

IMPACT OF RURAL FINANCIAL MARKET ON CAPITAL FORMATION IN NIGERIA (1991 – 2018)

ISERE VICTORIA OSHUARE MERAB.

ABSTRACT

This paper looked at the impact of rural financial market on capital formation in Nigeria. Rural financial markets was proxied by value added to agriculture and commercial banks credit as direct data for these were not available due to the highly informal nature of rural financial markets in Nigeria. Times series data was analyzed on e-views and it was revealed that savings is very important for rural financial markets survival and for the survival of the ruralists. Two models were developed to analyze the impact of VADA, ALSO, SVG, CMTYCR, and CBCR on capital formations as well as the impact of CMTYCR, SVG, CBCR, and ASLO on VADA. The paper recommends the creation of 'osusu' banks in rural areas while encouraging savers with incentives during the different farming seasons of land preparations and harvesting.

Keywords: rural finance, capital formation, financial markets, value added

Capital owned or under one's control. Capital formation is frequently seen as a measure of total investment. When

Introduction:

Capital formation in generally perceived to be very necessary ingredient for economic development. It is a general term for capital accumulation which refers to total stock of capital that has been formed or the growth of this total capital stock (Wikipedia, n.d.). In other words capital formation involves making of more capital goods like electricity, machines, tools and factories which are further productions of goods (Seth, n.d.).

Capital formation is a concept used in macroeconomics, national accounts and financial economics. In recent times, it has been used in financial economics to refer to savings drives, fiscal measures, development of capital markets and secondary markets. It is used to refer to any method for increasing the amount of

viewed as capital accumulation, it is seen as a reinvestment of profits into capital assets. (Wikipedia, n.d.).

The two main sources of capital formation are domestic/internal and external. The domestic sources include voluntary and involuntary savings. To accumulate capital goods, current consumption has to be sacrificed (Seth, n.d). Savings is remarked by Seth (n.d) as critical to capital formation. The more people are willing to abstain from consumption, the greater the extent that society will devote resources to new capital formation and the improvement of her economic standing in the committee of nations. The internally mobilized fund is by far the most important of the sources of capital because it is easily accessible to investors especially in low income countries (Heidhues & Schrieder, 1999)

Saving in low to middle income countries has to be stepped up despite the poverty else, the future production of goods will be compromised and poverty will remain a vicious cycle. Nigeria was ranked by the United Nations (UN) in 2016 as a lower middle income country according to the Kenyan Wall Street (2016) and happens to be one country with high income but low when looking at the earnings of its average citizen. (Abdulrahman, 2018). Nigeria's monthly minimum is expected to stand at thirty thousand naira (N30,000) following the new negotiation with the Federal Government of Nigeria. At current dollar exchange rate, it comes to about \$85 7cents. This is in a country where a member of the House of Representatives earns almost as high as the President of the United States. The World Bank ranking of 1st July 2018 retains Nigeria as a lower middle income country using 2017 data, where Gross National Income (GNI) per capita is between \$1,026 and \$3,995. (World Bank Data Team, 2018).

GNI is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of outputs plus net receipts of primary income (compensation of employees and property income) from abroad. (UNICEF, n.d.). GNI per capita is the dollar value of a country's final income in a year, divided by its population. Nigeria's GNI per capita is reported by Wikipedia (n.d.) as \$1,960 as at 2018. (Sadly below Ghana who has \$2,130).

The existence of efficient financial markets play a vital role in capital formation. A financial market is a market where financial assets are traded. They facilitate borrowing and lending. Financial markets provide a channel through which new savings flow to aid in capital formation and also promote investment to facilitate economic growth. (Wikipedia, n.d.). Financial markets include stock exchange of various countries, interbank, bond market and money market as well as forex market. The functioning of these markets aid in capital formation.

However, there are local financial markets who also engage in accumulation of savings especially in rural communities of low and middle income countries. Rural borrowers encounter difficulties in accessing credit from formal financial markets. Financial markets comprise of formal and informal sectors. The formal sector included banks credits cooperatives and non-governmental organizations (NGOs) who actually provide mediation between borrowers and depositors. The informal sector also includes the regulated and unregulated firms (Spio & Groenewald, 1997). The informal sector includes private individuals who provide credit out of their own equity, workers cooperatives and groups of individual practicing rotational savings. Even with setting up of some special banks in the local areas rural borrowers problems were unresolved as reported by Iganiga & Asemota (2008, p.63). They further reported that these special banks like Community Banks, Nigerian Agricultural Credit Guarantee Scheme to mention a few failed to meet rural needs because of several factors which included chronic dependency on government funds and bureaucratic obstacles and such like.

With this lacuna in rural financial services, rural financial institutions sprang up. The rural financial markets are both formal and informal. This paper is looking at the role/impact of these rural financial markets in accumulating capital for the development of rural areas and Nigeria in general. The paper is limited to

- i. determine if the objectives of rural financial markets were met in the period under review.
- ii. see if rural financial markets have contributed significantly to capital formation
- iii. determine if savings have help to add value to rural areas and thereby the Nigerian economy.

A Brief Overview of Rural Financial Markets

Rural finance encompasses the financial aspect of almost all economic processes in rural areas. This includes savings, financing and insurance of financial risks. A rural area is defined as an area where the primary economic activities are small scale agriculture, livestock rearing, small scale trading, service and manufacturing activities. (NOUN, 2017). These rural areas are characterized by limited availability of conventional banks, non affordable bank collateral and low population density to mention a few.

A rural financial market (RFM) consists of relationship between buyers and sellers of financial assets who are active in rural economies. (Von Pischke, Adams & Donald, 1983). These active rural buyers and seller can help to accumulate savings which can help in even industrial development of countries. Kato (1966) in Von Pischke (eds.) (1980) reported that since the 1880's funds from Japanese agriculture have flowed to other sectors and made major

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contribution to the nation's industrial growth. They observed that the Japanese People generally deposited their savings in banks rather than buying stocks. This supplied loans to the firms.

The importance of efficient financial markets in capital formation and therefore development cannot be over-emphasized. They provide those services that are most essential in modern market economies. When financial assets have attractive returns, savings is encouraged. At the onset, most financial institutions were formal but alongside existed the informal ones like moneylenders, 'osusu' savings associations and others outside government/central bank control. Some produce buyers give loans to the rural borrowers (farmers) expecting the farmer to sell all his products to him. No matter the nature of a financial market, its role is intermediation; bringing supplies of funds to those who demand it. Without financial institutions, economic progress will be difficult and costly (Heidhues & Schrieder, 1999). They transform financial assets so that the different preferences of savers and investors are synchronized.

Rural financial institutions mop up can provide a basis for economic growth if the rural financial institutions are continuously strengthened – both formal and informal. The rural dwellers also have access to loans to improve their forms. This was a submission of Iganiga & Asemota (2008) when they reported that Nigeria has one option only to survive economically and that is to invest in, mobilize and develop the rural sector.

Smith (2001) represents the entire rural finance setup (specialized for agriculture) as shown below.

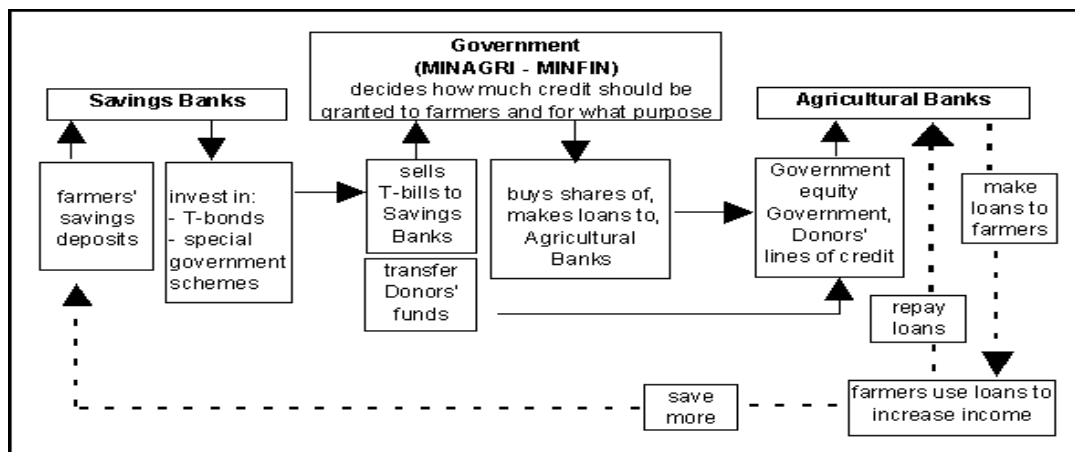


Fig 1 The flow of funds in the centralized and directed agricultural credit system The figure above speaks of how savings by farmers can get accumulated and become loans to big farmers (and firms). These loans are used by farmers to

increase income while they repay and also increase their savings out of the income generated. Overtime, the savings can get invested in bonds and other government schemes; increasing further and in the final analysis both farmers and firms improve their output and thus improve the national economy.

Objectives of rural financial market development

Rural Financial Markets are developed and promoted by donor agencies, banks, NGOs, produce buyers, agro-processing firms, cooperatives and informal savings and lending groups. (Iganiga & Asemota, 2008; NOUN, 2017; Von Pischke et al, 1983).

The objectives for this according to Iganiga & Asemota, 2008; NOUN, 2017; Smith, 2001; Von Pischke et al, 1983 include:

- i. Development of accessible financial institutions.
- ii. To make the greatest possible impact on the lives of rural people through the increase in local income and savings.
- iii. To link formal and informal financial institutions.
- iv. To increase rural lending by reducing costs and risks to lenders that made loans to rural clients tedious.

Methodology

The data for this study are time series data obtained from various secondary sources. The study used two single equation econometric model to test for the impact of rural finance and savings on capital formation which in turn impacts upon the nation's gross domestic product (GDP).

The value added by rural agriculture is taken as the contribution of rural finance to GDP. The community bank credit, agricultural scheme loans are all contributions to rural finance as well.

A second model is also drawn to measure the impact of commercial bank credit, agricultural scheme loans, saving and community bank credit on rural finance using the value added by rural agriculture to GDP.

Model Specification

Model I: $CFMN = F(VADA, CMTYCR, ASLO, CBCR, SVG)$

$$CFMN = \alpha_0 + \alpha_1 VADA + \alpha_2 CMTYCR + \alpha_3 ASLO + \alpha_4 CBCR + \alpha_5 SVG$$

Where $\alpha_1, \dots, \alpha_5 > 0$

Model II: $VADA = F(CMTYCR, ASLO, CBCR, SVG)$

$$VADA = \beta_0 + \beta_1 CMTYCR + \beta_2 ASLO + \beta_3 CBCR + \beta_4 SVG$$

Where $\beta_1, \dots, \beta_4 > 0$

Where CFMN = Capital formation

VADA=value added by agric

CMTYCR= community bank credit

ASLO = agricultural credit guarantee scheme fund

CBCR = commercial bank credit

SVG = savings

The models were analyzed using Eviews. The least square method was applied.

Presentation of results

Model I yielded the result in table 1 below. Dependent variable is CFMN.

Table 1: E-views Result of Regression Analysis

Variable	Coefficient	t-test	p-value
C	2791.695	0.6223	0.5401
VADA	-2.692	-1.5655	0.1315
CMTYCR	-0.250	-1.4327	0.1660
ASLO	0.004	3.2645	0.0035
CBCR	3.279	0.9736	0.3408
SVG	6.317	1.3821	0.1808

R-Square = 0.826498

F-statistic = 20.95988

Adjusted R-square = 0.787065

Prob F-statistic = 0.0000

Source: Authors computation on E-views.

From the value of the R-square (0.83) in table 1 above, we can safely say that the independent variables explained about 83% of variations in capital formation. The model is good enough statistically. There is significant linear relationship between the dependent variable (CFMN) and the independent variables (VADA, CMTYCR, ALSO, SVG and CBCR). Contrary to expectations, the coefficients of VADA and CMTYCR were negative; indicating that they are a reduction on capital formation CFMN during the period under review. However both of them obtained p-values of 0.1315 and 0.1660 respectively; which make them not statistically significant at the 5% α -level. ASLO, CBCR and SVG have the expected signs but only ASLO (with a p-value of 0.0035) is statistically significant at the 5% level of significance.

Model II had the result presented in table 2 below. Dependent variable is VADA.

Table 2: E-views Result of Regression Analysis

Variable	Coefficient	t-test	p-value
CMTYCR	0.01273	0.6063	0.5503
ASLO	0.0002	1.5300	0.1397
CBCR	-0.0465	-0.1138	0.9104
SVG	1.4082	2.9950	0.0065
C	1576.257	3.6356	0.0014

R-Square = 0.968017

F-statistic = 174.0323

Adjusted R-square = 0.962455

Prob F-statistic = 0.0000

Source: Authors computation on E-views.

Table 2 above reveals that the model explained about 97% of variations in the dependent variable. Contrary to expectations, the coefficient of the CBCR is (slightly) negative. The high value of the constant term and its statistical significance are worthy of note. SVG has the apriori sign and is the only statistically significant explanatory variable at the 5% α -level.

Discussion of results

During the period under review, the inability of local borrowers to access adequate funds is reflected in a negative impact of value added to agriculture on capital formation and a positive impact of community bank credit on rural finance. These corroborates the findings of Iganigan & Asemota (2008) that even the setting up of Community Banks did not improve the ruralists access to finance. It was expected that Community banks will improve rural finance but the study showed a very little impact. This may be as a result of the small size of loans getting into the hands of rural borrowers as well as chronic dependency on government funds as reported by Iganigan & Asemota (2008). In this wise, rural financial markets have not met that objective of providing access to rural borrowers.

The inadequate data on rural borrowing and savings corroborates Spio & Groenewald (1997) that many of the rural financial markets are informal. This hindered a direct variable use which necessitated the use of a proxy. Rural financial markets (proxied by VADA and CMTYCR) have both contributed negatively to capital formation. These markets lack the efficiency required for

growth as they failed in their role of intermediation as demanded by Heidhues & Schnider (1999).

Savings contributed significantly to value added to agriculture. This needs to be improved to corroborate the findings of Seth (n.d) who opined that savings is a sine qua non for capital formation and that of Kato (1966) in Von Pischke (eds) of how the Japanese economy grew via savings from farmers who provided funds for firms.

Conclusion and Recommendations

Having looked empirically at the foregoing, we conclude that the objectives of rural financial markets were not met in the period under review. This can however needs to be improved upon. We also conclude that rural savings has can help develop rural areas. To achieve the objectives of this study based on the finds we recommend the following:

1. The rural borrowers should be given some preference in interest rates when borrowing from commercial banks. This will help them build capacity and improve their contribution to capital formation.
2. Specialized “osusu” banks should be created in rural centres to encourage formalization rural savings and expansion of customer base of the “osusu” bank owner.
3. Rural savers in Osusu banks should be encouraged to save by giving incentives for saving during harvest seasons and loans during planting and farm land preparation seasons.

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Appendix

Dependent Variable: CFMN

Method: Least Squares

Date: 08/02/19 Time: 20:53

Sample: 1991 2018

Included observations: 28

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2791.695	4486.184	0.622287	0.5401
VADA	-2.691579	1.719354	-1.565460	0.1317
CMTYCR	-0.249933	0.174454	-1.432659	0.1660
ASLO	0.003725	0.001141	3.264505	0.0035
CBCR	3.279083	3.367890	0.973631	0.3408
SVG	6.317357	4.570880	1.382088	0.1808
R-squared	0.826498	Mean dependent var		23778.89
Adjusted R-squared	0.787065	S.D. dependent var		28662.08
S.E. of regression	13226.08	Akaike info criterion		22.00518
Sum squared resid	3.85E+09	Schwarz criterion		22.29065
Log likelihood	-302.0725	Hannan-Quinn criter.		22.09245
F-statistic	20.95988	Durbin-Watson stat		1.828735
Prob(F-statistic)	0.000000			

Dependent Variable: VADA

Method: Least Squares

Date: 08/02/19 Time: 20:56

Sample: 1991 2018

Included observations: 28

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1576.257	433.5636	3.635584	0.0014
CMTYCR	0.012726	0.020990	0.606287	0.5503
ASLO	0.000202	0.000132	1.529977	0.1397
CBCR	-0.046471	0.408325	-0.113809	0.9104
SVG	1.408177	0.470180	2.994974	0.0065
R-squared	0.968017	Mean dependent var		8508.221
Adjusted R-squared	0.962455	S.D. dependent var		8277.963
S.E. of regression	1603.991	Akaike info criterion		17.75881
Sum squared resid	59174094	Schwarz criterion		17.99670
Log likelihood	-243.6233	Hannan-Quinn criter.		17.83154
F-statistic	174.0323	Durbin-Watson stat		0.716441
Prob(F-statistic)	0.000000			

YEAR	VADA	CMTYCR	ASLO	CBCR	CFMN	SVG
1991	123.24	135.8	79107.4	31.1	3761.8	37.74
1992	184.12	654.5	91953.1	42.7	3735.3	55.12
1993	295.32	480.03	80845.8	58.48	2139.42	85.03
1994	445.27	1220.6	104463	65.7	2019.4	110.97
1995	790.14	1129.8	164133.1	94.2	2017.06	108.49
1996	1070.51	1400.2	225579.5	144.6	2550.6	134.50
1997	1211.46	1618.8	242028.3	169.4	2993.6	177.65
1998	1341.04	2526.8	219144.2	385.6	2752.9	200.07
1999	1426.97	2958.3	241839	272.9	2508.8	277.67
2000	1508.41	3666.6	361449	322.8	3255.32	385.19
2001	2015.42	1314	728545.4	508.3	3345.6	488.05
2002	4251.52	4310.9	1050982.3	796.2	4144.05	592.09
2003	4585.93	9954.8	1151015	954.6	6700.7	655.74
2004	4935.26	11353.8	2083744.7	1210	6494.7	797.52
2005	6032.33	28504.8	9366392.9	1519.2	6127.6	1,316.96
2006	7513.3	16450.2	4195099.0 8	1976.7	12021.0 3	1,739.64
2007	8551.98	22850.2	4087447.9 4	2524.3	15396.1 3	2,693.55
2008	10100.3 3	42753.06	6497958.9 3	4813.5	17318.2 2	4,118.17
2009	11625.4 4	58215.66	8328565.7 8	8912.1	20487.1 8	5,763.51
2010	13048.8 9	52867.5	7840496.6 3	7706.4	61099.0 1	5,954.26
2011	14037.8 3	50928.3	10028988. 8	7312.7	63960.0 5	6,531.91
2012	15816	90422.25	9332484.2 3	8150	65282.7 7	8,062.90
2013	16816.5 5	94055.58	9256676.8	10005. 6	72964.1 6	8,656.12
2014	18018.6 1	112110.1 5	12456250. 9	12889. 4	85749.7 3	12,008.2 4

2015	19636.9 7	187247.3 4	10857380. 8	13086. 2	71328.5	11,458.1 3
2016	21523.5 1	196194.9 9	7858643.3 5	16117. 2	56546.7	12,310.7 1
2017	23952.5 5	194024.9 4	5849388.7 3	15740. 6	59476.8 8	12,957.2 2
2018	27371.3	207963.3 2	4377626.2 9	15134. 2	9631.7	15,067.1 2

Descriptive statistics

	CMTYCR	VADA	ASLO	BCR	SVG	CFMN
Mean	49904.04	8508.221	4184223.	4676.596	4026.580	23778.89
Median	13902.00	5483.795	3085596.	1364.600	1057.237	6597.700
Maximum	207963.3	27371.30	12456251	16117.20	15067.12	85749.73
Minimum	135.8000	123.2400	79107.40	31.10000	37.73820	2017.060
Std. Dev.	68530.59	8277.963	4190506.	5643.187	4907.405	28662.08
Skewness	1.351110	0.735147	0.463348	0.892016	0.946903	0.966673
Kurtosis	3.416949	2.313660	1.685105	2.282095	2.430023	2.197972
Jarque-Bera Probability	8.721816 0.012767	3.071634 0.215280	3.019000 0.221020	4.314514 0.115642	4.563267 0.102117	5.111257 0.077643
Sum	1397313.	238230.2	1.17E+08	130944.7	112744.3	665808.9
Sum Sq. Dev.	1.27E+11	1.85E+09	4.74E+14	8.60E+08	6.50E+08	2.22E+10
Observations	28	28	28	28	28	28