The Impact of Financial Deepening on Economic Growth in Nigeria

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Abstract: *This study examined the impact of financial deepening on economic growth in Nigeria from 2009-2019.Specifically the study utilizes broad money supply ratio to Gross Domestic Product, credit to private sector ratio to gross domestic product, market capitalization ratio to gross domestic product as proxies to measure financial deepening and real gross domestic product to measure economic growth. The Annual data from the period of 2009 to 2019 were obtained from Central Bank of Nigeria (CBN) Statistical Bulletin and National Bureau of Statistics. Ordinary least square regression technique was employed and other pre and post estimation and diagnostic tests were conducted at the significant level of 5%. The result showed that broad money supply ratio to Gross Domestic Product has a positive and non-significant impact on real gross domestic product; market capitalization has a negative and non-significant impact on real Gross Domestic Product, while credit to private sector ratio to gross domestic product has a negative and insignificant impact on real Gross Domestic Product. F-statistics and probability revealed that the study is jointly non-significant; hence the study therefore concluded that financial deepening has non-significant impact on the economic growth in Nigeria. The study therefore recommended that government of the developing countries should note that credit to private sector ratio to Gross Domestic Product for the period of this study had a negative and insignificant impact on real Gross Domestic Product hence emphasis should be laid on this area for the overall economic efficiency. It further recommends a loosed access to credit facilities as furtherance to an increased financial deepening.*

Keywords: Financial Deepening, Economic Growth, Market Capitalization

1.0 Introduction

Economic growth has been a significant target of progressive Nigerian governments. During the colonial era, the attention was on the arrangement of physical framework in the conviction, in accordance with the predominant economic thoughts, that the offices would actuate the private ventures that would deliver the ideal growth. After independence the legislature turned out to be all the more legitimately engaged with advancing economic growth. The reasoning this time was to sustain private business people and prepare required domestic assets for investment in some preferred sectors (Alenoghena, 2014). This brought banks and their intermediation work into noticeable quality in the economic history of Nigeria.

The connection between financial deepening and economic growth has since quite a while ago got huge consideration in the writing. This consideration is very much defended, since a superior comprehension of how the financial part adds to economic growth has significant administrative ramifications. Inside the money growth nexus writing, some have contended that financial delegates prepare pool and channel domestic investment funds into productive capital and add to economic growth. In the event that this view is to be acknowledged, at that point a serious and very much created financial area must be a significant supporter of economic growth. In a serious financial segment in any case, acquiring rates are higher and loaning rates are lower and in this manner the change of family reserve funds into productive capital speculation is quicker (Goldsmith, 2009). Jhingan (2006) saw economic growth as an expansion in yield he clarified further that an identified with a quantitative continued by expiration capital and volume of exchange.

Financial deepening infers the capacity of financial establishments to viably assemble reserve funds for venture reason. The growth of domestic investment funds gives the stage to the production of expanded financial cases. Financial deepening for the most part involves an expanded ratio of cash gracefully to Gross Domestic Product (GDP) Imade 2016. The whole of the apparent multitude of proportions of financial resources gives us the inexact size of financial deepening. Okoli (2010) think that financial deepening involves a cycle of growth wherein financial framework offers a wide scope of portfolio choices for savers and issuable instruments for speculators.

The main objective of the study is to examine the impact of financial deepening on economic growth in Nigeria Specifically, the study examined the impact of broad money supply ratio to gross domestic product on gross domestic product, credit to private sector ratio to gross domestic product on gross domestic product, and market capitalization ratio to gross domestic product on gross domestic product.

1.1 Objective of Study

This paper mainly targets to establish the effects of financial deepening on Nigeria's economic advancement. Specifically, this research aims to:

1. To investigate the influence of money supply on economic growth

2. To evaluate the impact of credit to the private sector on economic growth

3. To analyze the impact of savings and time deposit of commercial banks on Nigeria's economic growth levels

1.2 Research Hypothesis

This work is structured to assess the impact of financial deepening on economic growth in Nigeria, hence, the following postulations:

1. Ho- money supply has no significant impact on economic growth in Nigeria

2. H1- credit to the private sector has no significant effect on Nigeria's development.

3. H2- savings and time deposit has no significant influence on Nigerian economic growth.

2.1 Conceptual Framework

Financial Deepening Experts in economic development frequently use the concept of financial deepening which is the capacity of a financial institution to efficiently and effectually allocate savings for investment reasons. Financial deepening implies the establishment and evolution of financial tools, markets and institutes, as well as enhancing the efficiency of financial activities that promote investment and progression. According to Nnanna & Dogo (1998) and Nzotta (2004), financial deepening encapsulates a larger proportion of money supply to Gross Domestic Product (M2/GDP) that subsequently assumes that higher availability of money liquidity within a country raises existent economic opportunities for continuous and stabilized increment. Two fundamental measurable quantifiers are usually adopted to gauge the size of financial markets: intermediation ratio and monetary ratio. While the latter contains liquid liabilities or pecuniary-related measures such as broad money supply to GDP ratio. The intermediation ratio comprises of bank-dependent barometers such as credit to the private sector and savings to time deposit. Economic Growth This terminology represents the rise in real national income or gross domestic product (GDP). GDP can be estimated as the production value generated nationally or as the complete revenue gained in a nation including salaries, interests, rents and revenues. Iram & Nishat (2009) define economic growth as a gauge of an economy's health, and capital is one of the basic requirements for maintaining and boosting growth. The financial health of a country could be evaluated by considering national improvements. Economic growth is a determinant of a society's living standards. The link between Financial Deepening and Economic Growth Literature has revealed conflicting results about this relationship, with conventional supply side trends dominating as financial sector development was anticipated to occur before that of the real economic sector growth. This constitutes one perspective to this relationship and is broadly propagated by King & Levine (1993), McKinnon (1973) and Shaw (1973). Also, Odhiambo (2011) recognizes related empirical studies in developing nations to include Suleiman & Abu-Qaun (2008), Bhattacharya & Sivasubramanian (2003), Xu (2000), Ghali (1999), Darrat (1999), De Gregoria & Guidotti (1995) and Jung (1986) . The second angle posits that economic growth induces enhancement of the financial market (demand-side). Lastly, some authors have illustrated that national growth and financial progression can granger cause each other,. Notwithstanding, one common thing that can be deduced from all these views is that financial development positively benefits community growth via the crucial role of monetary intermediaries. So, higher availability of institutions and financial instruments lessens operational and information costs

Financial deepening is a term used often by economic development experts. It refers to the increased provision of financial services with a wider choice of services geared to all levels of society. It also refers to the macro effects of financial deepening on the larger economy. Financial deepening generally means an increased ratio of money supply to GDP or some price index. It refers to liquid money. The more liquid money is available in an economy, the more opportunities exist for continued growth.

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Odhiambo (2009) examined the effect of loan cost changes on financial deepening and economic growth in Kenya utilizing yearly series from 1968 to 2005. Utilizing the Johansen co-integration strategy and Granger causality inside an error-correction model, he discovered solid help for the McKinnon-Shaw hypothesis with respect to the positive effect of loan cost progression on financial deepening. The investigation likewise discovered help for the supply leading hypothesis of the fund drove growth contention. He presumed that the loan fee advancement in Kenya has prevailing with regards to expanding economic growth through its impact on financial profundity.

2.2 Theoretical review

Three theories are used as a hypothetical basis to explain the connection between financial deepening and economic growth. These theories include financial deepening theory, theory of financial intermediation, and endogenous growth model, which are discussed below. Financial Deepening Theory Ohwofasa & Aiyedogbon (2013) opine that the magnitude of financial deepening shows how sound a financial is with its capability of creating credits relating to deposit and lending rates. Hence, this theory elucidates the positive influence of financial system on national development through voluminous sectoral activities. Theory of Financial Intermediation This theory suggests that financial intermediaries are very important in growth processes via transference of finances from net savers (surplus units) to net borrowers (deficit units), which influences investment and propels growth. Here, market failure of information asymmetry can be conquered through transformation of risk features of assets. Such credit market asymmetry is due to the fact that borrowers typically have more knowledge about their investment schemes (moral integrity, industriousness and collateral) than the lenders. Schumpeter (1911) advocates that sufficiently functional financial intermediaries can enhance general economic efficacy via allocating and pooling finances to advance innovation and entrepreneurship which are essential for developing an economy. Gurley & Shaw (1960) opine that financial intermediaries are chances to boost financial capacity (investment and savings) of a lender. Therefore, higher intermediation aids greater savings mobilization, consequently enhancing investment and growth levels. Endogenous Growth Model Mediums through which financial firms impact longterm economic growth was first proposed by Levine (1991) and Bencivenga & Smith (1991), which provided direct and indirect linkage. This is founded on the ideology that growth outcomes are connected to income distribution, financial and technological upgrades. Hence, the link between long run societal growth and financial advancement is stressed by productivity growth as associated with growth, investments, savings and financial markets. King & Levine (1993) concentrates on connectivity among economic growth and entrepreneurship, thereby financial institutions are key in funding and monitoring talented entrepreneurs in innovative operations and new

2.3 Empirical Review

Nwaolisa & Cyril (2019) examined effects of financial deepening (market capitalisation, private sector credit and money supply) on Nigerian economy from 1990 to 2016 using ordinary least square (OLS) to analyse data from National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN) statistical bulletin. All three variables were established to positively affect Nigeria's financial deepening. Thus, suggestions were proffered which revolved around practitioners attempt to minimise liquidity barriers within stock markets, lifting

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constraints in international markets and aiding market entry while also lessening rampant cases of unproductive credits, such that private sector loans are optimized in real economic sectors. It was likewise recommended that policies surrounding higher flows of investible funds and improved banking capacity in lending credits would increase impacts of private sector and broad money supply in Nigeria. Herman & Klemm (2019) examined financial deepening effects in Mexico from 2007 to 2015 through disequilibrium regression approach. The study discovered that supply influences are specifically vital in determining Mexican loans. Contemporary policies tackle most supply limitations although their degree of successful outcomes is contingent upon proper enactment. The major issue future-wise is with facilitating financial deepening and simultaneously restricting the riskiness of monetary stabilization. Vipin & Arvind (2015) researched on the dimension to which financial deepening affects India's growth from 1990-2014. Autoregressive distributed lag and bound test was utilized to analyse the long-term relations between the variables. Granger Error Correction Model (ECM) approach was also implemented to approximate short-run causal effect. Results imply that long run equilibrium connection is existent. Additionally, financial deepness was seen to trigger national growth both on short and long run basis. Thus, it was inferred that governmental bodies must consciously endeavor to enhance financial deepening so as to spur societal progression. Specialized attempts should be made to supply stress-free lending to private enterprises, advancing stock markets and fostering international trade. Bakang (2015) explored financial deepening impacts on Kenya's banking sector through quarterly data between 2000 and 2013. Commercial bank deposits (CBD) as a share of nominal GDP; Commercial bank assets (CBA) as a proportion of CBA plus central bank assets (CCBA); CPS as a portion of nominal GDP; and liquid liabilities (LL) as ratio to nominal GDP captured financial deepening. Since all variable were stationary at first difference, Johansen Jeluisus cointegration was employed to reveal the existence of cointegrating equations. Kenya's banking sector was found to be critical to its growth with all four (4) independent variables having statistically significant and positive effects on GDP. Thus, it was proposed that existent policies to incentivize public savings with commercial banks should be reinforced. The higher interest rate for depositors will be one attraction, moreover, financial inclusion policies should be intensified by greater utilisation and accessibility to formal banking services while simultaneously lessening bank transaction costs. Adu, Marbuah & Mensah (2013) researched long run influences of financial deepening on Ghanaian economy via dataset from 1998 to 2011. Private sector credit ratio to GDP, total domestic credit ration, aggregate bank liabilities ratio, money supply ratio to GDP were utilized in measuring financial deepening with control variables of real gross government expenditure, trade openness and inflation rate. Despite using several variables measures, the observation/data time frame is inadequate to yield statistically significance for each variable, and this questions their findings, which could be spurious as a result Onwumere, Ibe, Ozoh & Mounanu (2012) explored financial deepening influences on Nigeria's growth from 1992 to 2008 using supply-leading hypothesis and variables of broad money velocity, money stock diversity, market liquidity, economic volatility and market capitalization. It was affirmed that market liquidity and broad money velocity aid Nigerian growth whereas market capitalisation, economic volatility and money stock diversification had reverse effects. Therefore, it was proffered that government policies should aim to increase money supply and boost efficient capital markets for general economic effectiveness, creation and expansion of liquidity, savings mobilization, higher capital accumulation and greater transferred finances from stereotyped to growth stimulating industries. Unalmis (2002) [40] assesses the causal

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direction between financial expansion and national growth in Turkey through granger within vector error correction model (VECM). It was affirmed that bidirectional causality is prevalent for variables studied on a long term basis.

Financial Deepening and Economic Growth

Odhiambo (2008) trying to evade issues intrinsic in bivariate VAR models, examined the dynamic causal connection between financial profundity and economic growth in Kenya utilizing yearly series from 1969 to 2005. He proxied financial deepening with M2 to GDP and economic growth by per capita salary inside a trivariate VAR. Utilizing the co-integration and error-correction procedures, the exact consequences of this investigation uncovered that there is a particular uni-directional causal stream from economic growth to financial development. The outcomes likewise uncovered that economic growth Granger causes investment funds, while reserve funds drive the development of the financial sector in Kenya. The end is that any contention that financial development unambiguously prompts economic growth ought to be treated with extreme alert. Wadud (2005) explored the causal connection between financial development and economic growth for 3 South Asian nations in particular India, Pakistan and Bangladesh utilizing information from 1976 to 2008. He disaggregated the financial framework into "capital market based" and "bank-based". Utilizing the Johansen multivariate co-integration approach inside the system of vector autoregressive (VAR) model, the examination discovered proof for the account drove growth hypothesis. Shan and Morris (2002) utilized the Granger causality strategy to explore the connection between financial development and economic growth for nine OECD nations and China by assessing a vector autoregressive (VAR) model. The consequences of their examination indicated that five out of ten nations exhibited a bi-directional Granger causality; three of them exhibited switch causality with economic growth leading to financial development while two nations don't have a causal impact by any means.

Xun, Fausten and Smyth (2006) observationally investigated the linkage between financial sector development and economic growth by helping capital amassing and improving the productivity in the event of China. Utilizing Johansen co-integration and Granger-causality approaches inside a vector autoregressive (VAR) system, they recognized a bi-directional causality between financial development and capital amassing yet a frail connection between financial development and productivity. Dritsakis and Adamopoulos (2004) observationally examined the causal relationship among financial development level of transparency of the economy and economic growth by utilizing a Granger causality and cointegration approach on account of Greece and found that there is one cointegrated vector among GDP, financial development and the level of receptiveness of the economy. A causal connection between financial development and economic growth on one hand and additionally between the level of receptiveness of the economy and economic growth then again were set up.

3.1 Methodology

The study adopted *ex-post facto* research design to test the impact of financial deepening on economic growth in Nigeria. The datasets are of secondary nature, sourced from the Central Bank of Nigeria (CBN) statistical

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bulletins from 2009 to 2019.The dataset was analyzed via Ordinary Least Square (OLS) long-form approach, Error Correction Model (ECM).

In order to test for stationarity, robustness, and long-run equilibrium relationship among the variables, unit root and co-integration tests were performed. The single -equation co-integration test was adopted. The model further helps the study to check for the presence of co-integrating relationships among the variables and also to identify the number of stationary long-run relationships that exist among the integrating variables.

3.2 Specification of Model

In this study, the impact of financial deepening on economic growth in Nigeria is examined. This study adopted quantitative means and the variables for this study are specified below:

$$RGDP_t = f(M2/GDP, CPS/GDP, MKP/GDP)_t \qquad (1)$$

Where;

M2/GDP= Broad money supply ratio to Gross Domestic Product

CPS/GDP= Credit to private sector ratio to Gross Domestic Product

MKP/GDP= Market capitalization ratio to Gross Domestic Product

RGDP= Real Gross Domestic Product

To substitute in the equation, we have the following equation

$$RGDP_t = \beta_o + \beta_1 M2/GDP_t + \beta_2 CPS/GDP_t + \beta_3 MKP/GDP_t + \mu_t \quad (2)$$

Where μ denotes the error term, t, is time series, β_o is a constant parameter while β_1 to β_3 are parameter coefficients.

3.3 Error Correction Model (ECM)

Once the co-integrating relationship is established, the short run dynamics is also analyzed. The error correction model representation of the OLS model is specified in equation (3) below:

$$\Delta RGDP_t = \alpha_{0i} + \sum_{i-i}^{n1} \alpha_{1i} \Delta RGDP_{t-i} + \sum_{i-0}^{n2} \alpha_{2i} \Delta M2/GDP_{t-i} + \sum_{i-0}^{n3} \alpha_{3i} \Delta CPS/GDP_{t-i} + \sum_{i-0}^{n4}$$

$$\alpha_{4i} \Delta MKP/GDP_{t-i} + \lambda ECM_{t-i} + \pounds_t$$

Where λ is the speed of adjustment parameter, ECM is the residual obtained from the long run estimation.

$\alpha_{1i}, \alpha_{2i}, \alpha_{3i}, \alpha_{4i}$, are the short-run dynamic coefficient of the model's adjustment long-run equilibrium.

4.1 Analysis of Data and Discussion

Table 4.1 presents the descriptive statistics which is used to explain the movement of themodel proxies in line with the objective of this study.

Table 4.1 Descriptive Statistics

	RGDP	CPS_GDP	M2_GDP	MKT_GDP
Mean	63.53770	19.12455	22.59182	4.270773
Median	67.15279	19.43000	22.93000	4.049059
Maximum	71.38783	20.77000	25.16000	7.091059
Minimum	49.85610	16.93000	20.05000	2.757328
Std. Dev.	7.100241	1.344874	1.553350	1.298630
Skewness	-0.700249	-0.439477	-0.214733	0.952913
Kurtosis	2.175332	1.834534	2.229951	2.989335
Jarque-Bera	1.210674	0.976649	0.356315	1.664799
Probability	0.545891	0.613654	0.836810	0.435004
Sum	698.9147	210.3700	248.5100	46.97851
Sum Sq. Dev.	504.1343	18.08687	24.12896	16.86441
Observations	11	11	11	11

Source: Researcher's Review9

Note: RGDP = Real gross domestic product, CPS/GDP= Credit to private sector ratio to gross domestic product, M2/GDP= Broad money supply ratio to gross domestic product, MKT/GDP= Market capitalization ratio to gross domestic product.

Table 4.1 present the descriptive statistics for the period of 2009-2019. The table explains the aggregative averages of the mean, median and standard deviation, a measure of spread and variation. Skewness measures the degree of symmetry and kurtosis measures the degree of peakedness or flatness of a series. As revealed by the skewness of MKT/GDP, it indicates positive skewness while RGDP, CPS/GDP and M2/GDP are negatively skewed. The Kurtosis of RGDP, CPS/GDP, M2/GDP and MKT/GDP are<3, this indicates that they are platykurtic in nature. The distribution produces fewer and less extreme outliers than the normal distribution.

4.2 Stationarity Test Results

Since, most time series data exhibit a non-stationary characteristics, the individual variables are passed through stationary test, specifically unit root, in order to make the variables stationary and amendable for further analysis. The results are summarized on table below.

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Table 4.2 Augmented Dickey-Fuller (ADF) Unit Root Test

Variables	ADF Statistic.	Critical value @ 5%	Order of integration	Inference
RGDP	3.412392	-3.212696	1(0)	Stationary
M2/GDP	-6.961216	-3.320969	I(1)	Stationary
CPS/GDP	-6.681512	-4.246503	I(1)	Stationary
MKT/GDP	-3.696133	-3.259808	I(1)	Stationary

Source: Researchers' Review 9

Table 4.2 above presents the summary results of the ADF unit root tests. The results revealed that the null hypotheses of a unit root test for first difference series for all the variables can be rejected at all the critical values indicating that the level series which is largely time-dependent and non-stationary can be made stationary at the first difference except MOB which was stationary at level. Thus, the reduced form model follows an integrating order of I(1) process and is therefore a stationary process. Also, this indicates that the regression is no more spurious, but real. That is to say, all the variables are individually stationary and stable. At this level, all the t-statistic became significant at 5 percent.

Having established the stationarity of the individual variables, meaning the criteria for conducting co-integration has been met, the study now attempts to establish the stationarity of the linear combination of the variables to ascertain whether there could be a long-run equilibrium relationship between the dependent variables and the independent variables (that is, they form co-integrating equations). The study used single-equation co-integration test and the results are presented below.

Table 4.3 Single-equationCo-Integration test results

Date: 09/21/20 Time: 09:06				
Series: RGDP M2_GDP CPS_GDP MKT_GDP				
Sample: 2009 2019				
Included observations: 11				
Null hypothesis: Series are not co-integrated				
Co-integrating equation deterministic: C				
Automatic lags specification based on Schwarz criterion (maxlag=1)				
Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
RGDP	-2.861539	0.5682	-19.55177	0.0000
M2_GDP	-3.077981	0.4782	-9.343487	0.5640
CPS_GDP	-2.251545	0.7918	-8.065068	0.7169
MKT_GDP	-2.838949	0.5720	-8.624409	0.6438

Source: Researchers' Review 9

The results of the single-equation co-integration test presented above indicate indicates that the series has 1 co-integration equations. Since RGDP is < 5% we reject null hypothesis that there is no co-integration equation.

4.3 Error correction mechanism (ECM)

Having established long run equilibrium relationship between the dependent and independent variables, the study now switches over to establish short run relationships between the dependent and independent variables using the error correction mechanism. Since the variables were found to be stationary at first difference, the error correction mechanism is tested using first differenced series.

Table 4.4 Error correction mechanism (ECM)

Dependent Variable: RGDP			
Method: Least Squares			
Date: 09/21/20 Time: 12:38			
Sample (adjusted): 2010 2019			
Included observations: 10 after adjustments			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CPS_GDP)	-0.758424	1.108687	-0.684074	0.5243
D(M2_GDP)	1.448768	1.818841	0.796534	0.4619
D(MKT_GDP)	-2.824124	2.861644	-0.986889	0.3690
ECM(-1)	0.317484	0.519234	0.611447	0.5676
C	57.72620	51.49356	1.121037	0.3132
R-squared	0.757430	Mean dependent var		64.90586
Adjusted R-squared	0.563373	S.D. dependent var		5.756440
S.E. of regression	3.803726	Akaike info criterion		5.816692
Sum squared resid	72.34164	Schwarz criterion		5.967984
Log likelihood	-24.08346	Hannan-Quinn criter.		5.650724
F-statistic	3.903143	Durbin-Watson stat		1.533737
Prob(F-statistic)	0.083855			

Source: Review9

The results of the error correction model (ECM) on the table above show that ECM is signed with a positive co-efficient of 0.317484 and a probability of 0.5676. The ECM value of 0.32 shows a feedback of about 32% from the previous period disequilibrium. Table 4.7 reveals that CPS/GDP is statistically insignificant (0.5243> 0.05 level of confidence), the coefficient of CPS/GDP is -0.758424, indicating that 1% increase in real gross domestic product is due to 76% decrease in credit to private sector ratio to gross domestic product. M2/GDP is statistically insignificant (0.4619>0.05 level of confidence), the coefficient of M2/GDP is 1.448, indicating that

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a unit increase in real gross domestic product is due to 1.448 units increase in broad money supply ratio to gross domestic product. MKT/GDP is statistically insignificant (0.3690> 0.05 level of confidence), the coefficient of MKT/GDP is -2.824, indicating that a unit increase in real gross domestic product is due to 2.824 units decrease in market capitalization ratio to gross domestic product. The coefficient of determination (R^2) is 0.76, suggesting that the model is moderately fitted. Specifically, the coefficient of determination (R^2) indicates that 76% of the variation in the dependent variable is explained by changes in the independent variables. The adjusted coefficient of determination (R^{-2}) value is 0.56 implies that 56% of the total variation in the dependent variable is explained by changes in the explanatory variables when the coefficient of determine is adjusted for degree of freedom. The Durbin Watson Stat of 1.53 indicates the absence of autocorrelation according to the rule of thumb, however serial correlation test is carried out to ascertain the authenticity.

4.10 Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.078416	Prob. F(2,3)	0.4437
Obs*R-squared	4.182474	Prob. Chi-Square(2)	0.1235

Durbin- Watson stat 2.360480

The observed r-squared statistic on the Breusch-Godfrey serial correlation LM test result shows a statistic of 4.182474 and a probability chi-square of 0.1235, meaning, we cannot reject the null hypothesis, that there is no serial correlation among the residuals.

Table 4.5 Heteroskedasticity test results

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.593437	Prob. F(4,5)	0.6833
Obs*R-squared	3.219186	Prob. Chi-Square(4)	0.5218
Scaled explained SS	0.397766	Prob. Chi-Square(4)	0.9827

Source: Review9

The null hypothesis that the model is not homoskedastic is rejected because the p-values of all the three tests are greater than the 5% level of significance which is desirable and validates our model that the dataset is homoskedastic.

4.4 Discussion of findings

The study was set to examine the impact of financial deepening on economic growth in Nigeria. Indicators of financial deepening include credit to private sector ratio to gross domestic product, broad money supply ratio to gross domestic product, and market capitalization ratio to gross domestic product while economic growth was

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measured by real gross domestic product in Nigeria. The individual variables results are as follows; credit to private sector ratio to gross domestic product for the period of this study had a negative and non-significant impact on real gross domestic product in Nigeria, broad money supply ratio to gross domestic product had a positive and non-significant impact on real gross domestic product in Nigeria, while market capitalization ratio to gross domestic product in Nigeria. However, the results of the empirical analysis jointly revealed non-significant impact of financial deepening on economic growth in Nigeria (prob(F-statistics =0.083855> 5% level of confidence).

5.1 Conclusion and Recommendation

This study examined the impact of financial deepening on economic growth in Nigeria from 2009 to 2019. The overall results show non-significant impact of financial deepening on economic growth in Nigeria. The study concludes that there non-significant impact of financial deepening on economic growth in Nigeria for the period of the study.

Based on these findings, it is recommended that government of the developing countries should note that credit to private sector ratio to gross domestic product for the period of this study had a negative and insignificant impact on real gross domestic product hence emphasis should be laid on this area for the overall economic efficiency. It further recommends a loosed access to credit facilities as furtherance to an increased financial deepening.

Reference

Alemoghena, R. C. Capital market, financial deepening and Nigeria's economic growth: Co-Integration and error correction model approach. *Global journal of commerce and management Research.* 2014; (3): 18-26.

Central bank of Nigeria (CBM) (2009 – 2019) Statistical Bulletin.

Dritsakis, N. and Adanopoulos, A. (2004). "Financial development and economic growth in Greece: an empirical investigation with Granger causality". *International economic journal.* 18(4), 547 – 559.

Goldsmith, R. W. (1969).*Financial structureand Development.* New Heaven: Yale University Press.

Odhiambo, N. M., (2008). Financial depth, savings and economic growth in Kenya: *A dynamic causality relationship.* Economic modeling 25, 704 – 13

Odhiambo, N. M., (2009): Finance-growth-poverty nexus in South Africa: A dynamic causality linkage. *The journal of socio-Economic*, 38, 320-325.

Jordan Shan and Alan Morris, (2002) Does financial Development "lead" Economic Growth. *International Review of Applied Economic*, 16 (2), 153 – 168.

Wadud, M. A. (2005). *"Financial development and economic growth"* A co-integration and ECM approach at the International conference of the Asian law and economic association at seoul National University, South Korea on 24 – 25 June, 2005.

Xun, L., Fausten, D., & Smyth, R., (2006): Financial development capital accumulation and productivity improvement. *Evidence from China.* (Monash Economic working papers 04|06). Monash University Department of Economics. Retrieved October 2010, from http://www.buseconmonash.edu.aulecolresearch/paper/2006/0406/u.pdf