

Impact of Financial Intermediation on Economic Growth in Nigeria: A Disaggregate Approach

Dumani Markjackson^{1*} Ekokemi Tamaroukro Timinpre² Johnny Nelson¹ Krokeme Okoyan¹

1. Department of Finance and Accountancy, Niger Delta University, P.M.B 71, Bayelsa State, Nigeria

2. University of Africa, Toru Orua, Sagbama, Bayelsa State, Nigeria

Abstract

This paper re-examined the impact of financial intermediation on economic growth in Nigeria. The objective of the study was to determine the disaggregate influence of credit to the private sector in Nigeria. To achieve this, we adopted the ex post research design to determine how the explanatory variables affects the dependent variable in retrospect. The study further adopted the Engle Granger Representative Theorem to estimate the functional relationship in the model. The empirical results predict that loans and advances to agriculture, fisheries forestry, manufacturing sector and commercial bank credit to small scale enterprises has a significant influence on economic growth in Nigeria. We therefore suggest that banks should be more efficient in mobilizing and allocating funds to entrepreneurs in the real sector. The policy implication of this is that regulatory authorities should continue to take measures to liberalize the financial system to avoid any form of shock on the system.

Keywords: Financial intermediation, economic growth, Nigeria, private sector, disaggregate

1. Introduction

The importance of economic growth cannot be over emphasized. Economic growth is one of the macroeconomic objectives of every economy. Thus, nations annually measure their economic progress using the annual growth rate of the real gross domestic product as a barometer to gauge this economic objective. To this end, several studies have been carried out to identify the drivers of economic growth in Nigeria and abroad. The outcomes from these studies (both theoretical and empirical) have severally identified financial intermediation as one of the catalyst for growth. Financial intermediation is the process whereby financial service providers like banks pull funds from the public as deposits and transform them into loanable funds (Agbada & Osuji, 2013). This implies that the intermediation process help turns deposit liabilities from surplus economic units to bank's major interest earner, loans and advances to the deficit units of the economy. Specifically, finance literature has shown that the availability of financial factors goes a long way in determining the sustainable development of a nation. That is, the availability and access to funds for investment is an integral element in stimulating growth in any economy (Sanusi, 2002). Consequently, the will of progress of every economy is hinged on the financial system. The financial system help enhance the production capacity of a nation outwards. Thus, efficient mobilization of funds and access to credit are sine qua non to kick-start the economic growth of a nation.

The central hypothesis behind this reasoning is hinged on the assumption that firms and the real private sector are constrained of funds that are needed for real productive activity that can stimulate and shift the production possibility frontiers of a nation outward. The origin of this theory can be traced to Schumpeter's "Theory of Economic Development" published in 1911. In this work, Schumpeter explicitly linked economic growth to the depth of the services offered by financial intermediaries. That is, economic growth is a function of a vibrant financial system that is armed with volumes of suppliers of loanable funds. According to Schumpeter, this leads to the use of better or advanced methods and processes that invariably enhance production. He further theorized that enhanced productive and innovative activity by entrepreneurs is a function of availability and ready supply of loanable funds in the system (Tapen, 2001).

Following this hypothesis, Goldsmith (1959) opined that the nexus between financial intermediation and economic growth is dependent on the depth of financial services available in the system. He stated that when the financial system is fully developed, market friction is reduced (i.e. transaction cost) and access to cheap funds by entrepreneurs help better the fortunes of a country. Shaw & Mckinnon (1973) also affirm that as a result of the deposit mobilization and lending function, banks stimulate economic growth by helping investors to capitalize on investment opportunities.

For Casu, Girardon, & Molyneux (2006), the connection is hinged on the ability of banks to bridge the gap of between a lender and a borrower that is prevalent in direct finance (i.e. the conflict of lenders wanting their funds to be repaid in a short period and borrowers wanting the funds for a long period of time); according to them this helps the deficit units to make meaningful productive activity that will add value to the real gross domestic product. However, this will not be possible if the financial intermediation process is inefficient (Onodugo, Kalu, & Anowor, 2013). That is when the process fails to mobilize all available surplus funds or fails to integrate them and make them available as loanable funds or fails to allocate the funds efficiently to the deficit units. Specifically, any kind of shock that destabilize the financial system of a country does not encourage growth. For instance, prior to the financial crisis in Mexico that spring boarded into the default of international loans, the average growth rate

of Latin America from 1960-1980 was in excess of 6 percent per year. However, the rate fell to 1.3 percent yearly for almost 10 years when the crises started in 1982 (Tapen, 2001). To avoid this kind of situation, the Central Bank has always been motivated over the years to ensure sound and stable banking system via the monitoring and enforcement of compliance of the prudential guidelines (Sanusi, 2002). This is aimed at positioning banks to carry out their primary role of providing long term funding to agro-businesses, industry and pooling funds together for other productive sectors in the economy (Akintola, 2004, p. 24). Thus, Sanusi (2002) opined that banks are at the nucleus of the economic growth process, even in advanced financial markets.

In fact, Bencivenga & Smith (1991) categorically attributed this growth stimulating role of banks to their ability to pool large volumes of deposits both in the form of demand, savings and fixed deposits and sale credit to economic units that are in need of funds to aid production after determining the withdrawal needs of the depositors using the fractional reserve model. This implies that banks mobilizes surplus idle funds from households and other economic units and channel these funds to the deficit units; hence they serve as key players in the economy. In all, this helps enhance production, employment and elevates the standard of living of the people.

However, contrary to these are studies establishing that the finance economic growth relationship is insignificant or non-existent. For instance, Adams (1781) in Levine et al (2000) and Korkmaz (2015) questioned the status of financial factors in stimulating growth. Adams further stated that “*banks harm the morality, tranquillity, and even wealth of nations.*” Similarly, Allen & Gale (2001) posit that the role of financial intermediaries in spurring output growth should be ignored because they are inconsequential and are not good resource allocators. Following these position, Robinson (1952) in Ancha (2011) argue that it is economic performance that accelerate the development of the financial system and not the other way round. However, the author failed to identify the determinants of economic growth. Lucas (1988) summed up his position by stating that researchers “badly overstress” the place of financial factors in economic growth.

To this end and given the active involvement of financial intermediaries (especially commercial banks) on transactions ranging from payment, acceptance of deposits and selling of loans and advances among other services rendered to both the public and private sector and the volumes of empirical evidence in support of the finance economic growth nexus, has made it imperative to thoroughly study the place of financial factors on economic growth and not neglect the contrarian view especially in a developing country like Nigeria. Thus, the objective of this study is to determine the impact of disaggregate credit supply to select sectors in the private sector on economic growth in Nigeria.

2. Empirical Literature Review

There has been plethora of empirical studies on the finance-economic growth hypothesis. For instance, Odedokun (1998) explored the finance-economic growth relationship by using a cross-country data from seventy-one developing countries for 20-year interval. The author used GDP as proxy for economic and labour force growth, investment/GDP ratio, real export growth and financial depth as the measures for financial development. Ordinary Least Squares (OLS) and Generalized Least Squares (GLS) techniques were used to estimate the variables of the study. The findings established a strong positive relationship between financial intermediation and economic growth. Further results emerge that “financial intermediation is at par with export growth and capital accumulation.” He concluded that the overall effect of financial intermediation on economic growth is stronger than the growth rate of labour.

Hao (2006) used country specific data to determine the impact of financial development on economic growth in China in the period 1985-1998. The author posited that loan-to-GDP ratio may be the least predictor of the impact of financial robustness of a country. And, thus, he used credit to state budget appropriation and household deposit mobilization. Hao applied Generalized Method-of-Moment (GMM) to estimate the functional relationship between the variables. The results established that financial robustness facilitate GDP growth in two ways: mobilization of household savings and the substitution of loans for state budget appropriation. Also, the results indicated that due to allocation inefficiency, increase in credit distribution does not enhance growth in China.

Shittu (2012) in a country specific study investigated the impact of financial intermediation on economic growth in Nigeria using the ratio of domestic credit to private sector (CPS)/nominal GDP and money supply (M2)/nominal GDP as measures of financial intermediation and real GDP as a proxy for economic growth. The results show that broad money (M2) was more influential on economic growth than credit to the private sector. Further findings from the study indicates that, the last ten decades of the study saw the highest level of loans to the private sector but yet had the worst annual manufacturing growth rate.

Similarly, Agbada & Osuji (2013) carried out an empirical study to ascertain the relationship between financial intermediation and output growth using time series data for Nigeria from 1981-2011. Multiple regression model was used to estimate the variables and the results indicate a positive and significant relationship between demand deposit and output. This is contrary to theory which posits that this variable is solely met to meet the withdrawal needs of businesses. The second variable, savings/time deposit has a linear and significant relationship with output. This result support theoretical postulation which says that savings and time deposit is a primary source

of capital accumulation. Finally, loans and advances have a negative and insignificant relationship with output. The combined effects of these variables show that there is significant relationship between financial intermediation and economic growth in Nigeria.

Further empirical results on financial intermediation on growth in Nigeria are similar but are variant in terms of methodology, study coverage and the exogenous variables. For instance, Adekunle, Salami & Adedipe (2013) studied the impact of financial development on economic growth in Nigeria. The aim of the study was to determine the role the banking system is playing towards the economic prosperity of Nigeria. The model was calibrated using OLS and the results shows that all the independent variables are statistically not significant. Further results reveal that real interest rate was negatively correlated to growth. This is even as the overall variables explained 74 percent variation in the GDP. Similarly, the study by Nwaeze et al (2014) considered the relationship between the crux of this study. The results indicate that the explanatory variables are linear and significantly facilitate economic growth in Nigeria.

The study by Emecheta and Ibe (2014) also probed the role of bank credit on growth in Nigeria for the period 1960-2011. The authors used current GDP as a measure of economic growth and financial deepening variables of bank credit to the private sector (CPS) to GDP ratio and broad money (M2) to GDP ratio and adopted VAR for the analysis and the results holds that there is an impactful linear connection between bank credit and economic growth.

Finally, Ogege and Boloupremo (2014) investigated the effect of sectorial credit allocation by deposit money banks in accelerating GDP growth in Nigeria. The authors used time series data from 1973-2011. Engle-Granger Representation Theorem of Error correction was adopted for the analysis and results suggested that credit to the production sector has a significant and real effect on the growth rate of Nigeria whereas general commerce, services and other sectors has a negative and statistically unimportant connection with GDP in Nigeria. The study concluded by saying that commercial banks should be more efficient in credit distribution to accelerate growth.

3. Methodology

In imitating finance literature, we adopted the ex post facto research design and empirical analytical methods to estimate the functional relationship between the factors of financial intermediation and economic growth in Nigeria. Ex post facto research design is a quasi-experimental design used to examine how the independent variables affect the dependent variable in retrospect.

3.1 Source of Data

Data for the study was obtained via the survey of existing documents. This is otherwise known as secondary source of data collection. This enabled the researcher to collect data for all the variables of the study from the Central Bank of Nigeria Statistical bulletin from 1992 to 2015.

3.2 Model Specification

In imitating finance literature, the model is built similarly like the Engle-Granger Representative Theorem of Error Correction of 1987 (Ragnar, 2011) used by Ogege and Boloupremo (2014) and Shittu (2012). We adopted the Engle-Granger approach because the method proposed the use of ordinary least square estimators in estimating functional relationships, test of stationarity and co-integration that lays the foundation for error correction (Ogege and Boloupremo, 2014). Thus, real GDP will be regressed using OLS estimators on loans and advances to agriculture, forestry, fisheries and manufacturing sectors and commercial bank credit to small scale enterprises. The variables for the model seek to ascertain the effect of disaggregate credit to the private sector on economic growth in Nigeria; this will enable us correct the error of aggregation and identify the sector specific effect of credit to gross domestic product in Nigeria.

The econometric specification of the multiple regression models is as follows;

$$\ln RGDP_t = b_0 + a_1 \ln LOAGFF_t + a_2 \ln LOAMAN_t + a_3 \ln CBCSME_t + e_t \quad (1)$$

A priori Expectations: $a_1 > 0$, $a_2 > 0$, $a_3 > 0$

Note: if a long run or co-integrating relationship is found in equations (2) above, we will introduce the error correction term to absolve the short term fluctuations. However, if none of such relationship exists, then, equation (2) remains.

The Error Correction Model (ECM) is specified as follows;

$$\Delta \ln RGDP_t = b_0 + \sum a_1 \Delta \ln AGFF_{t-i} + \sum a_2 \Delta \ln MAN_{t-i} + \sum a_3 \Delta \ln SME_{t-i} - \delta EC_{t-i} + e_i \quad (2)$$

Where;

EC = Error correction coefficient predicts the speed the model will take to return to equilibrium following an exogenous shock. The coefficient (δ) is expected to be less than one, negative or statistically significant.

4. Empirical Results

Table 1. Augmented Dickey Fuller (ADF) Unit Root Test Results

Variable	Level	1 st Difference	2 nd Difference	Order of integration
Log(RGDP)	1.377425	1.98896	-2.856148	I(1)
Log(SME)	-1.034563	-2.229389	-4.800721	I(1)
Log(MAN)	-1.939504	-2.863942	-4.053897	I(1)
Log(AGFF)	-0.517103	-3.939205	-4.951495	I(1)
Critical Value @ 5%	-1.9583	-1.9592	-1.9602	

Source: Author's Computation using E-views

Table 1 shows the summary of the unit root test of the variables used for the study at level, first and second difference. The results shows that all the variables used in the model are all integrated at first difference, symbolized by I(1), all at 5 percent significance level.

Table 2. Johansen Co-integration test Results

Sample(adjusted): 1992 2015

Included observations: 21 after adjusting endpoints

Trend assumption: Linear deterministic trend

Series: LOG(RGDP) LOG(MAN) LOG(SME) LOG(AGFF)

Lags interval (in first differences): 1 to 1

Unrestricted Co-integration Rank Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	5 Percent Critical Value	1 Percent Critical Value
None **	0.977701	219.5174	94.15	103.18
At most 1 **	0.957857	139.6502	68.52	76.07
At most 2 **	0.595604	36.72990	29.68	35.65
At most 3	0.002525	0.053087	3.76	6.65

*(**) denotes rejection of the hypothesis at the 5%(1%) level

Trace test indicates 5 co-integrating equation(s) at the 5% level

Table 2 shows report of the Johansen co-integration test results. The results indicate the existence of long run relationship in RGDP, MAN, and SME respectively.

In sum, the trace statistics from table 2 indicates the existence of 3 co-integrating long run relationship at 5 percent level of significance; hence there is the possibility of a long run relationship between the variables used in the model.

Table 3. Error Correction Mechanism (ECM) Test Results

Dependent Variable: LOG(RGDP)

Method: Least Squares

Sample(adjusted): 1997 2015

Included observations: 18 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.988841	0.399780	12.47895	0.0000
LOG(AGFF)	0.158364	0.056476	2.804075	0.0187
LOG(AGFF(-2))	0.106232	0.059084	1.598889	0.1024
LOG(MAN)	0.650081	0.406588	0.061743	0.9520
LOG(MAN(-1))	0.970204	0.094597	1.027560	0.3284
LOG(SME)	-0.117593	0.048615	-2.418856	0.0361
LOG(SME(-1))	0.081192	0.054668	1.485175	0.1683
ECM(-1)	-0.580064	0.210042	-2.761657	0.0127
R-squared	0.689006	Mean dependent var		6.380007
Adjusted R-squared	0.681310	S.D. dependent var		0.336225
S.E. of regression	0.045966	Akaike info criterion		-3.020716
Sum squared resid	0.021129	Schwarz criterion		-2.624995
Log likelihood	35.18644	F-statistic		28.5083
Durbin-Watson stat	2.103845	Prob(F-statistic)		0.000000

The results from the table above x-rays specifically the effect of credit to specified growth enabling sectors of agriculture, fisheries, forestry, manufacturing, and small and scale enterprises in the private sector on real gross domestic product (RGDP) in Nigeria.

4.1 Discussion of Results

The empirical results from the parsimonious error correction table above shows that the ECM term absolved and corrected short run fluctuations not captured in the co-integration analysis at an adjustment speed of 58% in the current period. The magnitude of the multiplier implies that 58% of any disequilibrium between the short run dynamics (shocks) and long run equilibrium were corrected in the current period (that is, it took a certain Fifty-eight percent for all shocks to be corrected). This also validates the existence of a long run relationship between the variables.

The coefficient of R^2 shows that the combined effect of the explanatory variables of loans and advances to agriculture and manufacturing and commercial bank loans to small scale enterprises stimulates real gross domestic product by 70% in Nigeria. This implies that every percentage change in RGDP is as a result of the predictor variables.

Furthermore, the results for the test of significance are informative. For instance, the results emerge that AGFF is positive and statistically significant both in the short and long run. This implies that every unit change in national output is stimulated by the predictor variable by 0.158364 and 0.106232 respectively for the short and long run. This result is indicative of the huge potentials in this sector in Nigeria. It is on record that before the discovery of oil in commercial quantity, agriculture was the highest export earner for Nigeria. However, this is not the case now. In fact, it has been estimated that due to persistent fall in output of groundnut, palm oil, cocoa, and cotton Nigeria has lost \$10 billion annually to export earnings from these products (FAO, United Nations). The researcher observed that the inability of entrepreneurs in this sector to fully maximize the consumptions needs of the 170 million local market and beyond is highly connected to the mundane and unfriendly policies relating to agriculture in the country. To this end, the researcher strongly posits that with friendly and conducive policy framework in place, this sector has the potential to be a major export earner for the country. This will help boast Nigeria's trade position with other countries and invariably stabilize the economy in the face of falling international oil prices.

Loans and advances to manufacturing sector indicate a positive but insignificant relationship with national output in the short run. This means that the predictor variable has the potential to enhance growth in Nigeria if funds are granted to the right "manufacturepreneurs" that are credit worthy with genuine manufacturing ventures. Also, the production sector has the potential to spur economic growth in Nigeria due to the readily available market for its outputs locally and overseas (specifically Africa). However, due to the perceived lack of quality or our deep desire for foreign products, the production sector has not fully maximized its potentials. Our results show that this sector has the potential to enhance national output by 65 percent in the short run. The results for the long run are promising. They suggest a linear and statistically significant relationship with national output. This implies that when the aforementioned challenges in the short run are addressed, the production sector will help stimulate growth by 97 percent in Nigeria.

The third variable, commercial bank credit to small scale enterprises indicate a negative and insignificant relationship with real gross domestic product in the short run. This means that in the short run, every naira of commercial bank loans to the small scale enterprises contributed nothing meaningful to output but rather decelerated output growth by 0.117593. We can therefore deduce that most of these loans were committed to ventures that died in their infancy due to lack of technical and managerial capital and their inability to penetrate the local market for their products due to the fact that Nigeria is a dumping ground for foreign goods. According to a study of about SMEs performance in Nigeria about 30-35 percent of the 39 enterprises understudied operated under their established capacity from 1995 to 1996 with turnover and profit volume indicating little or no increase (NCI, 2001). Also, most of the funds extended to the SMEs could have been used for purposes other than investing in the business. However, the results for the long run show that the predictor variable can contribute enormously to economic growth in Nigeria. Our results specifically recorded 0.081192 increase in the period covered in the study.

5. Conclusion

The study re-examined the impact of financial intermediation on economic growth in Nigeria. The study proved sector on real gross domestic product in Nigeria. It also emerged that, the disaggregate (sector specific) approach to the impact of credit supply to the real sector on economic growth gave an accurate picture of the sector specific link and impact to economic growth in Nigeria.

Although banks are still deeply challenged on many levels, their ability to stimulate growth is not in question in Nigeria. This study strongly affirms that for there to be significant growth, financial intermediaries are needed to effectively bridge the gap between savers and borrowers that is inherent in direct financing or self-financing and by extension accumulate huge funds and efficiently allocate them to the real sector for their capital expenditure and production needs. Thus, this study on many levels invalidates Adam's 1781 and Allen's 2001 theoretical position of the impotency and the hazardous nature of bank financial intermediaries to the wealth of nations due to their ability to propagate growth irrespective of the challenges in the system. Thus, the policy implication is for

regulatory authorities and banks in particular, to correct all challenges identified in this study and continue to exact measures to liberalize the financial service sector to avoid any form of shocks that will impair economic progress.

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