



PUBLIC EXPENDITURE ON EDUCATION AND POVERTY REDUCTION IN NIGERIA

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Abstract

This study examined the impact of government education expenditure on poverty reduction in Nigeria. The objective of the study is to look at the impact of government education expenditure on economic growth. It employed vector autoregressive approach as technique of analysis with time series data for the period, 1981-2016. The theoretical framework and the methodology of the study are based on the Keynesian macro-economic theory, which assumes that any increase in government expenditure has positive and significant impact on economic growth and level of poverty. The variables were tested to determine their level of stationarity using Augmented Dicker Fuller (ADF) test, co-integration test, error correction model and granger causality test. The results shows that there is a significant and negative relationship between government expenditure on education, youth trained, entrepreneurship Scheme, Open Apprenticeship Scheme and Loans to small scale enterprises on economic growth in Nigeria, the study recommends that government should, as a deliberate policy, increase allocation to the economic and social sectors, such as education, in view of their direct impact on the poor.

Keywords: Poverty, Analysis, Public expenditure, Education, Co-integration

Introduction

The government of every nation whether at federal, state and local government level spending the nation's resources to the rules, regulations and policies that shape the planning, budgeting, forecasting, coordinating, directing, influencing and governing the inflow and outflow of funds in order to achieve stated objectives of institutions. This becomes necessary in less developed countries where you have less private sectors involvement in economic activities. There is equally the need to determine the size of government's involvement and its impact on the growth of the economy. For instance the classical theorists are of the view that government should have little or nothing to do with the economy, explaining that government expenditure is too big and it will undermine economic growth by transferring additional resources from the productive sector of the economy to government which uses them less efficiently, the Keynesian school of thought, on the other hand, argued that the economy can only be boosted by active participation of government via

its fiscal policy operation especially deficit spending which could provide short term stimulus to help end a recession or depression. The Keynesian economics are emphasizing on active participation of government in the economic activities of a nation through public expenditure and taxation for a meaningful economic growth to take place (Danlami, 2014)

Public expenditure has become an important tool in the stimulation of economic activities. Keynes argued that government expenditure could be reduced once the economy recovers, so as to prevent inflation. They opined that there is a trade-off between inflation and unemployment that government expenditure should be increased or decreased to achieve equilibrium; therefore, makes public expenditure necessary. In developed countries public expenditure is mostly used as instrument in the stimulation of investment activities and economic stability unlike developing countries such as Nigeria where it is used significantly in developing socio-services and

structures to enhance economic growth. So, for a successful operation of rule of law, there must be government spending. Nigeria's economic philosophy which embraces mixed economy, gives the government a position of substantial importance in the economic activities of the country, this involvement is inextricably tied up to her spending programmes which are complimentary to policy formulation (Danlami, 2014)

Various poverty eradication programs were established like Better life program (BLP), National Directorate of Employment (NDE), people bank of Nigeria (PBN), Agricultural credit Guarantee scheme, River basin Development Authorities, intervention from international Development Agencies, National poverty eradication program (NAPEP) Other problem includes corruption, mismanagement, lack of political will, inflation and government inability to channel enough fund to educational sector.

Nigeria is a nation of riches and poverty where wealth in the hands of a few and extreme/abject poverty at the door steps of many. The divergence between Nigeria's economic indicators, macroeconomic variables and the reality on ground is a source of concern. The reality is that people die because they cannot afford three square meals a day as well as access to basic public healthcare. As strange as this may sound, this goes on side-by-side with ostentatious display of wealth by the privileged few (Okoroafor and Nwaeze, 2013) Relative poverty is defined by reference to the living standards of majority in a given society. In 2004, Nigeria's relative poverty measurement stood at 54.4%, but increased to 69% (or 112,518,507 Nigerians) in 2010. The North-West and North-East geo-political zones recorded the highest poverty rates in the country with 77.7% and 76.3% respectively in 2010, while the South-West geo-political zone recorded the lowest at 59.1%. Among States, Sokoto had the highest poverty rate at 86.4% while Niger had the lowest at 43.6% in the year under review.

Based on the problems espoused so far, this study is germane on examining the impact of public expenditure on education towards poverty reduction in Nigeria. The paper is divided into five sections, section one is the background to the paper, section reviewed of related works in the area, section three method of empirical analysis and finally, section five is conclusion and policy implication.

Literature Review

Concept of Poverty

As documented in Olowa (2012), poverty is elusive and largely affects many aspects of the human conditions, which includes physical, moral and psychological aspect of the human person. Therefore, criteria employed to conceptualize poverty; most understanding on poverty is conventional based on insufficient income for securing basic goods and services. Others view poverty, as a function of education, health, life expectancy, child mortality, etc. Blackwood and Lynch (2004) see poverty from level of consumption and expenditure.

For Sen's (2003) poverty is relational, to him poverty is akin to entitlements that are based on goods and services over which one has command, taking into account the means by which such goods are acquired and the availability of the needed goods. Other experts see poverty in very broad perspective, meaning unable to meet "basic needs" – (physical, (food, health care, education, shelter and requirements for a meaningful life

Poverty refers to the inability of a household to attain a level of income which is necessary to purchase the range of goods and services considered as standard for those in a particular reference group to be sufficient for living (Ikechi, Akujinma, Emmanuel and Johnson (2017)

Concept Public Expenditure

The concept of government may be interpreted in term of budgetary transactions, public enterprises, public regulations and similar concerns. Public expenditure is used to provide public goods and services to the people through which economic growth is induced (Oribu, 2013). Olaniyi and Adam (2010) explained that public expenditure refers to the expenses which government incurs in the performance of its operations. The concept of government expenditure, government spending and government public expenditure connote the same thing, hence may be used interchangeably.

Nurudeen and Wafure (2018) defined government expenditure as expenses incurred by public authorities at the central, state and local government levels. The definition implies all expenses incurred by the federal, state and local governments. also went further by dividing government expenditure in to two namely, capital expenditure and recurrent expenditure. Capital expenditure in the investment made in acquiring things or structures that are permanent. These include money spent by government on building schools, roads, houses, bridges, dams and others.

Funding was identified as one of the major challenges confronting knowledge and skill development in Nigeria again where there is fund is not efficiently allocated. UNDP (1991) reported that lack of political commitment and access to financial resources is often the real cause of human neglect.

Concept of Education

Education is derived from two latin words ‘educare and ‘educere’. Educare means to train, to form, society trains, to forms or individual to achieve the social needs and aspirations. ‘Educere’ means to build and lead or to develop (Amaele, et al 2011 & Ojuola, 2018).

Education is a crucial component of human development such as that a country cannot afford to sacrifice it to the whims and caprices of individual choice. However, most developing countries, improving the access to human development especially basic education are yet a cardinal objective of most government despite the opposition against state involvement in the productive sector of the economy. Education sector is important in human capital development as a supplier of the trained manpower and it is a prerequisite for the accomplishment of other development goals (Sunday, 2018)

A nation develops in relation to it achievement in education. This explains reason why contemporary

This symbolically,

$$AD = C+I+G+(X- M) \dots\dots\dots(1)$$

$$C = a+by \dots\dots\dots(2)$$

$$x= m \dots\dots\dots(3)$$

$$m + mo \dots\dots\dots(4)$$

Keynes developed a theory which suggested the active government policy could be effective in managing the economy. According to Keynes when people are gainfully employed it will create income which will help in poverty reduction in the economy (2008).This theory is relevant in this study because Keynes advocated active involvement of the government in the economy.

Empirical Review

Ojochegebe (2017) Studied impact of education on economic growth of Nigeria using ordinary test squares to determine the relationship between education as human capital and Real Gross Domestic Product. The result revealed that there is statistically significant relationship between GDP and other variables (capital expenditure on education, recurrent expenditure on education, primary school enrolment and secondary school enrolment.

world attention has focussed on education as an instrument of lurching nations to the world of technology, science, human advancement and development of environment. Education is the life wire of any nation, foundation of moral regeneration and revival of it citizens (Ojuola, 2018)

Enueme and Chika (2009) posited that government expenditure on education is the expenses incurred by government on education at various levels which include the primary, secondary and tertiary education in Nigeria.

Aigbokhan, Imahe and Ailemen (2015) defined education as a basic and obvious process which skills, Knowledge and attitude are acquired for the performance of socio-economic responsibilities, social integration, improving personal competence, and seeking better opportunities.

Theoretical Framework

The model adopted Keynesian growth model (1936) which regards government expenditures in an economy as exogenous factor utilized as policy instrument to promote positive and significant economic growth. Thus, increase in government expenditure on education lead to poverty reduction. Aggregate demand (AD) .

- Household (H)
- Government expenditure (G)
- Net income from abroad (X_M)

Lingaraj, Pradeep and Kalandi (2016) studied dynamics of expenditure on education and economic growth in selected 14 countries covering the period 1973 to 2012, using balanced panel data from 1973 to 2012. The result showed long-run equilibrium relationships between expenditure on education and economic growth in all the countries and positive and statistical significant impact of education expenditure on economic development of all the 14 Asian countries. In addition, the panel vector error correction presents unidirectional Granger causality running from economic growth to expenditure on education both in the short and in the long-run.

Muhammad and Benedict (2015) assessed the impact of education expenditure on economic growth covering 1981-2010 used Co-integration and Granger causality tests to analyze the causal nexus between education expenditure and economic growth. Finding showed that the impact

of both capital and recurrent expenditure on educational growth were negative

Urhie (2014) examined the effects of the components of public education expenditure on both

Attainment and economic growth and annual data from 1970 to 2010. He used Two Stage Least Squares estimation technique to examine the hypotheses. The results revealed that recurrent and capital expenditures on education have different effects on education attainment and economic growth while recurrent expenditure had a negative impact on education and capital expenditure was found to have a positive impact. In the same vein, recurrent education expenditure had a positive and significant impact on economic growth while capital expenditure had a negative impact in Nigeria.

Chude and Chude (2013) studied the effects of public expenditure in education on economic growth covered 1977 to 2012. Error Correction Model (ECM) was used. Findings revealed that long run total expenditure on education is statistically significant and has a positive relationship on economic growth in Nigeria.

Mohd and Fidlizan (2012) studied long-run relationship causality between government expenditure in education and economic growth in Malaysian economy from 1970 to 2010 and Vector Auto Regression (VAR) was used. Finding showed that economic growth positively Co-integrated with variables (fixed capital formation, labour force participation and government expenditure on education.

Lawal and Wahab (2011) examined the relation between education expenditure and economic

growth in Nigeria. Used Ordinary Least Squares technique was used to estimate the model and Time series data were collected from 1980 to 2008 Finding showed that Education investments have direct and significant impact on economic growth in Nigeria. Recommended government at all levels should increase their funding on different segments of education in the country.

Dauda (2010) studied investment in education and economic growth. Annual time series were used from 1977 to 2007 and employed Johansen co-integration techniques and error correction. Finding showed that gross fixed capital formation and educational capital have positive and significant effect on economic growth in Nigeria while labour force has positive and insignificant effect on economic growth.

Omotor (2004), study on Nigeria's education sector, determinants of federal government spending using the Ordinary Least Squares (OLS) methods and showed that education investment has not been stable, cause instability in sources of government revenue. Therefore, recommended a development of multiple sources of government revenue to sustain consistent funding to the sector. Government spending, via multiple revenue streams, requires planning and justification of spending on education in Nigeria and other developing countries, educational services should be structured to meet the needs of the populace.

Methodology

Model Specification

Model specification explains the functional relationship between economics variables. The study adapted the model of Banwo (2010) which was modified to achieve the objectives of the study. The functional form of the model is expressed as:

$$POVR = f(\text{Education}) \dots \dots \dots (5)$$

$$POVR = \alpha + \beta_1 GEEDU + \beta_2 GEYEO + \beta_3 GELSSE + \mu_t \dots \dots \dots (6)$$

Where:

POVR = Poverty rate

GEEDU= Government Expenditure on education

GEYEO = Government Expenditure on youth trained, Entrepreneurship Scheme and Open Apprenticeship Scheme

GELSSE_S = Government Expenditure on micro credit Loans to Small Scale Enterprises

α = Intercept of the model $\mu_t = \text{Error term}$

$\alpha, \beta_1, \beta_2, \beta_3$, are parameters

a priori expectation, $\alpha, \beta_1, \beta_2, \beta_3 > 0$, are expected to be positive

A Priori Expectation

The a priori expectation provides expected signs and significance of the value of the coefficient of the model parameters to be estimated in light of economic theory and empirical evidence. Government expenditure are expected to contribute positively to economic growth, either in the long-run or short run period

Method of Data Analysis

Unit root test is used to test the stationarity of time series data in expenditure on poverty reduction, coefficient (R^2). Statistical properties of the series is analysed with the augmented Dicker-Fuller

(ADF) test on non-stationarity to detect the presence of the unit root and determine the order of integration of the series. Conventional regression analysis with time series data is done under the assumption that the series are stationary over time on the particularly at their levels while their differences (first or second) are usually stationary. Engel and Granger (1987) have shown that even if the is individual variables are non-stationary; linear combination may exist between the variables such that they form a new series that, over times, converges toward equilibrium. This study used Co-integration analysis to validate data for its findings;

Presentation and Data Analysis
Analysis of Result

Data is computed through the use of e-views econometric software version 7.0. The is subjected to a stationary test using the Augmented Dickey Fuller (ADF) test in order to ensure that the results of the regression analysis are not spurious and they are co-integrating to enable us proceeds with the data estimation. The ADF test is computed to demonstrate whether the variables under investigation are stationary. The test is conducted thus:

Table 1: Stationary Test Result of ADF

Augmented Dickey-Fuller (ADF) Test			
Variables	ADF Test Statistic	Critical Value	Status
PVR	-3.457496	-2.9527	1(1)
GE _{EDUC}	-6.760070	-2.9558	1(2)
GE _{LSSE}	-5.573738	-2.9527	1(1)
GE _{YEO}	-3.781432	-2.9527	1(1)

Source: Author’s own computation from E-view 7.0 2018

The ADF test result shown in table 4.1 above indicates that the Poverty rate (PVR), expenditure on education (GEEDUC), government expenditure

on Youth trained scheme, entrepreneurship scheme and open apprenticeship scheme (GEYEO) and expenditure on small scale enterprises (GESSES) in the levels and differences1(1) and 1(2).

Table 2: Co-integration Test Results

Hypothesized		Trace	5 %	1 %
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Critical Value
None **	0.579544	57.28355	47.21	54.46
At most 1	0.457001	27.82539	29.68	35.65
At most 2	0.152568	7.063388	15.41	20.04
At most 3	0.041324	1.434875	3.76	6.65

Source: Author Computation using E-views 7 (2018)

The results on table 2 above showed that the Eigen value is less than 1% critical value (at all levels). It can also be observed that there are six unique co-integration equations between government expenditure on education (GEE), government expenditure on youth trained entrepreneurship skills and open apprenticeship skills (GEYEO),

government expenditure on loan to scale enterprises (GELSEs) and Poverty (PVR) in Nigeria during the 1981-2016 Since there is at least one (57.28355 against 47.21) co-integrating equation found in the model, the study concludes that significant long-run relationship exists among the variables.

Table 3: Summary of Parsimonious or Error Correction Mechanism

Sample (adjusted): 1981-2016

Included observations: 34 after adjusting endpoints

Variables	Coefficients	Standard errors	t-statistics	prob
DPOV (-1)	-0.211635	0.00923	-2.67122	0.05234
DGEE (-2)	0.00356	0.00031	1.13358	0.54609
DEGEYEO (-1)	-0.002023	0.00210	-0.96155	0.84429
DGELSSE(-1)	-0.004645	0.00225	-2.06349	0.04552
C	-0.667256	0.011973	0.077184	0.100816
ECM(-1)	-0.211635	0.000356	-0.002023	0.004645
R-square = 0.868918 Akaike info. Criteria = 6.355185 R-square (Adj) = 0.852004 Schwaze = 6.575118 S.E of Regression = 5.444091 mean dependent = 53.34167 Sum of square resid = 918.7820 S.D dependent = 14.15143 Log likelihood = -109.3933 F-statistic = 51.37323 5% critical value = 2.07				

Note: denotes rejection of the null hypothesis

Source: Author's computation, 2018 using E-views 7.0

The ECM estimates on table 4.3 above indicated that there is correlation between Poverty and the three independent variables. The implication is that there is an existence of a long-run economic relationship between the dependent variable (Pov) and the explanatory variables (GEE, GYEO and GELSSEs). The R-square of 0.868918 (87.9%) indicates that 87.9 percent of the result is accounted for by the inclusion of explanatory variables meaning that the regression is not spurious, and the ECM p-value of 0.00465 which is less than 5% critical value (2.07). This means that the stability condition required to conduct this type of

investigation is satisfied. Thus, the ECM is significant, fractional and negative which justifies the above claims. The estimated coefficient value of ECM (-0.211635) has a priori (negative) sign. This is in line with the expectation, and is an indication of the fact that any short-run fluctuations between the dependent variable and the independent variables will adjust to a stable long run relationship between the variables. The negative sign of -0.211635 also means that the speed of adjustment is 21%. This is a moderate speed of adjustment.

Table 4: Granger Causality Test

Null Hypothesis:	Lag	Obs	F-Statistic	Probability	Remark
GEEDUC does not Granger Cause PVR	2	34	1.27469	0.29472	Accept H ₀
PVR does not Granger Cause GEEDUC			0.52690	0.59598	Reject H ₀
GEYEO does not Granger Cause PVR	2	34	3.97955	0.02970	Accept H ₀
PVR does not Granger Cause GEYEO			0.49935	0.61205	Reject H ₀
GELSSE does not Granger Cause PVR	2	34	0.12277	0.88492	Reject H ₀
PVR does not Granger Cause GELSSE			0.41230	0.66594	Reject H ₀
GEYEO does not Granger Cause GEEDUC	2	34	0.13757	0.87204	Reject H ₀
GEEDUC does not Granger Cause GEYEO			0.16095	0.85209	Reject H ₀
GELSSE does not Granger Cause GEEDUC	2	34	0.88184	0.42483	Accept H ₀
GEEDUC does not Granger Cause GELSSE			0.69034	0.50946	Accept H ₀
GELSSE does not Granger Cause GEYEO	2	34	0.24976	0.78064	Reject H ₀
GEYEO does not Granger Cause GELSSE			0.54329	0.58663	Reject H ₀

Source: Output of E-View 7.0 2018.

The results of granger causality test presented on table 4.4 reveals that the direction of relationship flows from GEEDUC to POV (since GEEDUC F-statistics values greater than probability values.). This implies that the relationship between government expenditure on education and poverty in Nigeria during the 1981-2016 is Uni-directional and that changes in poverty precede changes in government expenditure on education. This suggests that, to a large extent government expenditure on education tend to exhibit strong influence poverty. Similarly the results on table 4.4 reveal that the direction of relationship flows from GEYEO to POV (since GEYEO F-statistics values

greater than probability values.). This implies that the relationship between government expenditure on education and poverty in Nigeria during the 1981-2016 is Uni-directional and that changes in poverty precede changes in government expenditure on youth trained, entrepreneurship skill and open apprenticeship skills. This suggests that, to a large extent government expenditure on youth trained, entrepreneurship skill and open apprenticeship skills tend to exhibit strong influence poverty.

Again, the results on table 4.4 reveals that the direction of relationship flows from government

expenditure on loans to small scale enterprises (GELSSE t-1) to poverty (POV t-1), and then from poverty (POV t-1) to government expenditure on loans to small scale enterprises (GELSSE t-1) since their F-statistics values are each greater than probability values. This implies that the relationship between government expenditure on loans to small scale enterprises and poverty in Nigeria during the 1981-2016 is bi-directional and that changes in poverty precede changes in government expenditure on loans to small scale

enterprises. Also changes in government expenditure on loans to small scale enterprises precede changes in poverty in Nigeria in the period under review. This suggests that, to a large extent government expenditure on loans to small scale enterprises tend to exhibit strong influence on poverty. Also, poverty has strong impact on government expenditure on loans to small scale enterprises in Nigeria in the 1981-2016

Table 5 Regression Results: Table 5: Long- Run Regression Results

Variable	Coefficient	Std Errors	t-statistics	5% critical value
C	0.322146	0.35296	0.91271	2.07
LOGPOV (-1)	0.528665	0.18957	2.78870	2.07
LOGEDUC (-1)	-0.875996	0.20519	4.26912	2.07
LOGGEDUC (-2)	0.222634	0.22546	0.98748	2.07
LOGGEYEO (-1)	-0.546178	0.18692	2.92206	2.07
LOGGEYEO (-2)	0.392454	0.20637	1.90172	2.07
LOGGELSS (-1)	-0.049158	0.16294	0.30169	2.07
LOGGELSS (-2)	0.370312	0.21573	1.71655	2.07
LOGPOV (-2)	-0.015274	0.17375	-0.08791	2.07
R-square = 0.887526	Mean dependent Var. = 1.726765			
R-square (adjusted) = 0.851534	S.D dependent Var. = 0.114514			
S.E of equation = 0.048672	Akaike Info. Criterion = -3.181713			
Sum square residual = 0.048672	Scharz Criterion = -6.790879			
Log likelihood = 63.08912	F-statistics = 24.65918			
Durbin-Watson stat = 1.631278				

Source: Author's computation, 2019 using E-views 7.0

Discussion of Results

The result on table 4.6 above revealed that, the coefficient of GEEDUC (LOGEEDUC) is negative (-0.875996), indicating negative relationship between Poverty and government expenditure on education in Nigeria during the 1981-2016, and this is in line with a priori expectation. The coefficient of government expenditure on education (LOGEEDUC) is statistically significant since its t-stat (2.78870) is greater than its critical value (2.07) at 5% level of significance. Thus, we reject the null hypothesis (Ho) and conclude that government expenditure on education (LOGEEDUC) have negative and significant effects on poverty in Nigeria during the period under study. The finding implies that government expenditure on education increases as poverty decline.

The coefficient of government expenditure on youth trained, entrepreneurship skills and open apprenticeship skills (LOGGEYEO) is negative, indicating negative relationship between it and poverty (LOGGEYEO) in Nigeria during the 1981-2016, and this is in line with a priori expectation government expenditure on youth trained, entrepreneurship skills and open apprenticeship skills passed the significant test as its t-stat (2.92206) is greater than its critical value (2.07) at 5% level of significance. Thus, the null hypothesis of no positive and significant effects on

government expenditure on youth trained, entrepreneurship skills and open apprenticeship skills on poverty should be rejected. Thus, this study concludes that on government expenditure on youth trained, entrepreneurship skills and open apprenticeship skills have positive and significant effects on poverty in Nigeria during the 1981-2016.

The coefficient of government expenditure on loan to small scale enterprises (LOGGELSSE) is negative, indicating negative relationship between government expenditure on loan to small scale enterprises (LOGGELSSE) and poverty (LOGPOV) in Nigeria during the 1981-2016, and this is in line with a priori expectation. The results from the present study reveals that government expenditure on loan to small scale enterprises (LOGGELSSE) has positive but not significant impact in determining poverty (POV) as its t-stat (0.30169) is less than its critical value (2.07) at 5% level of significant. Thus, the null hypothesis of no significant effect on government expenditure on loan to small scale enterprises (LOGGELSSE) on poverty should be accepted. Thus, it can be conclude that government expenditure on loan to small scale enterprises (LOGGELSSE) has positive but weak impact on poverty in Nigeria during the 1981-2016.

Conclusion and Recommendations

Based on the data gathered, presented and analysed, the following findings reveal that; investment in education by the federal government through spending contributes positively to poverty reduction. Indeed, the federal expenditure on education has significant relationship with poverty reduction in Nigeria. The results of the empirical analysis tests revealed that there exists significant and positive relationship between federal government education expenditure and poverty reduction in Nigeria.

The study recommends that:

1. Federal government as a matter of policy should increase budgetary allocation to the education sector at various levels. Also, Education Scientific and Cultural Organisation of total budget UNESCO, among others, support the funding of education in Nigeria. It can be achieved only if the government plays her part in ensuring proper and adequate utilisation of resources.
2. The on-going youth train, entrepreneurship scheme, and open apprenticeship crusade should be strengthened and well-funded to ensure success. In other words, government should have zero tolerance to above mention and those responsible for hijacking the process for their selfish interest should be made to face the full wrath of the law.
3. Government should provide adequate funding to finance institutions so as to create more access to credits for loans to scale enterprises in order to increase capacity utilisation, efficiency and by extension, substantial economic growth and development of the economy.

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Appendix 1: Transformed Data

Year	Poverty (%)	Expenditure on Education (=N= Million)	Expenditure on Youth Trained, Entrepreneurial Scheme and Open Apprenticeship scheme (Number)	Loans to Small Scale Enterprises (Million Naira)
1981	28	5.38	4.00	3.70
1982	27.5	5.39	4.07	3.74
1983	27.5	5.40	4.15	3.77
1984	29	5.41	4.27	3.81
1985	30	5.42	4.50	3.85
1986	46.3	5.43	4.38	3.88
1987	45.2	5.44	4.45	3.92
1988	46.4	5.45	4.42	3.96
1989	47.2	5.46	4.48	3.99
1990	43.3	5.47	4.46	4.03
1991	44.2	5.47	4.47	4.07
1992	43.9	5.48	5.06	4.10
1993	42.7	5.50	5.07	4.11
1994	46.3	5.50	5.09	4.13
1995	45.9	5.50	5.30	4.17
1996	50.8	5.52	5.24	4.59
1997	65.6	5.52	5.42	4.15
1998	64.9	5.53	5.18	4.37
1999	66.3	5.54	5.30	4.80
2000	63.5	5.54	5.14	4.59
2001	64.2	5.55	5.22	4.69
2002	62.5	5.58	5.12	4.46
2003	53.4	5.61	5.17	4.57
2004	54.4	5.66	5.15	4.52
2005	54.4	5.70	5.21	4.70
2006	54.2	5.75	5.22	4.41
2007	64.2	5.79	5.23	4.61
2008	54	5.84	5.24	4.13
2009	54	5.88	5.27	4.21
2010	69	5.92	5.28	4.10
2011	71.5	6.04	5.30	4.19
2012	72	6.04	5.32	4.14
2013	72	6.11	5.34	4.19
2014	72	6.14	5.36	4.24
2015	72	6.18	5.38	4.05
2016	72	6.18	5.41	4.17

Source: Researcher's own computation