Econometric Assessment of Trend in Loanable Funds in Nigeria

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Abstract

The role of Nigeria financial sector in mobilization and allocation of resources in the agricultural sector has been limited despite various reforms. This study sought to evaluate the growth rates in loanable funds in Nigeria from 1970-2009 using ordinary least square in a time series analysis. The trend analysis revealed that loanable funds had a growth rate of 43.76 percent in the pre-financial reforms period and was higher than 23.49 percent in the financial sector reforms period though not statistically different at 5 percent. There was also deceleration in growth in loanable funds from commercial banks to agricultural sector in Nigeria in the three periods considered. This could be attributed to the unwillingness of commercial banks to issue loan to the agricultural sector because of the risk of agricultural business, making it difficult to attract loans for agricultural investments by investors. We recommend that financial sector should be motivated to supply the funds needed for this activity while the government should provide the enabling environment for farming as a business through interest rates, tax and duty concessions. These financial and fiscal incentives when provided would encourage investments and output growth in the agricultural sector of the country.

Citation:

1. Introduction

Loanable fund can be described as the funds that energize or motivate other factors of production. It is said to act as a catalyst or elixir that activates the engine of growth. It is a function of the total budget of a country, as well as the sources and use of finances which is best facilitated by credit institutions (Ajobo and Oguntade, 1996). As such, the higher the budget of a country, the more that can be expected to be invested in agriculture because of the interrelationship between agricultural sector with the rest of the economy and the greater the influx of capital, the more the propensity of the economy to move in its given path (Ijere, 1998).

The influx of these loanable funds can be seen to be positively related to the rate of economic developments. This contribution to economic development enhances agricultural production and productivity, higher incomes and better quality life for the rural people (Ijere, 1975; Ajobo Oguntade, 1996). This is in line with numerous writers who noted its indispensability in the process of socio-economic transformation as such, the larger the dose of fund, the greater the momentum of its impact, hence, the call for urban and rural banks, which would enable people to pool their meagre resources. The ability to make a worthwhile contribution of this sort depends on two things: first on thrift or the individual’s ability to save and second on the availability of other supporting credit resources such as
cooperative institutions, commercial banks, private lenders and the government. These can augment individual savings thus creating new avenues of investment.

Banks are reckoned to constitute a vital source of agricultural financing while government has a role to regulate their activities to achieve this objective. Thus, the use of interest rates, fiscal and monetary measures is necessary and defensible. By stipulating certain levels of interest rates at which to borrow and to lend, the Central Bank has brought order into the financial system, which will guide all prospective borrowers. However, Ojo (1998) argues that the agriculture sector has performed poorly despite huge capital investment programmes in the sector by the Federal Government in the early 1970s. In the mid-1980s, a programme of economic liberalization was initiated. This involved interest rate deregulation and it was expected that this would make agricultural lending more attractive to rural banks. This indeed led to an increase in loan volume and ratio to the agricultural sector (Oyejide, 1991; Olomola, 1994). This increase has however not been sustained (Council for the Development of Social Science Research in Africa, 1998; Ukoja, 1999). Among the reasons given for the unsustainability were poor policy implementations, lack of complementary policy measures to support core policy initiatives and an imprecise agricultural development strategy during the period of reforms. It was also felt that the Structural Adjustment Programme which capsulated the comprehensive financial sector reforms over-emphasised the divestment of the government from agriculture to the detriment of the takeover of the sector by the private sector, thus making the sector compete unfairly with more developed, but less strategic, sectors.

Sources of loan-able fund available to farmers in Nigeria can be sub-divided into two broad categories: Informal and Formal. The informal sources otherwise referred to as private or non-institutional sources include: Friends, relatives, private money lenders and merchant lenders. They constitute an important source of credit to small holder farmers accounting for over 35 percent by value of loans in many rural communities (Miller, 1975). This is because of easy accessibility and minimal formalities in obtaining the loans. Generally, loans from friends and relations attract little or no interest rates, but money lenders charge exorbitant interest rates ranging from 20 percent to 200 percent.

The formal sources or institutional funds consist of public and private institutions such as commercial and merchant banks as well as government owned agricultural credit corporations, Federal and State Ministries of Agriculture, Cooperative Apexies, Cooperative and Credit societies, River Basin and Rural Development Authorities (RBRDAS) are important sources of loan to medium and large-scale farmers who are expected to be the major producers of food and fiber in Nigeria in the medium and long-term. Many reasons however have been given for the inability of formal institutions to meet credit needs in Nigeria. Firstly, they are controlled through their headquarters located in the cities. This has put them out of touch with the needs of subsistence farmers. Also, untimely release of funds, cumbersome loan procedures and high interest rates limit farmers' access to loans from this sector. In light of the above mentioned reasons, there is a need to evolve a means of stimulating formal credit availability to rural areas (Obeta, 1992). However, several studies have shown that the contribution of formal lending organizations to credit availability to small farmers is negligible. Yet these farmers cannot do without credit. To fill the lacuna, many of these farmers patronise informal credit associations. According to Ajetomobi and Olagunju (2000), 54% of farmers obtain credit from esusu (credit) cooperatives against 3% who obtain same from commercial banks in South-western Nigeria. Reasons adduced to this reliance are many. They include dearth of rural banks, distance from loan office, low farm income and time lag between loan application and disbursement from formal sources, Aneke (1981) as cited by Okorie (1988) found out that only 8 percent of farmers obtained credit from commercial banks in 1979 and 1980 in Nkanu Local Government Area of Enugu State. A similar study of farmers in Imo State by Ahaiwe (1985) showed that only 11 percent of farmers borrowed from commercial banks, while the rest resorted to friends, relatives, private money lenders and farmer cooperative societies. As such commercial banks have often been blamed for showing insufficient interest in lending to the agricultural sector (Aneke, 1981 and Semowu, 1979). Their overall performance in the agricultural sector has been found to fall below the minimum target set by the Central Bank of Nigeria (Okorie, 1985). Nevertheless, the commercial banks argue that the government and farmers have not provided a favourable environment to

Considering the importance of loanable funds in a nation’s development and the sub-sector such as agriculture, it is therefore imperative to assess the trend in loanable funds in Nigeria’s agriculture.

1.1 Objective of the study
The specific objectives of the study are to:


2. Investigate the existence of acceleration, deceleration or stagnation in growth rate of loanable funds.

1.3 Justification
The proper understanding of the trend in loanable funds in agriculture during the financial sector reforms period will help us know the extent to which the reforms have contributed to its growth and development. The study will provide insight into the relationship between agricultural investment and growth. It will further help us to know if the Nigeria’s investment efforts in agricultural sector have yielded the optimal result in spite of various financial reforms in the country.

The analysis of this nature will be useful not only in terms of getting an estimate of foregone benefits of delaying reforms in the past but will provide economists and policy makers with a better insight on how to formulate more accurate and practical policy reforms with successful implementation of the reforms in the future.

This study is structured as follows: Section 2 is concerned with the materials and methods under which the study area, data collection and analytical techniques are discussed. The results and discussion are presented in section 3 and it is concluded in section 4.

2. Materials and Methods

2.1 Study area
The study was carried out in Nigeria. Nigeria has a total area of 923,768 square kilometers constituting land area of 910768 square kilometers and water area of 13000 square kilometers respectively. It has coaster lines of 853 square kilometers and is located on the Gulf of the Guinea in West Africa. It lies within the tropical zone between latitudes 4° 1′ and 13° 9′N and longitudes 2° 21′ and 14° 30′ E. It is bounded on the West by the Republics of Benin and Niger; on the East by the Republic of Cameroon; on the North by Niger and Chad Republics and on the South by Atlantic ocean on the Gulf of Guinea. It is one of the eight most populous countries in the world with a population of about 140 million (National Population Commission, 2006) with six geopolitical zones: North-East, North-West, North-Central, South-East, South-West and South-South.

Nigeria has financial service sector comprising of the banking system, financial institutions and financial markets with the Central Bank of Nigeria (CBN) as the apex bank. The CBN has responsibility for the promotion of a sound financial system that would ensure effective conduct of monetary policy. This is necessary for mobilization of resources for investment, economic growth and development (CBN, 2008). This mobilization covers all sectors including agriculture which depends on the financial intermediation for growth because of the large proportion of the Gross Domestic product (GDP) that comes from agriculture.

The climate varies with Equatorial in South, Tropical in Centre and in the North. There are two seasons-the wet season (April-October) and the dry season (November-March). The type of vegetation is grassland savannah in the North and forest in the south. This vegetation has made agriculture the major employer of labour in the country.

2.2 Data collection

2.3 Analytical techniques
The growth rate in loanable funds was carried out using ordinary least square procedure in a time trend analysis. The growth rate was computed by fitting exponential function in time to the data following Onyenwea and Okoye (2005) and Okoye et al., (2008). The function was specified as follows:

\[ Q = b_0 e^{bt} \]
When linearized in logarithms, the equation becomes

$$\ln Q = b_0 + b_1 t$$

(ii)

Where,

\(Q\) = Loan-able Funds.
\(b_0\) = Intercept
\(b_1\) = Slope (regression parameters estimated)
\(t\) = Time trend Variable (Years in number)

This measure has been proven to be more realistic in computing growth rates as it takes into account the entire observation. The equation (ii) was fitted to the value of loan-able funds for three periods namely: pre-financial sector reforms (1970-1986), financial sector reforms (1987-2009) and pooled financial sector reforms period (1970-2009). The coefficients from equation (ii) were used to derive the growth rate \((r)\) as specified by Onyenweaku and Okoye (2005) as follows:

$$r = (e^{b_1} - 1) \times 100/1$$

(Onyenweaku and Okoye, 2005).

(iii)

Where \(e\) is Euler’s exponential constant (2.71828).

To investigate the existence of acceleration, deceleration or stagnation in growth rate of loan-able funds, quadratic equation in time variables was fitted to the data for the three periods following Onyenweaku and Okoye (2005) as follows:

$$\log Q = a + bt + c t^2$$

(iv)

In the above specification, the linear and quadratic time terms give the secular path in the dependent variable \((Q)\). The quadratic time term \(t^2\) allows for the possibility of acceleration or deceleration or stagnation in growth during the period of the study. Significant positive value of the coefficient of \(t^2\) confirms significant acceleration in growth, significant negative value of \(t^2\) confirms significant deceleration in growth while non-significant coefficient of \(t^2\) implies stagnation or absence of either acceleration or deceleration in the growth process for the three periods.

3. Results and Discussion

3.1. Growth rate in loanable funds

Tables 3.1 and 3.2 present the results of the trend analysis and the growth rate for each period of the flow of loanable funds from commercial banks to the agricultural sector. The results in Table 3.1 reveals that the F-ratios for loan-able funds were significant at one percent for pre-financial sector reforms (1970-1986) period, financial sector reforms (1987-2009) period and pooled (1970-2009) period. This implies that the estimated parameters in the model were most important in relative to the dependent variable. The value for \(R^2\) indicated that the estimated parameters in the variable had good fits as it explained the amount of variation in the dependent variable that was determined by the independent variable in the model.

The results from Table 3.1 further showed that loan-able funds exhibited positive trends in the three periods (pre-financial sector reforms, financial sector reforms and the pooled financial sector reforms) considered. The coefficients of the trend variables were positive and highly significant at one percent for loan-able funds in the three periods. This implies that time trend was an important determinant at one percent level of the aggregate level of loanable funds. The positive trend suggests that time trend was a major factor in the disbursement of loan with an increasing relationship between time and loanable funds. This result is an indication that the reforms in the financial sector in Nigeria probably can increase the flow of funds from the commercial banks to the agricultural sector thus, stimulating investment and growth in the agricultural sector if government policies in the financial sector are well structured and implemented to the overall growth of the economy.

The growth rates of loanable funds for the three periods were 43.76 percent, 23.49 percent and 30.73 percent respectively as presented in Table 3.2. The growth rate of 43.76 percent of loan-able funds for the pre-financial sector reforms period was higher than 23.49 percent of the financial sector reforms period but was not significantly different at 5 percent \((t_{cal} < t_{tab} at P=0.5)\) between the two periods. This implies that the pre-financial sector reforms might have favoured the flow of loans from the commercial banks to agricultural sector in the pre-financial sector reforms period than the financial sector reforms period in Nigeria. This was largely due to concessionary interest rates for agricultural lending which was believed among lenders to provide destabilizing effects but discouraged commercial banks from lending because of the discriminatory effect and low returns it generated in the financial system (Odu, 1996). However, the non-significant difference in the growth rates between the two periods revealed
that the growth rates were the same and that financial sector reforms in the Nigerian economy might have not been a significant factor in attracting the flow of loanable funds from commercial banks into agricultural sector. This is very plausible given the weak financial system in the Nigerian economy and the known attitudinal behaviour of financial institutions toward granting of loans to agricultural sector.

To ascertain whether there was acceleration, deceleration or stagnation in growth rates of loanable funds in the stipulated periods, a quadratic equation was estimated in time variables and the results summarized and presented in Table 3.3. The result shows that the values of the coefficient of time variables were significant and negative confirming deceleration in growth of loanable funds in the three periods (pre-financial sector reforms, financial sector reforms and pooled or entire period). This is an indication that the growth rates of loanable funds were decreasing over time and might probably be the reason for banks’ negative behavior towards agricultural sector despite government attempt to provide some incentive/subsidies like concessionary interest rates on agricultural lending to encourage farmers to borrow from lending institutions. Accordingly to Odu (1996) commercial banks have been discouraged from lending because of the discriminating effect and low returns it generated in the financial system. In addition, the negative growth rates of loanable funds might have also indicated the deep financial distress that occurred in the financial sector in the pre-financial sector reforms period while that of financial sector reforms period could probably be associated to the struggle to gain stability in the financial system as a result of the restructuring (consolidation and recapitalization) in the financial institutions.

**Table 3.1:** Estimated trend equations for loanable funds

<table>
<thead>
<tr>
<th>Dependent variable/ period</th>
<th>$B_0$ (constant)</th>
<th>$B_1$ (slope)</th>
<th>$R^2$</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loanable funds Pre-financial sector reforms</td>
<td>1.752 (11.501)***</td>
<td>0.363 (24.427)***</td>
<td>0.975</td>
<td>596.695***</td>
</tr>
<tr>
<td>Financial sector reforms</td>
<td>4.346 (6.129)***</td>
<td>0.211 (8.857)***</td>
<td>0.789</td>
<td>78.442***</td>
</tr>
<tr>
<td>Pooled financial Sector reforms</td>
<td>2.665 (11.269)***</td>
<td>0.268 (26.63)***</td>
<td>0.947</td>
<td>708.944***</td>
</tr>
</tbody>
</table>

Source: Computed by author, 2011 from Central Bank of Nigeria (CBN) data of various years. Note: Figures in parentheses are the t-ratios, *** implies significant at 1% levels.

**Table 3.2:** Growth rates of loanable funds

<table>
<thead>
<tr>
<th>Dependent variable/ period</th>
<th>Growth rates in percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loanable funds Pre-Financial Sector Reforms</td>
<td>43.76</td>
</tr>
<tr>
<td>Pooled Financial Sector Reforms</td>
<td>30.73</td>
</tr>
</tbody>
</table>

Source: Computed by author, 2011 from Central Bank of Nigeria (CBN) data of various years.

**Table 3.3:** Quadratic equations in time variables for loanable funds

<table>
<thead>
<tr>
<th>Dependent Variable/ period</th>
<th>$B_0$ (Constant)</th>
<th>$B_1$ (Slope)</th>
<th>$B_2$</th>
<th>$R^2$</th>
<th>$R^2$</th>
<th>F-Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loanable Funds Pre-Financial Sector Reforms</td>
<td>1.201 (6.894)***</td>
<td>0.537 (12.054)***</td>
<td>-0.010 (4.017)***</td>
<td>0.989</td>
<td>0.987</td>
<td>607.513***</td>
</tr>
<tr>
<td>Financial Sector Reforms</td>
<td>-4.103 (-1.712)*</td>
<td>0.824 (4.846)***</td>
<td>-0.011 (-3.626)***</td>
<td>0.873</td>
<td>0.860</td>
<td>68.484***</td>
</tr>
<tr>
<td>Pooled-Financial Sector Reforms</td>
<td>1.456 (5.595)***</td>
<td>0.440 (15.120)***</td>
<td>-0.004 (-6.117)***</td>
<td>0.975</td>
<td>0.973</td>
<td>712851***</td>
</tr>
</tbody>
</table>

Source: Computed by author, 2011 from Central Bank of Nigeria (CBN) data of various years. Note: Figures in parentheses are the t-ratios, *** and * implies significant at 1 and 10% levels.

**Conclusion and Recommendations**

This research work established that there was deceleration in growth in loanable funds from commercial banks to agricultural sector in Nigeria during the pre-financial sector reforms, financial sector reforms and pooled financial sector reforms period. This could probably be attributed to the unwillingness of commercial banks to give out loan to the agricultural sector because of the risk of agricultural business. Besides, the financial sector in Nigeria and other developing countries is perceived to be fragile and undergoing development process which makes it difficult to attract funds for agricultural investments by investors. It is therefore recommended that since financial sector reforms did not significantly impact on the flow of loan-able funds in agricultural sector, financial sector should be motivated to supply the funds needed for this activity while the government should provide the enabling
environment conducive for farming as a business through interest rates, tax free and import duty concessions. These financial and fiscal incentives when provided would encourage investments and output growth in the agricultural sector of the country.

References


