CONTENTS

Lagos Journal of

Banking, Finance & Economic

ISSUES

Vol 2, No. 1

July 2008

Lagos Journal of Banking, Finance & Economic Issues

CONTENTS

FINANCIAL SECTOR REFORMS AND GROWTH OF THE NIGERIAN ECONOMY

Philip O. Alege and Isaiah O. Ogunrinola
Department of Economics, Covenant University, Ota, Ogun State, Nigeria.

ABSTRACT

The objective of this paper is to assess the financial deepening thesis and its contribution to growth following the era of economic reforms in Nigeria. The study covered a period of thirty-three years (1970-2002), both years inclusive, in the analysis. Based on the standard Solow growth model, we have used the OLS estimation technique and the Error Correction Model to empirically investigate the proposition. In addition, the conventional financial development indicators, we adopted a new set of indicators to measure financial depth/development. The innovation of this study is the inclusion of some variables designed to capture the effects of globalisation on financial development in Nigeria. Our basic results suggest that financial reform policies have been beneficial and as well brought about some costs to the financial development of the economy. While monetary depth, depth of financial intermediation and overall financial depth are indices of benefits; interest rate and financial asset-deepening are indices of costs. In addition, there is no empirical support for financial-development-induced economic growth.

1.   INTRODUCTION

Financial liberalization measures were introduced into the Nigerian economy with the advent of Structural Adjustment Programme (SAP) in 1986. It was part of a comprehensive package designed to reverse the adverse economic situation prevailing in the country at that time. Hitherto, the Nigerian economy was characterized by excessive control of the financial and foreign trade sectors through the determination of interest rates, prices, and exchange rates by fiat. These interventionist policies consequently engendered severe "balance of payments deficit escalating external debt and the crushing debt-service burden." (Iyoha, 1995).

The SAP was supported by the International Monetary Fund (IMF). The main objective of the Fund was to enforce substantial reduction of government intervention in setting interest rates, allocation of credit and capital market

activities by eliminating entirely or partly the interventionist regime of the government. Thus, the main objective of financial liberalization is to enhance efficiency through greater reliance on market forces. The essential components of this include liberalizing interest rates, reducing controls on credits, promoting competition in the financial system, strengthening the supervisory framework and promoting the growth and the deepening of the financial system.

It is apposite to state here that the adoption of an IMF-supported financial liberalization policy was not unique to Nigeria. Many developing countries have had to swallow "the pills". This was due in part to the shift in philosophical underpinnings of economic policies that occurred in the 1980s. For instance, Tseng and Coker (1991) maintained that excessive controls and regulations were increasingly viewed globally as inappropriate and inimical to efficient resource allocation and for the attainment of rapid economic growth. Therefore, the liberalization of the financial system in several countries became necessary.

Although the cardinal objective of financial liberalization programmes is to enhance efficiency in financial system thereby promoting savings, investment and economic growth, the controversy over financial development and economic growth has continually motivated empirical enquiry into the impact of financial liberalization on economic growth. Horsh's (1989) study found that the financial liberalization measures embarked upon in the Korean economy led to a gradual broadening of outside ownership, deepening of financial markets and the increased internalization in Korea. This study corroborates earlier work of Cho (1986) who discovered that the increased competition arising from the adoption of financial liberalization measures in Korea led to a much more integrated financial system in terms of access and cost of capital among various sectors. Bekaert and Harvey (2000) also established that GDP growth increased significantly in 14 out of 19 developing countries that embraced financial liberalization programme. Similarly several studies have found a positive and significant relationship between financial liberalization and economic growth in less developed countries (LDCs). However, much has not been done in this area in Nigeria, particularly when viewed against the globalisation phenomenon. Ikhide (1997) investigated the impact of financial liberalization on the growth of the capital market. He found that the capital market in Nigeria, since the reform of the financial sector in 1986, has grown substantially in terms of its capital mobilization capabilities. This growth was reflected in such measures as bank capitalization, securitisation and listing,; breadth as measured by the asset pricing characteristics such as stock market index; internationalisation as depicted by the sizeable increases in net portfolio and direct investment.

This study therefore intends to examine the impact of financial liberalization on the growth of the Nigerian economy. Towards achieving this objective, a number of questions will be explored in this study. They include, but not limited to the following: Has financial liberalization caused the growth of the economy? To what extent has financial liberalization affected financial assets? Has there been monetary depth? Has the policy influenced financial intermediation? Has global financial index affected the financial system as a whole? These questions bordered on benefits and costs of economic reforms in the financial services sector. The main thrust of this study therefore, is to empirically investigate the impact of financial liberalization policy on financial development and economic growth in Nigeria, using macro-economic data between the years 1970 and 2002.

This paper is in six parts. Section 2 discusses the literature review and theoretical framework; Section 4 presents the model; in Section 5 we discuss the estimated regression equations, while Section 6 gives the conclusion.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Brief Literature Review

2.1.1 Background
Following decades of economic stagnation in Nigeria, the SAP package was adopted and a major aspect of this programme is the restructuring of the financial sector and the liberalization of the control and regulation of financial institutions and markets. Financial liberalization, however, involves changes in the financial structure of the economy. Such changes, according to King (1986) and Tseng and Coker (1991) entail the liberalization of interest rates, reductions or abolition of credit controls, removal of limits on scope of banking activities, banking systems reforms, reduction or abolition of foreign exchange controls and free entry of foreign institutions to domestic financial markets.

The effects of SAP in developing countries have yielded mixed results. In Africa, the result is generally undesirable. In Asia and Latin America, there are some cases of positive effects of financial liberalization whereas others are negative. According to de la Cudra and Prieto (1990), the desired efficiency gains have been realized in some of the attempts. Others have resulted in considerable financial crisis rather than growth (Daiz-Alejandro 1983, Atiyas 1990, Tybout 1986). In Nigeria. SAP provided the basis for the liberalization of

the financial market and therefore the adoption of market-based system. Consequently, several measures similar to those adopted in Asia and Latin America (Korea, Japan, Malaysia, Chile, Argentina and Uruguay) were put in place. These measures include interest rate liberalisation, elimination of credit control, banking system reform, and foreign exchange market deregulation.

2.1.2   Interest Rate Deregulation

Prior to SAP in 1986, the structure and level of interest rates in Nigeria were fixed and administratively determined. The deregulation of interest rate freed the banks from the ceilings hitherto imposed on their deposit and lending rates. Although, the CBN fixed the minimum rediscount rate, now renamed Monetary Policy Rate (MPR), the financial system was allowed to freely set the differentials between their rates and the MPR. The financial system is also free to set the level of their deposit and lending rate to reflect the scarcity of their funds in the financial markets. The basic objective of interest rates liberalisation in Nigeria was to provide the avenue for banks to charge market-based interest rates and thus enhance their savings mobilization and resource allocation efforts (Ikhide, 1997). In 1989, the CBN raised MPR to 13.25% in order to curb the growth of money supply. In a competitive bid to mobilize deposits, banks charged different deposit rates which forced the rates up. To curb the excessive rise in interest rate, the CBN fixed the spread between savings and the lending rate at 7 percentage points, and the margin between the prime and maximum lending rates for banks at 4 percentage points. However this measure did not help in achieving the desired objective.

Interest rate still continued to rise and this affected most firms that are dependent on bank credit since they found it extremely difficult to borrow from the banking system. The CBN in furtherance of the flexible interest rate policy also introduced the auction-based system for issuing treasury bills and treasury certificate in 1989. The year also witnessed the introduction of paying interest rate on current account deposit which was made mandatory in 1990. However, the years 1991 and 1994 witnessed a policy reversal of interest rate management. The policy position in 1991 was the re-introduction of maximum interest rate of 21% while saving rate was allowed a minimum rate of 13.5%. The cap on interest rates was removed in 1992 and interest rate regulation was further introduced in 1994. A market rate of interest rate was further re-introduced and has been in operation since then.

2.1.3   Foreign Exchange Market Deregulation

In a small open developing economy such as Nigeria, exchange rate is a key element of liberalisation. Thus, with the introduction of SAP in 1986 came the auction market for the determination of the exchange value of the naira. The economic policy authorities realized that the emergence of a rate that reflects the state of scarcity in the economy will go a long way in the SAP management. Thus, several changes were introduced in the "modus operandi" of the market as well as in the orientation of some complementary macro-economic policies.

In the years after the beginning of SAP, it was expected that naira exchange value will stabilize at a sustainable equilibrium level. However, a continuous depreciation of the naira exchange rate (NER), and declining real exchange rate (RER), was observed up till 1990, in the context of domestic indirect effects. According to Oyejide and Ogun (1995), "the direct effect usually results from dual rate as a demand-management instrument and production incentive instrument. Thus, the levels of inflation, import demands and export prices usually epitomize such direct effects. The indirect effect which is chiefly associated with the expenditure-switching nature of exchange rate depreciation is often reflected in a relatively declining non-tradable good expenditure."

Available data on the rate of inflation, import demand and export prices suggest that exchange rate realignment efforts have not produced the desired effect on the economy. The structure and growth of the economy have not been encouraging, following SAP. In this regard, data shows that the contributions of agricultural and manufacturing sectors continue to decline in the total aggregate output; although import of finished goods has been on the continuous increase. Furthermore, exchange rate liberalisation was also expected to affect the structure of public expenditure by encouraging expenditure-switching from non-tradable to tradable goods. In this respect, expenditures on tradables (agriculture, manufacturing, mining and water resources), have been stagnant if not declining even in nominal value. However, expenditures in non-tradables (administration, construction, transport and communication, education, health, housing and transfers) have remained on the increase.

One key policy objective of government is the achievement of balance of payments equilibrium. Exchange rate can be used by authorities to bring about balance of payments equilibrium through its direct effect on capital flow. In practice however, depreciation of naira exchange rate has not contributed to increase in export of goods and services in Nigeria. The positive trade balance

observed over the period was due to the oil export. Thus, current account deficit has been a common phenomenon over time. This provoked capital outflow and the consequent pressure on the overall balance of payments. We opined that Marshall-Lerner condition for currency depreciation/devaluation may remain an unfulfilled dream in our economic environment since the country is not essentially an exporter of manufactured goods with high value-added, but an exporter of raw primary products (oil, agriculture products) with low value addition and high price volatility in the world market.

The current situation in the foreign exchange market is however not unexpected. It should be noted that one of the most destabilizing effect of the policy is the presence of the parallel market alongside the official market. This has contributed in no mean way to the rapid depreciation of the naira value. The official exchange rate market was cancelled in December 1998 paving way for a unique exchange rate market. With the exception of some isolated appreciation of the naira exchange value, the currency has been undergoing depreciation since the advent of SAP. This depreciation of the naira value in search of equilibrium was already predicted by Oyejide and Ogun (1995).

2.1.4 Banking And Financial Sector Reforms
The reforms in the banking and financial sector constitute another major policy shift in SAP. Prior to the commencement of the programme there was no real competition among the banks. According to Ndekwu (1995), banking and financial institutions since the reforms, have been more innovative and aggressive in packaging competitive financial services to attract customers' deposit and continued patronage. Some elements of the latter include:
- Interest rate structure on deposit whose differentials are based on deposit size and maturity;
- Increasing linkage between banking and other financial institutions;
- Increased supply of specialized service such as management training and development, business consultancy in treasury funds and credit management; and
- Competition for foreign exchange operation.

Today, government policy has narrowed down competition in foreign exchange market. Universal banking has been institutionalised and competition is kept keen due to new and modern form of innovation and incentives.

2.1.5 Capital Market Liberalisation

Capital market liberalisation is another aspect of financial market deregulation. Capital market liberalisation is germane to the linkage of domestic and international capital markets for the flow of foreign direct portfolio investments. It also provides mechanism for equity financing of the productive sectors thereby minimizing self-financing by the enterprises.

According to Ndekwu (1995), the Nigerian capital market liberalisation can be characterized by:

- Determination of asset prices by market forces as well as enhance participation of private placement of new issues (primary) and security (secondary) market;
- Credit facilities were permitted for the purchase of equities especially of privatised public enterprises while the quotas of such equities could be reserved for employees; and
- The internationalisation of domestic equity by both quoting of equities via Reuters and debt conversion programme.

There are sufficient reasons to believe that the total effect of liberalisation is that market capitalization has increased tremendously. Going by activities in the Nigerian Stock Exchange, we could see the positive effect of capital market liberalisation. In recent years, the capital market recorded improved performance and market indicators showed upward trends. In the secondary market, volumes and values of transactions are on the increase. Similarly, activities in the primary markets are on the increase. The latter is even more agitated by the recent recapitalisation policy of CBN to the effect that all banks must increase their capital base to 25 billion naira by December 2005.

2.2. Theoretical Framework

2.2.1 Neo—Classical Economic Doctrine and Liberalisation

The theoretical background of economic and financial liberalisation can be found in neoclassical economic doctrine and in particular its monetarist variant. The main component of such laissez-faire policy includes outright or phased deregulation of both the real and financial sector, the privatisation or commercialisation of government owned companies, corporations and parastatals, deregulation of both the domestic and external sectors, and in general "allowing market forces to determine the prices of commodities and hence allocate scarce resources". According to Iyoha (1995), the adoption of

economic liberalisation presupposes belief in laissez-faire approach, in the doctrine of consumer sovereignty, the doctrine of near infallibility of Adam Smith's "invisible hand" and belief in the superiority of the market system and of market-determined prices. It follows therefore that the adoption of economic liberalisation results from the belief that a deregulated economy will yield the optimal allocation of scarce resources, reduce wastage and bring about rapid economic growth. The latter constitutes the framework on which the World Bank and International Monetary Fund (IMF) recommended structural economic reform for developing countries.

Economic theory supports the view that under certain conditions a competitive market will ensure an efficient allocation of resources in the Pareto sense. Such situation will ensure both internal and external efficient resource allocation. Certain adjustments to internal structures will ensure that resources are efficiently allocated between the competing needs. The external aspect aimed at removing distortions in trade regime and provides better incentives for all trading sectors. The main focus of the external sector component is the foreign exchange regime where the aim was to achieve stability. The latter is to improve export competitiveness thereby improving trade balance and subsequently overall balance of payments. The theoretical justification lies within the theory of international trade which presupposes that under certain conditions free trade brings about the most efficient allocation of resources in all trading countries.

In spite of the above predictions, many authors, particularly from the developing world have questioned the theories underpinning the types of economic liberalisation applied in those countries. In this category are Ikpeze (1988), Obadan and Ekuerhare (1988), Okogu (1989) and Olopoenia (1992). The fundamental argument was that in developing world, the condition for the efficient functioning of the free market system does not exist.

2.2.2   Financial Liberalisation and Economic Growth

Economic growth is a key policy objective of any government and monetary policy is a major instrument of attaining such objective. However, monetary policy as such is an aggregate (macro-economic) phenomenon within which there are policy instruments including interest rates, money supply, exchange rates, inflation rates, credit control and others. Thus, in addressing the pertinent issue in economic management, experts and decision makers have had to choose between or combine some of these instruments. In fact, deregulation policies under SAP address all these components.

However, the link between financial liberalisation and economic growth is not so evident. To date the general consensus is that the state of financial repression that permeates most LDCs must be removed. In this context, it is believed that the policy of deregulation and full financial liberalisation will bring about economic growth in a sustainable manner. In this respect, most empirical findings such as McKinnon (1973), Shaw (1975) and Ghant (1992), among others, have placed emphasis on the relationship between per capita output and measures of financial liberalisation. These measures include financial size, depth, institutional importance and asset distribution by the financial system. Most of the empirical studies on this subject-matter were based on cross-country data and have demonstrated the existence of correlation between financial development and economic growth. Some other studies considered other measures of financial liberalisation. In particular Olomola (1994) stressed that the variables affecting changes in the financial sector were: financial structure; the size of the financial system; institutional importance; asset distribution by the financial system; interest rate structure; financial intermediation and financial efficiency. With the onset of SAP in 1987, performance of each of the above measures of financial liberalisation in relation to aggregate economic growth has been subjected to evaluation.

In our view, the financial system may be assessed under a given set of financial indicators. First, the ratio of M1 to GDP (i.e. M1/Y) where M1 is money supply and it is defined as the sum of currency held outside the banking system plus demand deposit of commercial banks plus domestic deposit with CBN less federal government deposit at commercial banks. Second, the ratio of quasi-money to GDP (i.e. QM/Y), where quasi-money (QM) is defined as the sum of savings and time deposit with commercial banks. Third, the ratio of M2 to GDP (M2/Y), where M2 is defined as the sum of M1 and quasi-money. Finally, the ratio of private sector domestic credit to GDP (DCREDIT/Y).

M1/Y is commonly used as monetary depth while M2/Y represents overall financial depth (King and Levine, 1992). QM/Y is always viewed as the indicator of the financial intermediation (Neal, 1988; Gertler and Rose 1991). Theoretically, it is predicted that these indicators will have a positive effect on the growth of the economy. For these indicators to have any sustainable effect on economic growth, three issues, according to Ndekwu (1995) must be considered. They are: the intervention variables, the transmission mechanism and the limiting factors within developing economies. These issues and other methodological issues are examined in the foregoing section.

3.   METHODOLOGY

3.1   Introduction

Our model of financial liberalization and economic growth is designed to provide informed and better understanding of financial development in Nigeria particularly following the policy reforms of recent years. On the one side, we recognize some indicators of financial development including financial assets, monetary depth, depth of financial intermediation, and overall financial depth. On the other hand, we noted that financial sector liberalization is a component of monetary policy whose main objective is the enhancement of the growth and development of the sector. Hence, any empirical investigation must involve a review of the money market situation, that is, must incorporate the money demand equation.   However, new innovations have been brought into this sectoral analysis by introducing new indicators of financial development. These indicators will be defined in sub-section 4.2 below.

3.2   Data Definition and Measurement

Some of the variables used in this study are as defined by Olomola (1994). The equation of monetary policy link is as provided by Alege and Izedonmi (2005). Most of the explanatory variables are as defined in Section 3 of this paper. However, for continuity we define the variables used in the model as follows:

- Financial Asset (FA): bank investment portfolio, plus loans and advances on domestic bank credit plus balance with other banks institutions;
- Monetary Depth (MDE): Ratio of narrow money (MI) to GDP;
- Depth of financial intermediation (FINDE): Ratio of quasi-money to GDP
- Overall financial depth (OFINDE): ratio of broad money (M2) to GDP.
- GDP: Gross Domestic Product;
- r: real interest rate;
- Rate of government borrowing requirement (RGBR), which equal $\frac{G-R}{R}$ where G = Government expenditure and R = Government revenue.
  The new indicators of financial depth are:
- Domestic credit to the private sector as a share of GDP: fd_1
- fd_2 : fd_1 plus the stock market capitalization as a share of GDP; and
- SMC: Stock market capitalization.
  The innovation of this study is the introduction of some variables designed to capture globalisation trend. They are:
- Terms of Trade (TOT): Ratio of price of import to price of export;
- Participation in international capital market (PICM): Absolute value of

the ratio of current account balance to Gross domestic product;

Penetration of Foreign Capital into the domestic economy (PFC): ratio of foreign direct investment to GDP;

Degree of Openness OPN: $(X + M)/GDP$; where X = Exports and M = Imports; and

Nominal exchange rate

For all the variables, data were obtained from the Statistical Bulletin of the Central Bank of Nigeria. All indices in the study use 1984 as the base year.

3.1 Model Specification And Apriori Expectations of Explanatory Variables

The model is built around two major economic theories. First the stock adjustment mechanism on which the money link is based. Second, the augmented Solow growth model whose operational framework is the Cobb-Douglas production function.

Thus, specification of money equation follows the basic assumption that money supply is exogenously determined and that money demand has to be influenced in order to achieve equilibrium in the money market. It is the monetary authority that influences that level of monetary demand. The desired demand function is conventionally given as:

$$M^{d*} = f(GDP_t^*, r_t) \dots\dots\dots\dots\dots\dots\dots(1)$$
$$M^{d*}: \quad M^d/p \qquad \text{(desired money stock)}$$
$$GDP^*: \quad GDP/P$$

P is the Price level
r is the Interest rate.

This desired stock of money is not easily observable and thus, conventionally too, we adopt a money stock growth adjustment mechanism:

$$L_n M_t^d - L_n M_{t-1}^d = \beta (L_n M_t^d - L_n M_{t-1}^d) \dots\dots(2)$$

where M_t^d: actual money stock

β: coefficient of adjustment such that $\beta > 0$

Ndekwu (1995) assumed a spectrum of interest rates, $r1,\dots, rn$ reflecting liberalized financial sector with an array of credit costs and assets yields $z1,\dots, zn$. He thus respecified equation (1) as

$$Log\ m_t^{d*} = \alpha_0 + \alpha_1 log\ GDP_t + \alpha_2 log\ r_t^* + \alpha_3 log\ z_t^* + u_t \dots (3)$$

Where r* is a representative interest rate, and z* is a representative yield on stocks. A test of statistical significance of α_2 and α_3 is a test of liberalized financial sector. Such a test is important to this study since it has been argued that far from deepening the financial system, financial sector liberalization in LDCs, á la Makinon-Shaw hypothesis, results in fragile financial system susceptible to crisis (Aryeetey, 2003). Besid. . statistical significance of these parameters reflect the sensitivity of the financial sector to monetary policy.

The theoretical implication of the above is that a change in the stock of money will be transmitted to the financial sector thereby causing variations in interest rate and hence money substitutes. The substitutability, between money and other financial assets is provided by the coefficient of interest rate which is expected to be negative. Therefore, financial sector liberalization and the availability of financial assets permit shifts away from money and hence financial sector deepening. Our model of financial development is presented in three fashions. In each case we have taken the log-linear form of the Solow growth model, and they are generalization of the original specification following the inclusion of some control variables. The models are as follows:

(i)   The Conventional Approach

For the purpose of our regression analysis, we define H_j as the vector of our dependent variables, whose components are FA, MDE, FINDE, and OFINDE, each of which will be taken in turn and regressed against the explanatory variables. Our model is therefore specified as:

$$Log\, H_{jt} = \alpha_0 + \alpha_1 log\, GDP_t + \alpha_2\, log\, r_t + \alpha_3\, log\, RGBR_t + \alpha_4\, log\, TOT_t + \alpha_5\, log\, PICM_t + \alpha_6 logPFC_t + u_t \ldots\ldots (4)$$

where H_{jt} = FA, MDE, FINDE and OFINDE; GDP, r and RGBR are policy variables while TOT, PICM and PFC are the control variables. u_t is the stochastic white noise. The expected signs are such that:

$$\alpha_1's > 0;\ \alpha_2's_{\ > or < 0;}\ \alpha_3's_{\ > or < 0;}\ \alpha_4's, \alpha_5's, \alpha_6's > 0; \forall Hj$$

(ii)   Modified Reinhart - Tokatlidis

In this case the main difference with the modified concentration method is the definition of financial depth. The variables on the right-hand side are the same. Thus, we have

$$Log\, Z_{jt} = \beta_0 + \beta_1\, GDP_t + \beta_2\, log\, r_t + \beta_3\, log\, RGBR_t + \beta_4\, log\, TOT_t + \beta_5\, log\, PICM_t\, \beta_6\, log\, PFC_t + v_t \ldots (5)$$

where $j = 1, 2, 3$ and $Z_1 = fd_1$, $Z_2 = fd2$ and $Z_3 = SMC$ such that

$$\beta_1's_{\ > 0;}\ \beta_2's,\ \beta_3's_{\ <0;}\ \beta_4's,\ \beta_5's,\ \beta_6's_{\ >0};\ \forall Zj$$

(iii)   Financially Induced Economic Growth Model

In this case, we develop a neoclassical growth model relating to the growth rate of real GDP to measures of financial depth and some control variables. The general form of the equations of the model is given as:

$$dlog\, GDP = \psi_0 + \psi_1 dlog\, zjt_{1t} + \psi_2 dlog\, POP_t + \psi_3 dlog\, TOT_t\ \psi_4 dlog\, PICM_t +$$
$$\psi_{5d}\, log\, PFC_t + w_t \ldots\ldots (6)$$

where $j = 1, 2, 3$; and $z_1 = fd_1$; $z_2 = fd_2$ and $z_3 = SMC$. POP is the Population data.
      In general, log x is the Naperien logarithm and such that:
$$\psi_1's > 0;\ \psi_2's >_0;\ \psi_3's >0;\ \psi_4's >0\ \psi_5's >0$$

3.1   Estimation Techniques

In examining financial sector development and economic growth in the Nigerian economy, several econometric techniques were employed in this study.   First we carry out a multiple regression analysis in order to establish whether or not there exists spurious regression. Second we test for the unit root properties of the variables. Third, we carry out co-integration exercise.   Four, we do error-correction model estimations.   Finally, in line with recent developments in causal relationship, we consider a generalized Granger causality test between the financial depth variables and the growth rate of GDP. The results of the estimations are presented and discussed in the next section.

4   RESULTS AND DISCUSSIONS

4.1   The Ordinary Least Squares (OLS) Estimate

We estimated equations 4 and 5 using the OLS technique. There are fourteen estimated regression equations in all. The results are shown in Tables 1 and 2. Results in Table 1 are those obtained from modified conventional financial indicators which we have designated as conventional approach or Modified Olomola (1994) model and it is made up of regressions 1 to 8. Table 2 contains regressions 9 to 14 which are based on financial indicators as defined by Reinhart and Tokatlidis, from equation 5 stated earlier.

For each of the financial indicators, two models were identified: a complete model without the openness and nominal effective exchange rate variables or without the terms of trade and share of current account balance to GDP variables. From Table 1, it follows that the models marginally passed the test of 'goodness of fit' although in most cases the standard error of regression (SER) and the F-statistic have acceptable values.   There is the presence of autocorrelation in some of the equations although after correction, the results remain relatively unchanged. However, some of the variables failed to pass the standard test of significance.   In particular, the interest rate variable was insignificant in the statistical sense and even remained so after a dummy variable was added to the models to capture the existence of structural shift.

As for Table 2, the results seem superior to those of Table 1 in terms of the value of R2 and the F-statistic. In general, there was no autocorrelation as indicated by the Durbin-Watson statistic. Again, the interest rate failed to respond in a significant manner to the explanation of any of the dependent variables.   It should be noted that an attempt to remove the interest rate variable from the

model rendered the statistics less plausible. In addition, inclusion of dummy variables failed to help in detecting the presence or otherwise of structural shift within the period of estimation.

Though not all the coefficients passed the standard statistical test of significance, the overall result appears acceptable and as such we could conclude that a close relationship exists between the series when they are actually casually related. We then proceeded to examine the existence of meaningful long run relationship between the variables in an effort to overcome the problem of spurious correlation (Komolafe, 1996). We thus carried out the analysis of time series properties of the variables in the models.

4.2   Model Estimation Using Co-integration Technique

Time-Series Properties
In order to use the co-integration and error correction model to test for long run relationship, we have to establish whether or not the variables are stationary or not. We used the Augmented Dickey-Fuller (ADF) and Phillips-Peron tests. In absolute values, the ADF test statistics are lower than the tabulated t-statistic at 5% level of significance in all cases but MDE. We thus conclude that the variables are random walks and therefore there is the existence of unit roots in these variables. We then carried out unit root tests on the first differences of the time series variables. The results show that the tests statistic produce values that are significantly greater than the t-statistic at 1% level of significance. Therefore, differencing our variables once, produces stationarity. This implies that these variables are I(1) series. The results of this unit root test are contained in Table 3.

From theories on co-integration, we know that variables of different orders cannot be co-integrated (Granger, 1981). A major defect of the unit root test is that it cannot discriminate between true and near true random walks (Coughlin and Koedijk , 1990). Thus, there was the need to perform additional tests to show that the variables of the model are co-integrated. This analysis showed that the variables are in fact co-integrated. The implication is that even if we establish random walk (i.e. unit root) for them in the short-run, they are co-integrated in the long-run. This assertion enables us to carry out estimations using co-integration and error correction model (ECM), to estimate our models. This is in line with Engle and Granger's (1987) method.

Co-integration Regression and Error-Correction Representation
This study employs the EView package for the econometric analysis. The results of the long-run co-integration regression and the ECMs are shown in Tables 4 and 5. The former is relevant to the Modified Olomola (1994), while the latter is related to the Modified Reinhart-Tokatlidis model. In both models, OPNt and NERt were dropped since they were not making any significant contribution to the regression results.

From Table 4, we can see that Regression 15 does not pass elementary diagnostic tests: Adjusted R2 and F-statistic. However, various tests statistics proved to be significant in the case of regressions 16 to 18. In all, the coefficient of ECM-1 is statistically significant at 5% and 1% levels for regressions 19 to 21 and they all have the expected signs. The inclusion of ECM ensures that there is no problem of spurious regression. It follows then that we can conclude that the estimates of the parameters respond to Gauss-Markov theorem.

4.3   Discussions
In this study, five globalisation variables were identified and initially included in all the equations. After various trials, OPN and NER were later discarded as they were found to have contributed little to the explanation of the dependent variables.

Modified Olomola's (1994) Model
Table 4 contains the results obtained for the Modified Olomola Model. Regression 15 cannot be accepted in view of the value of Adjusted R2 and low F-statistic. We can then conclude that this specification does not allow us discern the influence of financial liberalisation on financial asset. There was therefore the need for further study on this indicator. Regressions 16, 17 and 18 show Adjusted R2 of between 73% and 97% as well as high values of F-statistic. The results tend to suggest that the use of neoclassical growth model to capture the effect of financial reforms on monetary depth, depth of financial intermediation and overall financial depth is appropriate. In all cases, we observe that the coefficients are inelastic. It is only in equation 18 that interest rate and RGBR are statistically different from zero. Similarly, the GDP is statistically significant at the 1% level in both regressions 16 and 17. We can then conclude that economic reforms and in particular liberalization, of the financial sector has brought about the enhancement of monetary depth, depth of financial intermediaries and overall financial depth. These results seem to agree with similar results on this subject-matter (Olomola 1994, Reinhart-Tokatlidis 2003).

Modified Reinhart-Tokatlidis Model

Similarly, regressions 19 to 21 have 'good fit' given the Adjusted R2 and F-statistic. In these specifications, the GDP is no longer significant in the statistical sense, and we can see that the financial indicators are GDP inelastic. In regression 20, RGBR, PICM and PFC are statistically significant at more than 5% level. In this case, PICM and PFC provoke more than proportionate increase in financial indicator Lnfd2. This inference is reversed in regression 21 as all the explanatory variables became inelastic with respect to the stock market capitalization, LnSMC.

We can then conclude that the use of these new financial indicators of development have applications in the developing countries. Thus, direct credit to the private sector and stock market capitalization have experienced growth and development following financial reforms in Nigeria.

Financial Development and Economic Growth

In this study, we equally tested the hypothesis of economic growth induced by the new financial indicator, a policy variable (Population) and globalisation factors. This is shown in Table 6. It could be seen that none of the financial variables (Lnfd1, Lnfd2; and LnSMC) are statistically significant at 10% level, except Lnfd1 in regression 22. This suggests that the indicators in question do not cause growth. A bivariate standard Granger causality test failed to detect causal relationship between these variables (See Table 7 in Appendix A).

5.   CONCLUSION

In this study, we have empirically examined the effects of financial liberalization as a component of economic reforms on some measures of financial development. Also, we have investigated the relationship between financial development and economic growth. Our model is based on neoclassical growth model. This study, quite apart from other studies on the subject, included other explanatory variables designed to capture the effect of globalisation on financial development. Although, certain studies have asserted that the use of conventional financial indicators may not capture the extent of financial deepening and development in the LDCs, our empirical results tend to suggest a contrary view. In effect, there was no basis to reject financial development as measured by monetary depth, depth of financial intermediation and overall financial depth. The use of new financial indicators (Lnfd1, Lnfd2, and LnSMC), rather than contradict this finding tend to reinforce the proposition of financial development in the economy, although the latter is more robust. This supports the thesis that economic reform is an engine of financial development, and therefore constituting benefits to the economy.

Other indicators of benefit to the financial services sector are the globalisation indices captured by TOT, PICM, and PFC. From the study, we can conclude that liberalization policy has brought about greater participation in international capital market and injection of foreign capital into the Nigerian economy. Furthermore, the deepening of the financial market using the new variables Lnfd1, Lnfd2 and LnSMC suggest benefits to the economy. Of immense benefit is the stock market capitalization. This has been experiencing a monotonically increasing growth since the advent of liberalisation era. What probably accounts for this is the degree of openness of the Nigerian Stock Exchange to foreign investors which has become an important source for inflow of foreign capital into the Nigerian economy. A major cost to the economy as shown by this study is the failure of interest rate to contribute, in the usual statistical sense, towards the improvement of financial development in spite of the various efforts of liberalization and deregulation. To this extent, the cost of capital has remained very high with its negative implications on the real sector of the economy. This result may not be unconnected with the high and rising inflation rate which makes the attainment of positive real interest rate a herculean task.

The failure of liberalization policies to engender financial asset deepening suggests the susceptibility of the system to financial crisis as predicted by Mckinnon and Shaw. This can lead to unquantifiable costs to the economy if

appropriate decision is not taken. It is our view that the Central Bank of Nigeria came up with the bank recapitalisation policy (of N25 billion, on or before the end of December, 2005) in order to forestall such crisis. In addressing the issue of economic growth and financial development, our various estimates failed to capture economic growth induced by the various financial indicators. A further bivariate Granger causality test suggested acceptance of the hypothesis of no Granger causality between these indicators and the GDP growth rate. This implies that even with the current liberalization and deregulation drive, these financial variables are yet to induce economic growth in a significant manner. The failure of these financial variables to induce economic growth tends to suggest cost to the economy, although, isolated benefits could not be ruled out.

Overall, this study suggests that economic reforms have brought about a positive effect on the financial sector. However, there is a need for further studies on the effectiveness of direct credit to the private sector and deepening of the stock market capitalisation in the economy.

REFERENCES

Alege, P. O. and O. I. F. Izedonmi (2005), Effectiveness of Monetary and FiscalPolicyin the Nigerian Economy. Department of Economics, Covenant University, Mimeo.

Aryeetey, E. (2003), Recent Development in African Financial Markets: Agenda for FurtherResearch, Journal of African Economics, vol. 12 AERC Supplement 2, pp. ii111-ii152.

Atiyas, Izak (1990), The Private Sector's Response to Financial Liberalization in Turkey 1980 -82, in T. Aricanli and D. Rodrik eds., The Political Economy of Turkey: Debt, Adjustment and Sustainability, Macmillan Press, London.

Bekaert and C.R. Harvey (2000): Foreign speculators and emerging equity markets. Journal of Finance, Vol. 55, pp565-614

Busari, T., Olayiwola, W. K. and O. Olaniyan (1996), A Test of the Effectiveness of Monetary Policy in Nigeria, African Journal of Economic Policy, Vol. 3, No. 2, December;

Cho, Y. (1986) Inefficiencies from Financial Liberalisation in Absence of Well Functioning Equities Market, Journal of Money, Credit and Banking, 18 No.2, May;

Coughlin, C. and K. Koedjik (1990), What do We know About the Long-Run Real Exchange Rate, Federal Reserve Bank of St. Louis Review, 72 (10), pp 36-48, January/February.

Demetriades, P. and K. Hussein (1996) "Does Financial Development Cause Economic Growth? Time Series Evidence from 16 Countries". Journal of Development Economics, 51(2) pp 387-411

De la Cudra and Prieto (1990): Myths and realizations about financial liberalizations in Chile: (Santiago: Instituto de Economica) as quoted in Olomola, S.A. (1994): Financial Liberalization and Economic under Structural Adjustment in Nigeria. African Journal of Economic Policy; Vol. 1, No. 1, pp 141-157.

Diaz-Alejandro (1983) "Goodbye Financial Repression, Hello Financial Crash", Journal of Development Economics.

Engle, R. F. and C. W. J. Granger (1987), Co-integration and Error Correction: Representation Estimation and Testing, Econometrica, 35 (2): 251-276

Gertler, M. and A. Rose (1991), Finance, Growth and Public Policy, PPR Working Papers, WPS 910, The World Bank, Washington D.C.

Ghant, E. (1992), How Financial Markets Affect Long-run Growth: A Cross-Country Study, PPR Working Paper, WPS 819, The World Bank, Washington D.C.

Granger, C. W. (1981), Some Properties of Time Series Data and Their Use in

Econometrics Model specification, Journal of Econometrics, 16: 121-130.

Ikhide, S.E. (1997) Financial Sector Reform and Growth of Capital Market in Nigeria, Institution of Developing Economics, VRF series No. 291, Feb.

Iyoha, M.A. (1995) "Economic Liberalisation and the External Sector" in Iwayemi, A. ed. Macroeconomic Policy Issues in an Open Developing Economy: A Case Study of Nigeria, NCEMA, Ibadan

Khan, M. S. and A. S. Senhadji (2003), Financial Development and Economic Growth: A Review and New Evidence", Journal of African Economics vol. 12, AERC Supplement 2,

King, R. G. and R. Levine (1992), Financial Indicators and Growth in a Cross Section of Countries, PPR Working Papers, WPS 819, The World Bank, Washington D.C.

King, S. R. (1986), Monetary Transmission: Through the Bank Loans or Bank Liabilities, Journal of Money, Credit and Banking, Vol., 32 (1) February. Pp 121-141

Knight, M. (1998), Developing Countries and the Globalisation of Financial Markets" IMF Working Paper 98/105 Washington DC, International Monetary Fund.

Komolafe, O. S. (1996), Co-integration Theory: Technique and Application in Obadan M. I. ed. Macroeconomic Policy Analysis: Tools, Techniques and Applications to Nigeria, NCEMA, Ibadan Nigeria.

Levin, R. (1997) Financial Development and Economic Growth: Views and Agenda; Journal of Economic Literature, 35(2) pp 688-726

Levine, R. Loayza, N. and T. Beck (1999), Financial Intermediation and Growth: Causality and Causes, Policy Research Working Paper No. 2059 Washington DC. World Bank.

McKinnon, R. I (1973), Money and Capital in Economic Development, Washington, D.C.: Brookings Institution.

Ndekwu, E. C. (1995) Monetary Policy and the Liberalisation of the Financial sector, in Iwayemi, A. ed. Macroeconomic Policy Issues in an Open Developing Economy: A Case Study of Nigeria, NCEMA, Ibadan.

Olomola, A. S. (1994), Financial Liberalization and Economic Growth Under the Structural Adjustment in Nigeria, African Journal of Economic Policy, Vol. 1, No. 1; June

Oyejide, T.A. and O. Ogun (1995), Structural Adjustment and Exchange Rate Policy, in Iwayeni, A Ed. Macroeconomic Policy Issues in an Open Developing Economy: A Case Study of Nigeria, NCEMA, Ibadan.

Reinhart, C.M. and I. Tokatlidis (2003) Financial Liberalisation: The African Experience, Journal of African Economies, vol.12 AERC Supplement 2, pp.

ii53-ii88.

Shaw, E. S. (1973), Financial Deepening in Economic Development, New York: Oxford University Press.

Tong, D. D. (2002)   The Heart of Economic Reform: China's Banking Reform and State Enterprise Restructuring, Ashgate Publishing Limited, England.

Tseng, W. and R. Coker (1991),   Financial Liberalization, Monetary Policy in Asian Countries, International Monetary Fund, Occasional Paper, Vol. 84, July, pp 11-22

Tybout, J. (1986) "A Firm Level Chronicle of Financial Crises in the Southern Zone", Journal of Development Economics, pp.371-400.