 1±	-3.71	-3.73	-3.76
PSCY	-2.64	-2.69	-3.61**	2 1±	-3.71	-3.73	-3.76
RR	-3.57	-4.64*	-5.82	1	-3.71	-3.73	-3.76
RD	-1.75	-2.27	-2.88	× 2±	-3.71	-3.73	-3.76
MKY	-0.68	-1.93	-2.90	×	-3.71	-3.73	-3.76
IY	-0.49	-2.26	-5.27	2	-3.71	-3.73	-3.76
SY±	-2.95	-4.08*	-5.51	2 1±	-3.71	-3.73	-3.76
GRGDP	-5.82*	-5.63*	-5.57	0	-3.71	-3.73	-3.76

*Note: Panel A is the ADF test (lag 1) with intercept but no trend while panel B is ADF Test (lag 1) with intercept and trend. * and ** indicates that variables are stationary at 5% and 10 % levels respectively. ± indicates that the order of integration is further confirmed by Philips Perron Test. × indicates that the variable of order greater than 2.*

Using the Augmented Dickey Fuller (ADF) Test, Table III shows that the variables employed in the study are of different order of integration. The ADF test (with constant) indicates that GRGDP and SY are stationary in level while M2Y, PSCY and RR are of unit root. Variable RD, MKY and IY are also shown to be integrated of order 2 and became stationary only after second difference. The ADF test (with constant and trend) further shows that only GRGDP is

stationary in level, while RR is of unit root. The ADF test under this assumption also indicates that M2Y, PSCY, IY and SY are integrated of order 2, while RD and MKY are integrated of order greater than 2. In the light of the inconclusive result on the order of integration of some variables employed, the Philips-Perron test was further adopted. This test statistics further confirms the results of ADF test with only an intercept and indicates that variables M2Y, PSCY, SY and IY are of order 1, 1, 2 and 2 respectively. The inconclusive results of some of the data series could be attributed to their short span and the low power of the ADF test statistics. Based on the inference drawn from both the ADF and Philips-Perron tests, we conclude that M2Y, PSCY, RR, and SY are I(1) series, while RD and IY are I(2) series. Moreover, variable GRGDP is found to be stationary in level while the test indicates the MKY is of higher order of integration and eventually excluded from the analysis. Given the different order of integration of variables, coupled with the short span of our data, a VAR system of order 1 is estimated and the vector of endogenous variable is: xt = (dM2Y, dPSCY, dRR d2RD, dSY, GRGDP, d2IY'); where d and d2 indicate that variables are integrated of order 1 and 2 respectively. In the paper, the Choleski decomposition is used to orthogonalize the variance-covariance matrix and the preferred ordering of variables is dRR, dM2Y, dSY, d2RD, dPSCY, d2IY and GRGDP. This ordering implies that financial reform is expected to have its initial effect on real interest rate then financial deepening (M2Y), increased savings and efficiency of financial intermediaries. With the latter effect, we expect increase in credit to the private sector, more investment and ultimately growth of real GDP.

In the paper, we focus only on the IRFs for savings rate (SY), investment-income ratio (IY) and growth in real GDP (GRGDP). Table IV panel (a) shows the responses of saving rate to various indicators of financial reform. A one standard deviation shock to financial depth variable (M2Y) leads to a significant decline in saving rate (SR) after one year and its effects became insignificant afterward. Shock to private sector credit (PSCY) also produces no effect on saving after a year and its effect remains insignificant overtime. Though shock to real interest rate (RR), causes a significant increase in saving after the 1st year, this variable declines significantly after the 2nd and 3rd year. Shock to the ratio of reserve money to deposit (RD) does not have any effect on saving after the 1st year and remained insignificant after the 3rd, 4th and 5th year.

Table IV panel (b) indicates that a one standard deviation shock to all financial indicators cause insignificant response in the ratio of investment to GDP. Moreover, panel (c) reveals that shock to financial depth variable (M2Y) initially causes a decline in the growth of real GDP after the 1st year. The decline became significant after the 2nd year and insignificant after the 3rd and 4th year. Shock to private sector credit (PSCY) also has negative and insignificant effect on growth after the 1st, 2nd and 3rd year, while shock to ratio of reserve to GDP(RD) also has negative effect on growth after the first year.

To conclude, the analysis done so far has indicated that financial sector reforms have led to financial depth, increase in credit to the private sector and growth in stock market activities in Nigeria. The comparison of the ratio of reserve to deposit before and under reforms also indicated that financial intermediaries were relatively inefficient under reform than in pre-reform period. The period of reform, as analysis shows is also characterized by high negative real rate of interest. With respect to the impact of financial reform on the performance of Nigerian economy, the analysis indicated that the correlations between financial indicators and performance indicators (savings rate, investment ratio and growth of real GDP) were either low or negative during the reform period. Evidence from the VAR analysis also indicated that shocks to financial indicators have either negative or insignificant impact on savings rate, investment ratio and growth. These results imply that financial sector reforms have not led to improved performance in Nigeria.

Table IV: Impulse Response Functions

Panel (a)				
Period	**M2Y**	**PSCY**	**RR**	**RD**
1	-1.682121	0.000000	5.499122	0.000000
	(2.30150)	(0.00000)	(2.51601)	(0.00000)
2	1.950687	1.881200	-1.946084	1.792479
	(1.96240)	(1.78674)	(2.33007)	(2.07108)
3	0.885150	-0.350948	-0.385107	-3.007978
	(1.76602)	(1.71381)	(2.02995)	(1.77635)
4	-0.542988	0.828231	0.129690	0.235437
	(1.54943)	(1.45732)	(1.65186)	(1.49678)
5	0.289949	-1.912761	1.062529	1.552224
	(1.44196)	(1.20246)	(1.47616)	(1.35432)
Panel (b)				
Period	**M2Y**	**PSCY**	**RR**	**RD**
1	-0.056998	0.403125	0.755399	-0.526879
	(0.22887)	(0.16527)	(0.26517)	(0.20265)
2	-0.916916	-0.067745	-0.543636	0.094732
	(0.27924)	(0.18957)	(0.36018)	(0.21701)
3	0.407437	-0.062977	-0.173387	0.421058
	(0.28636)	(0.28386)	(0.33063)	(0.30594)
4	0.405191	0.098619	0.233239	-0.413146
	(0.29870)	(0.25267)	(0.32021)	(0.26678)
5	-0.355089	0.059160	-0.037081	-0.101254
	(0.27735)	(0.20447)	(0.28656)	(0.25093)
Panel (c)				
Period	**M2Y**	**PSCY**	**RR**	**RD**
1	-6.815073	-2.993813	1.605961	-0.898102
	(1.71429)	(0.96097)	(2.11442)	(1.10850)
2	-0.102878	-0.599407	0.512500	6.094264
	(2.43203)	(1.49857)	(2.60042)	(1.99293)
3	2.519044	0.141070	0.381138	-1.942277
	(1.99238)	(1.72004)	(2.34556)	(1.85806)
4	-2.110564	2.568500	-2.276206	-2.867827
	(1.99611)	(1.78563)	(2.22098)	(1.98329)
5	-1.062313	-2.051416	-1.503854	2.321574
	(2.00018)	(1.50277)	(2.07242)	(1.77543)

Note: Panel (a), (b) and (c) show the response of SY, IY and GRGDP to indicators of financial reform.

6. Conclusion and Policy Implications

The objectives of financial sector reforms were to promote savings, investment and growth. Given the structural bottlenecks and distortions engendered under the regulated regime, developing countries, Nigeria inclusive, opted for economic reform which is largely directed towards the financial sector. In Nigeria, financial reform was launched under the auspices of the IMF supported Structural Adjustment Programme in 1986. With its adoption in Nigeria, this paper investigated its impact on the performance of Nigerian economy. In the study, both statistical and econometric techniques were adopted. Descriptive statistics, correlation, and Impulse Response Functions (IRFs) were used as analytical tool.

The main findings of this paper indicated that though financial reform has led financial depth, increase in credit to private sector, and growth of stock market activities, real interest rate is still negative and the performances of financial intermediaries were still largely inefficient. Analysis indicated that the mean of performance indicators – saving rate, investment ratio and growth of real GDP were very low relative to pre-reform period. The correlation matrices also show that the correlation of financial indicators with performance indicators were mostly low or negative under reform. Moreover, evidence from the VAR analysis also showed that shocks to financial indicators (in most cases) had either negative or insignificant positive effect on the saving rate, investment and growth. These results suggest that financial sector reform has not actually improved the performance of the Nigerian economy. The poor performance of the economy under reform could be attributed to macroeconomic stability, poor sequencing of reform programme, structural bottlenecks and other non-financial factors.

The policy implications of this paper, which serves as its valuable contribution, are of two folds. First, though financial sector reforms is a precondition for the development of the financial sectors in developing countries it is crucial to note that financial sector reforms will play a key role in the development process provided there are no other impediments to economic growth. Achieving macroeconomic stability prior to reform is very crucial. The situation in Nigeria is such that reform packages were adopted under macroeconomic instability characterized by high inflation rate, unstable exchange rate, high level of unemployment and low level of output. This macroeconomic environment must have contributed to the ineffectiveness of financial reform in the country. On the last note, the success of financial sector reforms also depends on the extent to which a country complements it with structural reforms and the development of the real sectors of the economy. Given the low level of saving and investment in Nigeria, complementary reforms are needed to mobilize contractual savings, promote markets for commercial papers, mortgages and other long-term financial instruments. Growth can also be promoted through infrastructural development and accelerated promotion of Small and Medium Scale Enterprises.

References

[1] Andersen, B.T. and Tarp, F.(2003). Financial Liberalization, Financial Development and Economic Growth in LDCs, Journal of International Development, 15, p. 189-209.

[2] Baliamoune, M.N. and Chowdhury (2003). The Long-run Behaviour and Short-run Dynamics of Private Saving in Morocco, Saving and Development, 27(2): p 135-60.

[3] Bloch, H. and S. H.K. Tang (2003).The role of Financial Development in Economic Growth, Progress in Development Studies, Vol. 3, No. 3, pp. 243-251.

[4] Chandavarkar, A. (1992). Of Finance and Development: Neglected and Unsettled Questions. World Development 22, p. 133-142.

[5] Dickey, D.A., D.W., Jesen and D.L., Thornton(1991). A Primer on Cointegration with an Application to Money and Income, Federal Reserve Bank of St. Louis, pp. 58-78.

[6] Domar, E.D.(1947). Expansion and Employment, American Economic Review XXXVII (March) p. 34-55.

[7] Essien, E.A. and Onwioduokit, E.A.(1988). Recent Developments in Econometrics: An Application to Financial Liberalization and Saving in Nigeria. NDIC Quarterly 8 (1/2): March/June.

[8] Ezirim, C.B. and Muoghalu, M.I. (2004). Financial Reforms and Commercial Banks Operations in Nigeria: A Comparison of Two Decades, Union Digest, Vol. 8 No. 2, June p. 62-81.

[9] Fry, M.J. (1978). Money and Capital or Financial Deepening in Economic Development? Journal of Money, Credit and Banking 10, 464-475.

[10] Fry, M.J.(1980). Policies to Move from Stabilization to Growth. Proceedings of the World Bank Annual Conference on Development Economics.

[11] Garcia, Valeriano, and Liu, Lin (1999). Macroeconomic Determinants of Stock Market Development, Journal of Applied Economics 11, 29-59.

[12] Goldsmith, R.(1969). Financial Structure and Development; New Haven: Yale University Press.

[13] Harrod, R.(1939). An Essay in Dynamic Theory, Economic Journal XLIX, (March) P.14-33.

[14] Ikhide, S.I. and Alawode, A.A. (2001). Financial sector reforms, macroeconomic instability and the order of economic liberalization: The evidence from Nigeria. AERC Research Paper 112, Nairobi. (November).

[15] Ikhide, S.I.,(1997): Financial Sector Reform and Growth of Capital Market in Nigeria, Institute of Developing Economies, V.R.F Series, No. 291, (February).

[16] Kapur, B.K. (1976). Alternative Stabilization Policies for Less Developing Countries. Journal of Political Economy 84, p. 777-795.
[17] Keynes, J.M. (1936). The General Theory of Employment, Interest and Money, London, Macmillan.
[18] King, R.G and Levine, R. (1992). Financial Indicators and Growth in Cross Section of Countries, WPS 819, January, Washington D.C.; The World Bank.
[19] Krugman, P. (1986). Ricardo's Difficult Idea: Why Intellectuals Don't Understand Comparative Advantage, in G. Cook (ed.) Freedom and Trade, vol. 2. The Economic and Politics of International Trade. Studies in the modern World Economy 10, London and New York: Rutledge.
[20] Kuznets, S.(1955). Economic Growth and Income Inequality, American Economic Review, Vol. 45, p. 1-28.
[21] Luintel, K.B. and Khan, M. (1999). A Quantitative Reassessment of the Finance -Growth Nexus: Evidence from a Multivariate VAR, Journal of Development Economics, Vol. 60.
[22] McKinnon, R. (1973). Money and Capital in Economic Development. Washington DC: Brookings Institution.
[23] Nyong, M.O.(2000). Savings Mobilization for Capital formation and Growth in Africa: The Case of Africa, in Fiscal and Monetary Policy During Structural Adjustment in Nigeria, Proceedings of a Senior National Policy Workshop, Edited by Akpan H. Ekpo, Sponsored by AERC and Central Bank of Nigeria.
[24] Ojo, O. (1993). A Review and Appraisal of Nigeria's Experience with Financial Sector Reforms, Central Bank of Nigeria Research Department, Occasional Paper No. 8. (August).
[25] Olomola, A.S.(1997). Financial Deepening and Real Private Investment: Empirical Evidence from Nigeria (1960-96), NCEMA Journal of Economic Management 4(1), January.
[26] Oresotu, F.O. (1992). Interest Rate Behaviour Under a Programme of Financial Reform: The Nigerian Case, Central Bank of Nigeria Economic and Financial Review, Vol. 30 No. 2 (June). P. 109-129.
[27] Raghbendra, J. (2003). Macroeconomics for Developing Countries, 2 ed. Rutledge Taylor and Francis Group London, New York.
[28] Robinson, J. (1952). The Rate of Interest and Other Essays. Macmillan, London.
[29] Schumpeter, J. (1934). The Theory of Economic Development, Harvard University Press, Cambridge, Massachusetts.
[30] Shaw, E., (1973). Financial Deepening in Economic Development, New York: Oxford University Press.
[31] Singh, D. (1997). South East Asian Affairs, Singapore: Institute of South East Asian Studies.
[32] Smith, R.T. (1997). Banking Competition and Macroeconomic Performance. Working paper, University of Alberta, Edmonton Canada.
[33] Solow, R.M. (1956). A Contribution to the Theory of Economic Growth, Quarterly Journal of Economics, vol. 70 (February).
[34] Soyibo, A. and Adekanye, F.(1992). The Nigerian Banking System in the Context of Policies of Financial Regulation and Deregulation, AERC Research Paper No. 17. Nairobi: Initiative Publishers.
[35] Swan, T.W. (1956). Economic Growth and Capital Accumulation, Economic Record 32 (November) p. 334-361.
[36] Tobin, J. (1955). "A Dynamic Aggregate Model," Journal of Political Economy, 63 (April).
[37] World Bank (1989). World Development Report 1989: Financial Systems and Development, New York: Oxford University Press.