THE IMPACT OF FINANCIAL DEEPENING ON ECONOMIC GROWTH IN NIGERIA: AN ECONOMETRIC ANALYSIS, 1970 – 2014.

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ABSTRACT.
The main thrust of this study has been to establish a nexus that financial deepening impacts positively on the performance of the economic growth of Nigeria using data from 1970 - 2014. Employing the Ordinary Least Square (OLS) techniques, an estimation of the variables was carried out with E-views software package, version 9.0. We employed the unit root test for stationarity which included the Augmented Dickey Fuller (ADF) and the Engle and Granger cointegration procedure for long-run effects and the Error Correction Model (ECM) for short-run considerations. The co-efficient of determination $R^2 = 0.738579$ signifies that about 74% of total variation in the regress and is attributed by the explanatory variables in the model while 26% is attributed to the variables not included in the model. Adjusted $R^2 = 0.711$ signifies that there is 71% degree of relationship between the regress and the regressors. This shows that the model has a good fit. The F-statistic value from ANOVA table at 5% level of significance with (4, 41) degrees of freedom is (4.91) which is greater than the $F_{0.05}$ value (2.53). I.e. $F_{cal} = 4.91 > F_{0.05} = 2.53$. On this account, the null hypothesis is rejected and the alternative hypothesis accepted. This shows that the overall regression is statistically significant. The Durbin- Watson test result of 0.914 < 2.50 bench mark signifies absence of auto-correlation in the model. This paper in conclusion is therefore of the view that an improved financial institution will in no small measure deepen

the financial sector and leads to higher access to investible loans from the banks, increased employment and income generation. Although, the financial sector has not significantly improved the aggregate resources given the low level of economic performance. It is therefore recommended given the result of study that the financial sector should be deepened, improved and oriented in order not to out-crowd the private sector investment in Nigeria.
Keywords: Financial deepening, Economic growth, financial institutions, Liberalization

INTRODUCTION

Financial deepening helps to transform economic performance and increases competitive efficiency within markets which can indirectly benefit the non-financial sectors of the economy. There are two known sub-sectors in the Nigerian financial system. These are the informal and the formal sectors. The informal sectors are the local money lenders that have no formalized institutional framework or structure. The local money lenders, thrift, savings and loans are operational in the informal system. The sector although undeveloped has been part of the ways through which local economy strives in Nigeria. The size and offer of this system is still a matter of speculation and remains insignificantly few in their numbers (Levine, Loayza and Beck, 2000).The formal sector has remained undeveloped too, but has experienced consolidation and reformation between 2005 to date for better service in the financial institutions. There are few banks that are largely in-charge of financial operation even though the banking sector is uncompetitive and the total assets and liabilities alongside total credit hence the banking system has not been able to enhance economic growth (Nzotta and Okereke, 2009). Financial deepening entails the level of development and changes of the traditional and non-traditional financial services. Financial deepening attracts idle financial resources or finds and allocates same too willing business men, households, entrepreneurs and to government for investment and in return, it forms the platform for economic development and growth. There are a lot of financial gaps in the economy and despite several reforms introduced in the system; there has not been any impressive performance. The financial system is still battling with capital flight and has not been able to impressively attract foreign investment in the form of portfolio investment (Johannes, Njong and Cletus, 2011). When a financial system is well developed, it attracts technological innovation and economic growth and this comes about the provision of financial savings and resources to the business sectors especially the entrepreneurs. The lack of financial access to borrowers is caused by borrowers' inability to provide collateral and the high cost associated with borrowing. Substantial progress is very hard to come by and macroeconomic instability has been confirmed to hinder economic growth in Nigeria (Oriarwote and Eshenake, 2014). The Nigerian factor of policy reversal and inadequate coordination and harmonization of fiscal and monetary policies contributed to poor performance of the financial sector. Infrastructural decay and insider abuse by staffs contributes to the rot in the financial system. High cost of operating banks such as irregular power supply, poor network performance and out-of-service syndrome are factors responsible for the poor state of the financial system. In a nutshell, the financial system introduction of e-

Payment system has provided succour to the draining system despite the varied challenges inherent in the e-payment system.

The crucial role played by the financial sector in the development and growth of the economy cannot be over-emphasized. When the financial sector is developed, it virtually influences significantly the development of the other sectors of the economy since its major role is the determination of how fund is efficiently and effectively mobilized from the surplus to the deficit units of the economy. Critical functions are performed by a well-developed financial system through financial intermediation, thus assist business units in the mobilization of the needed funds for transactions which helps to reduce transaction cost and create employment in the system. A developed financial system enhance investment and ensures that funding of good business opportunities are guaranteed, mobilizes savings, enables the trading, hedging and diversification of risk and facilitates the exchange of goods and services (Caleron and Liu, 2002).

STATEMENT OF THE PROBLEM

Financial deepening revolves around the creation of an enabling environment that will in the long run lead to higher performance of the financial system despite uncoordinated, weak competition and the oligopolistic nature of the few large banking industries. Records have shown equally, that the informal sector had infrastructural challenges, internal control crises and most times security challenges to mention but a few. A given number of operational risks exist such as e-card related to frauds as well as identity to theft. Associated with the above, is the high lodging rate, hence the wide divergence noticed in lending rate and interest paid to depositors. Again, there was high level of reputational risk which the banks through the apex bank wanted to exonerate itself and insulate the financial industry from risk. Given the poor asset-quality and corporate governance practices, the bank noticed increased litigation and constant customer complaints conflating the key reputational risk of banks. To overcome the challenges, the CBN established the Asset Management Company of Nigeria (AMCON) as a new banking model and the enforcement of the guide to bank charges. Further measures were put in place to ensure the performance of the financial system through financial deepening was the tripartite composition of the commercial banks into three types namely, international, national and regional banks with prescribed minimum capital requirements of ₦50bn, ₦25bn and ₦10bn respectively during the Soludo era as CBN governor. This singular action has safeguarded the banks from failures and insulated the banks from certain external crisis since 2005. Overall financial deepening aimed at reducing the problems encountered in the banks in the past and how to improve the performance of the financial institutions in Nigeria. The Nigerian banks have concentrated on short term lending as against the long term investment which should have formed the bedrock of a virile economic transformation.

OBJECTIVE OF THE STUDY

The broad objective of this study is to empirically investigate the impact of the Nigerian financial sector on the growth of the economy from 1970 – 2014.

The specific objectives are to;
  i.   Determine the relationship that exists between economic growth and the Nigerian financial sector.
  ii. Examine the impact of the financial sector on the Nigerian economic growth.

HYPOTHESIS

H_0:   There is no positive relationship between financial deepening and economic   growth in Nigeria.

HA: There is a positive relationship between financial deepening and economic growth in Nigeria.

THEORETICAL AND EMPERICAL LITERATURE

Financial deepening involves a feedback mechanism in the financial system. Four theoretical paradigms exists namely the supply leading hypothesis, the demand following hypothesis, Financial deepening hypothesis and the efficient market hypothesis (Odhiambo, 2004; Onwumere,Imo, Ozoh and Monunamu, 2012). The demand following hypothesis postulates that there is a feedback relationship existing between financial deepening and economic growth. The supply-leading hypothesis assumes the existence of unidirectional causation which flows from financial deepening to economic growth. The introduction of new functional financial market and institutions will have the capacity to increase the financial services and at the same time could lead to high and sustainable economic growth. Specifically, there are two roles the theoretical paradigm can perform and these are the transfer of resources from the deficit growth sectors to the surplus growth sector which leads to high entrepreneurial spirit and growth expansion. In continuation, the demand following hypothesis asserted a unidirectional causation between economic growth and financial development. When the financial sector possess a passive response to economic growth, the implication may mean an increasing demand for financial services hence an expansion in the financial system is observed and this leads to the growth of the real sector (Adams, 2011:80; Goodness, 2015).Financial depth seems to be an important pre-requisite for competitive and innovative disposition of savings flows. Financial deepening hypothesis emphasized that the liberalization of the financial system helps to raise the ratios of the private savings to income in the domestic economy. As real growth is experienced in the financial sector, investors rekindle interest in investment since borrowing costs reduced infinitesimally creates access to fund. Improvement in the financial sector raises the zeal to acquire investment fund in the financial institutions thereby helping the foreign sector to respond to financial liberalization in the domestic sector. The overall impact is the increase in savings and reduction in current consumption, inflow of foreign fund or capital inflow, expanded opportunity and easy access to foreign capital markets (Wosu, 2014). With liberalization in the domestic economy, inflation is checked thereby improving financial process of mobilizing savings from the surplus zone to the deficits zone to displace inflation, foreign borrowing and assistance. Financial deepening helps widen and diversify financial markets and a way creates investment opportunities in terms of portfolio choice and contributes to the stability of growth in output and employment (Oriavwote and Eshenake, 2014; Adekunle, Salami and Adedipe, 2013).

The efficient market hypothesis stresses on equity prices tending to exhibit long range dependence since markets is presumably narrow as a result of regulatory and institutional arrangement. The efficient market hypothesis is unreasonably speculative hence the scenario

Created helps to discourage investors parting with their funds for fear of incurring financial losses. Oyonwi and Echenake (2013) asserted that the development of the capital is a sine qua none and necessary condition for growth in Nigeria. Fundamentally, studies reviewed were able to establish some level of link between financial deepening and economic growth. Azege (2004) examined the empirical relationship between the level of development by financial intermediaries and growth. The study established that a positive relationship exist between financial deepening and economic growth. He concludes that the development of financial intermediary institutions in Nigeria is fundamental for overall economic growth. Adelakan (2010) investigated empirically the impact of financial sector deepening on economic growth in Nigeria using the Ordinary Least Squares (OLS) techniques. The result showed that financial sector deepening has displayed a substantial positive effect on economic growth in Nigeria. In the study from 1960 to 2009 carried out by Samson and Elias (2010) it was revealed that financial sector deepening had impact on economic growth in Nigeria. Testing the finance-growth relationship hypothesis by employing Granger causality test in a VAR framework. It was discovered that various measures of financial deepening granger cause output even at 1 percent level of significance with the exception of ratio of broad money to GDP. Further evidence showed that net domestic credit is equally driven by growth in output, indicating unidirectional causality. The study by Johannes, Njong and Cletus (2011) used cointegration to establish that a positive relationships exists between financial deepening and economic growth in the long run and short run for Cameroon for the period 1970-2005 for Cameroon at 5% level of significance. The result agreed that financial sector deepening was responsible for the economic growth in the long run and the short run. This implies that economic growth is as a result of financial sector deepening.

Wadud (2005) examines the long-run causal relationship between financial development and economic growth for 3 South Asian countries namely India, Pakistan and Bangladesh. The study showed that a long-run relationship exists between financial deepening and economic growth. The use of cointegrated vector autoregressive model assisted in assessing the influence of the dependent variable on the independent ones. The results showed that causality exists between financial deepening and economic growth. Waqabaca (2004), investigated the causal relationship existing between financial deepening and economic growth in Fiji using low frequency data from 1970 to 2000. The study employed unit root test and cointegration techniques within a bivariate VAR framework and empirical results indicated a positive relationship between financial deepening and economic growth for Fiji with causality running from economic growth to financial deepening. Unalmis (2002) examines the direction of causality between financial deepening and economic growth in Turkey by employing Granger non-causality in the context of VEC model. The result from the study showed that in the long run, there exists bi-directional causality between financial deepening and economic growth. Adam (2011) examines the efficiency of financial intermediation process toward the improvement of the Nigerian economic growth and her performance has been in Nigeria's growth performance using the 2SLS technique. The empirical results indicate that financial intermediation process is sub-optimal and is caused by high lending rate, high inflation rate, low

Per capita income and poor branch networking**.** Ndebbio (2004) investigated financial deepening, economic growth and development in selected Sub-Saharan African countries. Using OLS regression, the study found that financial development weakly affected per capita growth of output. This was attributed to shallow finance and absence of well-functioning capital markets. Nnanna (2004) examines financial sector development and economic growth in Nigeria. Using the OLS, the study shows that financial sector development did not significantly affect per capita growth of output. Svensson (2007) examined microfinance, financial systems and economic growth in Bolivia. The study showed on the micro-level that there is limited impact of microfinance on productive assets and income generation. The study further showed that at very low levels of incomes and vulnerability affect the use of credit for productive purposes. Nzotta and Okereke (2009) studied financial deepening and economic development in Nigeria. Using data covering the period between 1986 and 2007, the study found that financial deepening did not support economic growth in Nigeria. Antonio (2010) assessed financial development and economic growth in Ireland. The study used data covering the period between 1965 and 2007. The Vector Error Correction Model (VECM) was applied. The study found that economic growth has a positive effect on industrial production. Michael (2012) studied financial development and economic growth and assessed whether Schumpeter was right. Using South Africa as a case study and data ranging from 1965 to 2010 and applying Full Modified Ordinary Least Squares (FMOLS) and Two Stage Least Squares (2SLS)found that contrary to prediction of Schumpeter, finance promotes growth. The empirical results suggest that financial development neither does nor promote economic growth both in the short run and long run.

PERFORMANCE OF THE NIGERIAN FINANCIAL SECTOR

The financial sector is the hub of productive activity of an economy as it performs the vital role of intermediation, provider of payment services and the fulcrum of monetary policy implementation. Financial systems have long been identified as a sector that has an important role to play in the development of any economy. The financial sector has been described to be a catalyst of economic growth if it is developed and healthy (Adeoye, 2007; Ohwofasa and Aiyedogbo, 2013). The reforms in the financial sector has enhanced the capacity of the market to provide windows of opportunities where large scale investors can raise funds to finance long-term projects and it has also lead to increase in employment opportunities as a result of increase in number of branches of banks. Through financial intermediation functions of the financial institutions, savers are linked up. The financial sector as a prime mover of economic development, mobilizes savings from surplus to deficit economic units. This has helped in the productivity of any economy. The efficiency and effectiveness of financial intermediation is a subject of the level of the financial systems development. Financial sectors provide risk management services and reduce risks involved in financial transactions (Oyovwo and Eshenake, 2013). By investing in projects, they facilitate risk diversification, which increases returns and encourages more savings. The insurance sub-sector has been able to provide a safety net for entrepreneurs desirous of taking insurable risks and also help to reinforce and

Facilitate investment and mercantilism at both national and international levels. The development of the financial sector can also reduce poverty. The mobilization of savings from the poor will also create funds available for lending. The availability of credit will strengthen new and better tools, equipment, or fertilizers. The availability of credit has assisted in the expansion of small business leading to increase income and employment generation. This, according to Uche (2008), has made the financial sector to facilitate transactions between local and international business concerns which enhanced value creation.

ECONOMIC GROWTH PERFORMANCE IN NIGERIA

Nigerian has the potential for rapid economic growth and development, given her rich human and material resources. Yet, the economic performance of the country has been described as erratic, dismal, truncated and largely unimpressed (Ekpo, 2008). The poor growth performance of the economy is depicted in the rising incidence of poverty, massive and graduate unemployment, skyrocketing inflation, worsening balance of payments disequilibrium, monumental external debt burden, widening income disparity and growing fiscal imbalances, which taken together constitute Nigeria's crises of underdevelopment. According to CBN records, the general developments in the Nigerian economy before and during 2008 – 2013 have been enormous. This begins with overview of the overall economic performance and reviewing sectorial developments in all the sectors of the economy; such as Mining and Quarrying, Manufacturing and Construction, Agriculture, Services, Building, including Finance and Insurance. A review of the following sectors will show that Tele-communications industry, financial sector, fiscal and monetary sector, capital market, external sector, balance of payment and foreign exchange market development in Nigeria did not perform well under the structural adjustment programme (SAP).The Current Basic Prices of GDP stood at ₦33.98 trillion, which was equivalent to US$226.14 billion in 2010 as compared to ₦24.7 trillion, or $159.35 billion in 2009 and N24.29 trillion in 2008. Again, Nigeria's GDP in nominal terms increased by ₦9.69 trillion or 39.2% in three years, increasing from ₦24.7 trillion in 2008 to ₦33.98 trillion in 2010. A disaggregation of Nigeria's GDP in 2010 revealed that non-oil and oil GDP amounted to ₦19.48 trillion (US$129.62 billion) and ₦14.51 trillion (US$95.55 billion) when compared to ₦17.3 trillion (US$116.20 billion) and ₦7.4 trillion (US$49.70 billion in 2009 respectively. Non- oil components gave up from ₦15.20 trillion and ₦9.10trillion for oil in 2008. Real per capita income (average income per person) has been rising at around 4.0% since 2008. This can also be seen as the difference between real GDP growth and population growth; and the population growth has been estimated at about 3.2% per annum in the recent period.

METHODOLOGY AND MODEL SPECIFICATION.

Considering the objective of this research study, an emphasis has been placed on the internal determinants of financial deepening. This theoretical strand emphasizes the impact of financial deepening on economic growth in Nigeria. An unstable macroeconomic setting that is characterized by rapidly fluctuating exchange and interest rates as well as prices would reduce the growth of the economy.

MODEL SPECIFICATION

The model to be specified below are drawn from data relating to the Gross Domestic Product (GDP) as the dependent variable while interest rate, inflation rate, exchange rate and broad money supply are the explanatory variables.. The mathematical representation is as thus;

GDP = f(INTR, INFR, , EXR, M_2)

The functional relationship becomes

$$GDP = \beta_0 + \beta_1 INTR + \beta_2 INFR + \beta_3 EXR + \beta_4 M_2 + \mu_i$$

And log linear specification is;

$$logGDP = log\beta_0 + log\beta_1 INTR + log\beta_2 INFR + log\beta_3 EXR + log\beta_4 M_2 + \mu_i$$

Where

GDP = Gross Domestic Product; a proxy for economic growth

INTR = Interest rate

INFR = Inflation rate

EXR = Exchange rate

M_2 = Broad money supply

β_0 = Intercept/Constant term

β_1 toβ_4 = Parameters or Coefficients of variables to be estimated

log = Logarithm

μ_i = the error or random term.

A-PRIORI EXPECTATION

The a priori expectation of the signs and sizes of the coefficients is given as;

$\beta_1 > 0, \beta_2 > 0, \beta_3 > 0,$ and $\beta_4 < 0$

DATA ANALYSIS

With regard to this study, the annual (secondary) data of the variables are used, and were collected from Central Bank of Nigeria (CBN) statistical bulletin (various issues) of periods 1970 to 2014. The variables are measured as follows; Gross Domestic product (GDP) was regressed against four (4) independent variables namely Interest Rate (INTR), Inflation Rate (INFR), Exchange Rate (EXR) and Money Supply (M_2). The Ordinary Least Square (OLS) technique of multiple regressions was applied on the time series data of the aforementioned variables to estimate the model. Various tests were carried out: The coefficient of determination (R^2) was used to test for the goodness of fit of the regression. The F- statistics was used to test the statistical significance of the R^2. The t – statistics and the standard error tests were both employed to test the statistical significance of the parameter estimates ($\beta_0, \beta_1, \beta_2, \beta_3$ and β_4)at 5 % level. Finally, the Durbin – Watson statistic was used to test the presence of autocorrelation in the variables of the model**.**

The graph of the dependent variable was plotted against the explanatory variables to show the behaviour of the model, thus;

Graph of the model.
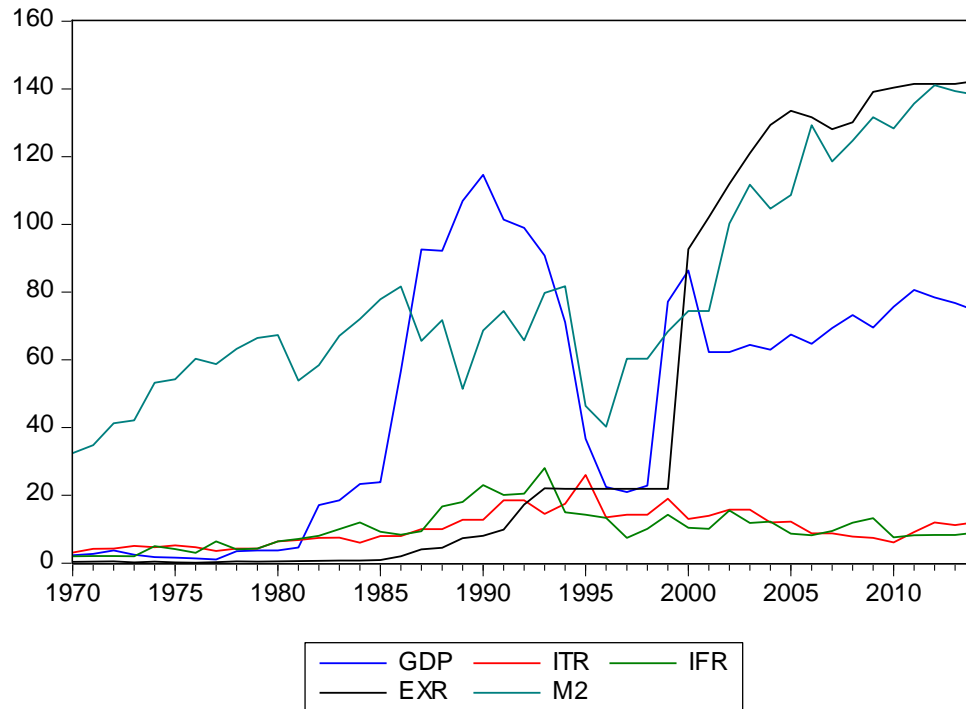
The graph shows that GDP, INFR and EXR have trended deterministic growth around its mean and variance while INTR and M2 indicated signs of economic problems in the system. Before estimation, we performed a stationary (unit root) test at levels and 1st and 2nd differences as presented below;

TABLE 1. STATIONARITY (UNIT ROOT) TEST FOR VARIABLES AT LEVELS.

Variables	T – ADF Statistics	Critical Values	Decisions
GDP	-2.051269 (0.2648)	5% level -2.931404	Non-stationary (Has a unit root)
INTR	-1.781726 (0.3839)	5% Level -2.936942	- do -
INFR	-2.374321 (0.1547)	5% level -2.929734	- do -
EXR	-0.213823 (0.9705)	5% level -2.929734	- do -
M2	-0.865376 (0.7899)	5% level -2.929734	- do -

Extracts from E-views 9.0

The result of the unit root tests reveal that at levels, both dependent and independent variables were non-stationary, meaning that they all have unit roots.

TABLE 2. STATIONARITY (UNIT ROOT) TEST FOR VARIABLES AT LEVELS.

Variables	T – ADF Statistics	Critical Values	Decisions
GDP	-4.510671 (0.0008)	5% level -2.931404	Stationary at 1st Difference
INTR	-11.43220 (0.0000)	5% Level -2.936942	Stationary at 2nd Difference
INFR	-8.158657 (0.0000)	5% level -2.931404	Stationary at 1st difference
EXR	-5.725177 (0.0000)	5% level -2.931404	- do -
M2	-7.428906 (0.0000)	5% level -2.931404	- do -

Extracts from E-views 9.0

The results of the unit root test reveal that the GDP, INFR, EXR and M2 are stationary at 1st difference. However, INTR is stationary at 2nd difference.

CO-INTEGRATION RESULT.

Method: Fully Modified Least Squares (FMOLS)
Date: 04/22/16   Time: 10:59
Sample (adjusted): 1971 2014
Included observations: 44 after adjustments
Cointegrating equation deterministics: C
Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth
    = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ITR	0.179321	0.985790	0.181906	0.8566
IFR	4.608148	0.861980	5.346001	0.0000
EXR	0.182745	0.144034	1.268766	0.2120
M2	0.278365	0.269130	1.034317	0.3074
C	-32.86201	17.80601	-1.845557	0.0726

R-squared	0.738579	Mean dependent var	49.71364
Adjusted R-squared	0.711767	S.D. dependent var	36.41735
S.E. of regression	19.55150	Sum squared resid	14908.19
Long-run variance	468.0920		

Durbin-Watson Stat.	0.913613	f-Statistics	4.908443

Extracts from E-Views 9.0

From the regression results, the estimated model is;

GDP =   - 32.86201 + 0.179321ITR+ 4.608148IFR + 0.182745EXR+ 0.278365M_2

S.E =   (17.80601)   (0.985790.)   (0.861980)   (0.144034)   (0.269130)

t- Statistic = (- 1.84557)   (0.181906)   (5.346001)   (1.268766)   (1.034317)

F- Ratio =   4. 908443   .

R^2 =   0.738579 or 74%.

Adjusted $\bar{R}^2$ =   0.711767   or   71%

F- table   =   (4, 41) degree of freedom = 2.53

F- Statistics was used to test the significance of R^2. The empirical F (i.e; F*) was compared with theoretical $F_{0.05}$ with V_1 = K- 1 = 5 − 1 = 4 and V_2 = N- K = 45 − 4 = 41 degree of freedom.

Empirical F (i.e; F*) = 4.91

Theoretical $F_{0.05}$ = 2.53

Durbin Watson (d*): DW = 0.913613

Since dL < DW< du (0.95 < 0.913< 2.50), we therefore confirm the absence of autocorrelation in the model.

DISCUSSION OF RESULT.

      The regression result shows that positive relationship exists between the GDP and the IFR, ITR and EXR as they appeared with positive signs against the a-priori expectation. The coefficient of the independent variables which appeared with positive signs as reflected in the a-priori expectations means that as the levels of the independent variables are improved say IFR, GDP is enhanced significantly. M_2appeared with correct sign implying that increased money supply to the economy can help expand the economy through increased aggregate demand, investment, income and economic growth. In Nigeria, the tendency yearly has been for an increasing inflation, interest and exchange rate fluctuations and thus, they distort GDP growth rate whereas money supply enhances economic growth. The coefficient of determination R^2 indicates that 74% variation in GDP could be largely explained by variation in the explanatory variables in the model for the period between 1970 and 2014 under study on annual basis. The remaining 26% could be traced to variables not included in the model.

THE STANDARD ERROR TEST

The standard error test comparing half of the coefficients of the parameters β_0, β_1, β_2, β_3 and β_4 with standard error test results is to show its significance at 5% level;

β_0 = ½ (32.86201) = 16.431 < 17.806 (Insignificant)

β_1 = ½ (0.179321) = 0.089 < 0.985 (Insignificant)

β_2 = ½ (4.608148) = 2.304 > 0.862 (Significant)

β_3 = ½ (0.182745) = 0.091 < 0.144 (Insignificant)

β_4 = ½ (0.278365) = 0.139 < 0.269 (Insignificant)

This implies that the standard error test β_0, β_1, β_3 and β_4 are statistically insignificant whereas β_2, only   is found to be statistically significant at 5% level.

THE t* - STATISTICS

The t* - statistics employed to test the statistical significance of the parameter estimates β_0, β_1, β_2, β_3 and β_4 at 5% level shows thus;

β_0 = -1.84557 < 1.96 (Insignificant)

β_1 = 0.181906 < 1.96 (Insignificant)

β_2 = 5.346001 > 1.96 (Significant)

β_3 = 1.268766 < 1.96 (Insignificant)

β_4 = 1.034317 > 1.96 (Insignificant)

This shows that the parameters β_2 is statistically significant at 5% level, whereas β_0, β_1, β_3 and β_4 are statistically insignificant at 5% level. The F – statistics of 4.908443 is greater than the theoretical $F_{0.05}$ (2.53) i.e. $F^*(4.91) > F_{0.05}$ (2.53). The F– statistics show that the overall regression is statistically significant. Therefore, the four (4) independent variables jointly account for the variation in the dependent variable. Thus, we reject the null hypothesis and accept the alternative hypothesis that there is a positive significant relationship between financial deepening and economic growth in Nigeria. The Durbin – Watson test result of 0.913613 < 2.50 bench mark signifies the absence of autocorrelation in the model.

UNIT ROOT ANALYSIS.

Generally, unit root test involves the test of stationarity for variables used in regression analysis. The importance of stationarity of time series used in regression borders on the fact that a non-stationary time series is not possible to generalize to other time periods apart from the present. This makes forecasting base on such time series to be of little practical value. Moreover, regression of a non-stationary time-series may produce spurious result.

The Augmented Dickey Fuller (ADF) test is employed in order to analyses unit roots. The results are presented in levels and first and second difference. This enables us to determine in comparative terms, the unit root among the time series and also to obtain more robust results. Table 1 presents results without taking into consideration the trend in variables. The reason for this is that an explicit test of the trending pattern of the time series has not been carried out. In the result, the ADF test statistic for each of one variable is shown in the second column, while the 5% critical ADF value is shown in the third column. The result indicates that all the variables are non-stationary at levels, suggesting that equilibrium in GDP flows persist with time. All

Other variables have ADF values that are less than 5% critical ADF values (in absolute terms). The implication is that the time series are non-stationary in their levels.

Box and Jenkins (1978) have argued that non-stationary time-series in levels may be made stationary by taking their first / or second difference. A given series is said to be integrated of order d, denoted as 1(d) if it attains stationarity after differencing d-times. If the series is 1(1). It is deemed to have a unit root. This situation arises if the first difference of the series is 1(0), we take the first difference of the respective variables and perform the unit root test on each of the resultant time-series. The result of the unit root test on these variables in first and second differences is reported in Table 2. From the result, it is seen that all the variables in the time series have ADF test statistics that are greater than the 5% critical ADF values (in absolute values). This implies that the variables are actually difference = stationary, attaining stationarity after the first difference of the variables except interest rate (INTR) that has at the second difference. Thus, we would accept the hypothesis that all the variables possess unit roots. Indeed, the variables are integrated of order one i.e. 1(1) and order two i.e. 1(2).

COINTEGRATION ANALYSIS: According to Engle and Granger (1987), if two time-series variables P and Q are both non-stationary in levels but stationary in first and second differences i.e. both are 1(1) or 1(2), then there could be linear combination of P and Q which is stationary i.e. the linear combination of the two variables is 1(0). The two time-series variables that satisfy this requirement are deemed to be cointegrated. The existence of cointegration implies that the two cointegrated time-series variables must be drifting together at roughly the same rate (i.e. they are linked in a common long-run equilibrium). A necessary condition for cointegration is that they are integrated of the same order. The economic interpretation of integration is that if two or more variables are linked to form an equilibrium or long-run relationship between them, even though the series themselves in the short-run deviate from equilibrium, they will move together in the long-run. Indeed, a non-stationary variable might have a long-run relationship with other non-stationary variables. This does not create a spurious regression if the deviation of this long-run relationship is stationary. It implies that these variables are cointegrated.

THE ERROR CORRECTION MECHANISM (ECM) (SHORT-RUN ANALYSIS)

The error correction mechanism result for the research study as reported in Table 3 indicates that the model has impressive diagnostic statistics. The goodness of fit of the model is quite high. The R- squared value of 0.738 indicates that over 74% of the systematic variation in GDP at any given time is explained by the explanatory variables and the ECM term. The overall performance of the model is determined by observing the F-statistics in the model. The F-statistics value is 4.908, passes the significance test at the 5% critical level, since this value is greater than the 5% critical F-value of 2.53. Thus, we can reject the hypothesis of linear relationship between GDP and all the independent variables combined in the short-run. Indeed, the model has a high overall significance level. The particular contribution of each of the variables to short-run movements in financial deepening is determined by observing the individual coefficients of the explanatory variables in terms of sign and significance. A close

investigation of the individual coefficients of the variables reveal that only the coefficients of money supply (M2) does not conform to a priori expectation with negative sign. All the other variables are in conformity with a priori signs.

The D.W. statistic value of 0.913 is close 2 and shows absence of autocorrelation in the model. The implication of this is that the short-run estimates in the model above are reliable for structural analysis and policy directions.

CONCLUSIONS

Studies carried out confirmed that financial deepening as a means of strengthening economic growth in Nigeria proved positive in most cases. Towards the end of 2004 and beginning from the implementations of the reforms (consolidation) of 2005, twenty five banks now eighteen due to merger deal emerged as the super banks with the promise to revitalize the financial system which in no small measure changed the face of the Nigerian banks. The paper concludes that the high level of inflation, interest rate and exchange rate were contributory factor to the clog in the wheel of progress of financial deepening in the past that distorted economic growth. From the regression result, ITR and EXR appeared with positive signs against their a-priori expectation and are statistically insignificant. IFR was found to be statistically significant but positive. M_2 conformed to the a-priori expectation but was found to be statistically insignificant. The above could result from the level of restructuring which occurred in the financial system during 2005 consolidation exercise in the financial institution. The lowering of variables such as ITR, EXR helped in deepening the financial sector hence the better performance of the sector. Overall, the study has shown a strong statistical relationship among the variables given the value of the F_{cal}(4.91) within the period of the review.

RECOMMENDATIONS

Since findings reviewed a very strong statistical relationship among the variables, it is recommended that the financial institutions as part of its financial deepening policy adopts a lower interest and exchange rate and ensure that policies allow for moderate prices in the economy to cushion the tide of inflation. Increased money supply can in the long-run lead to higher income in terms of improved access to loans, investment and enhanced aggregate demand in the economy. Corporate governance in the financial system and proper risk management should be the watch word of the regulatory agents thereby strengthening banks supervision for higher and improved economic growth through better financial deepening in the economy of Nigeria.

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