MICROFINANCE LENDING TO SHGs AND ITS NEXUS ON ECONOMIC GROWTH IN INDIA: AN ARDL ANALYSIS

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Abstract:

This paper investigates the impact of Microfinance lending on economic growth in India over the period of 2002-03 to 2016-17. This study made use of quantitative secondary data from the Reserve bank of India, NABARD, CSO etc. to carry out this study. The empirical perspective of this study employed the Augmented Dickey-Fuller and Philip Perron Unit Root Test, ARDL model, error correction model (ECM). Besides those, Descriptive Statistics, Pearson's bivariate Co relation, CUSUM Test, Bound Test, Wald Test, LM-Test, CUSUM Test, Normality test, Heteroscedacity Test etc. have been applied to examine the empirical results of the dataset. Empirical evidence from the study has shown that the activities of microfinance lending to SHGs does't influence the entire economy either in short term as well as long term basis. There is also no relation exists among GDP and Investment. Inflation is positively negatively related with Growth. This study therefore recommends that Microfinance banks (MFBs) should be front-liners of ethical and professional conduct by ensuring that soft loans are given to credible and promising entrepreneurs.

Keywords: Microfinance banks, Investment, Economic growth, Inflation, SHG

1. INTRODUCTION:

Micro finance interventions are well-recognized world over as an effective tool for poverty alleviation and for improving socio economic conditions of the poor. It has been implemented in different forms in different countries and has come to be regarded as an important tool for

empowerment of women also. Empowerment of women can be promoted through Self Help Groups and other forms of groups at the grassroots pioneered through micro finance movement. Poverty alleviation on a large scale is possible through providing easy and affordable access to credit and other complementary services required for promotion of livelihood. Micro finance is considered as a potential instrument for combating poverty in a sustainable manner. Micro finance means providing very poor families with very small loans (micro credit) to help them engage in productive activities or grow their tiny businesses. Overtime micro finance has come to conclude a broader range of services (credit, savings, insurance, etc) as it has realized that the poor and very poor who lack access to traditional formal financial institutions require variety of financial products.

2. LITERATURE REVIEW

Dauda (2007) evaluates the performance of Nigeria's community banking scheme and observes that deposits generated significantly grew over the period of evaluation (1992 – 2004). The study attributes the deposit growth to improved grass root banking habit. Although their aggregate loan portfolio to agriculture and rural based real sector activities increased nominally over the period, the credit exposures are relatively much lower than their exposure to general commerce, (19.2% against 47.6%). The study remarks that this trend is counter-productive to policy efforts at boosting real sector growth and sustainable economic development in Nigeria.

Yesudian C.A.K, (2007) made the review enlisting the poverty alleviation program introduced by the government in the post economic reform era as to put concern over contribution of this

programs which are leaning towards reducing the poverty in the country. The poverty alleviation programmes are classified into self employment programmes, wage employment programmes, food security programmes, social security programmes and urban poverty alleviation programs.

Pitt and Khandkar (1995) analyzed the impact of a group-based lending programme for the poor on the household behavior in Bangladesh. They found that credit has a significant

impact on boys Schooling but not on girls Schooling. They also noted that credit to women increased woman labour supply and that credit increased women's non-land assets and it increased expenditure on food and non-food items.

Kumaran (1997) studied the functioning of self help groups in the state of Andhra Pradesh. Saving and Credit were the main objective of clients to enter into the group. He found that money contributed by the members was pooled together and used as a revolving fund to disburse loans on a priority basis. The interest rate on loans varied from 3 % to 5 % between the groups. The members also started various IGAs in the group.

Wright (2000) argued that microfinance projects failed to reach the poorest, generally argue had limited effect on income and failed to provide additional services desperately needed by the poor. He believed that many development practitioners not only find microfinance inadequate, but that it actually diverted funding from interventions such as health and education.

3. OBJECTIVES OF THE STUDY:

1. To analyse about the concepts of Micro finance lending to SHGs in India
2. To figure out empirically if there is any relationship between the Microfinance lending to SHGs and the economic development indicators.

4. HYPOTHESIS

H_0—There is a no relationship between Lending to SHGs and GDP growth rate.

5. DATA SET, METHODOLOGY AND ECONOMETRIC MODELLING

Data and Sources

This study employed time series secondary data spanning from 2002-03 to 2016-17. This period is chosen due to the availability of data. The relevant data were collected from the Reserve Bank of India, Statistical tables relating to banks in India, Planning commission website, NABARD annual reports and status of Micro finance in India, NABARD etc. Data collected include gross domestic product (GDP) growth rate, Microfinance Loans to SHGs (MLS), Domestic Investment Rate (INV) and Inflation (INFL).

We have run the Augmented Dickey fuller and Phillip-Perron Statistics test to know the stationarity of the dataset and found that the some data are stationary at I(0) and some are at I(1). So we concluded to apply ARDL (Auto regressive Distributed lag model) for our analysis purpose.

PROPOSED ARDL MODEL:

$$\Delta GDP_t = \alpha_0 + \sum_{i=1}^{n} \alpha_{1i}\Delta GDP_{t-i} + \sum_{i=0}^{n} \alpha_{2i}\Delta MLS_{-i} + \sum_{i=0}^{n} \alpha_{3i}\Delta INV_{-i} +$$

$$\sum_{i=0}^{n} \alpha_{4i}\Delta INFL_{t-i} + \beta_1 LGDP_{t-1} + \beta_2 MLS_{t-1} + \beta_3 INV_{-1} + \beta_3 INFL_{t-1} + \varepsilon_t$$

Notation:

Where, Δ denotes the first difference operator,

α_0 is the drift component,

ε_t is the usual white noise residuals.

The first until fourth expressions

($\beta_1 - \beta_4$) on the right-hand side correspond to the long-run relationship. The remaining expressions with the summation sign ($\alpha_1 - \alpha_4$) represent the short-run dynamics of the model.

GDP= Gross Domestic product

MLS= Micro Finance lending to SHGs

INV= Domestic Investment

INFL=Inflation Rate

OTHER TESTS APPLIED:

Breusch-godfrey serial correlation LM test: to know whether there is any serial correlation among the variables selected for the model

Cusum test: to check whether the proposed model is stable or not

Bound test: To check whether there is association between GDP, MLS, INV, INFL

Wald test: association between all the variables.

Short term error correction model

Heteroscedacity test

Normality test

E-Views 9.0 Statistical Package is used for computing the results for this study.

6. MICRO FINANCE IN INDIA

The story of the Indian micro finance is associated with both governmental and non governmental (NGO) initiatives that took place in the mid eighties and early nineties. It incorporated lessons from the micro finance movement in Bangladesh and similar participatory development programmers in India. The self-help group (SHG) - bank linkage. Programme of the National Bank for Agriculture and Rural development (NABARD) accelerated the growth of the micro finance movement in India in the latter half of the nineties. In India, micro finance has enabled the poor to have a greater access to financial services, particularly credit. It has achieved several social development objectives like gender sensitization, empowerment and poverty alleviation by diversifying their livelihoods and especially contributed largely towards raising their incomes. It has also allowed the poor to accumulate assets and has contributed towards their security,. Further, micro finance has also had a very significant social impact. In areas with sound micro

finance programmes, the quality of life of the poor has improved significantly. India's share in the global micro credit market in 2003 was 13 per cent of all clients and16 per cent of the poorest clients. This occurred due to the SHG bank linkage programme of NABARD, Now India is the home of one of the largest micro credit/ micro finance programmes in the world

Microfinance through SHG:

During this phase – largely omitted in recent studies – NABARD focused on supporting NGO initiatives to promote SHGs and on analyzing their potential and performance. In 1987 NABARD first put funds into the SHG/SAG movement (in response to a proposal from MYRADA submitted in 1986). In 1987 it provided MYRADA with a grant of 1 million Indian rupees to enable it to invest resources to identify affinity groups, build their capacity and match their savings after a period of 3-6 months. The grant was based on MYRADA's experience in promoting SHGs since 1985 and the initiative of the NABARD chairperson at that time. As a result of the feedback from this initiative, in 1989 NABARD launched an action research project in which similar grants were provided to other NGOs. After an analysis of this action research, and owing to the efforts of successive NABARD chairpersons and senior management, in 1990 RBI accepted the SHG strategy as an alternative credit model. NABARD (1992) issued guidelines to provide the framework for a strategy that would allow banks to lend directly to SHGs. Based on these initial experiences, the SHG Bank Linkage Programme was launched in 1992. Since then and on the basis of its extensive network of officers – NABARD has promoted and monitored the SHG programme, provided funds for capacity building and innovation, and helped change policy to create an enabling environment[*]

SHG Linkage:
Under this programme Microfinance has until now been carried out entirely in terms of disbursements, both annual and cumulative, rather than loans outstanding at the end of year. The latter is a stock measure of size, as compared to a flow, and provides a better basis for comparison with the size of lending under the MFI model, or with bank lending to other categories of borrowers such as marginal farmers, since it standardizes for loan tenor. In an important study based on a survey of participating banks under the programme conducted by GTZ / NABARD in 2005. These ratios had been the subject of conjecture until now

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[*] NABARD (2002), Annual Report- 2001-02, Mumbai

Chart 1:
Micro finance lending to SHGs in India, different years.

MLS
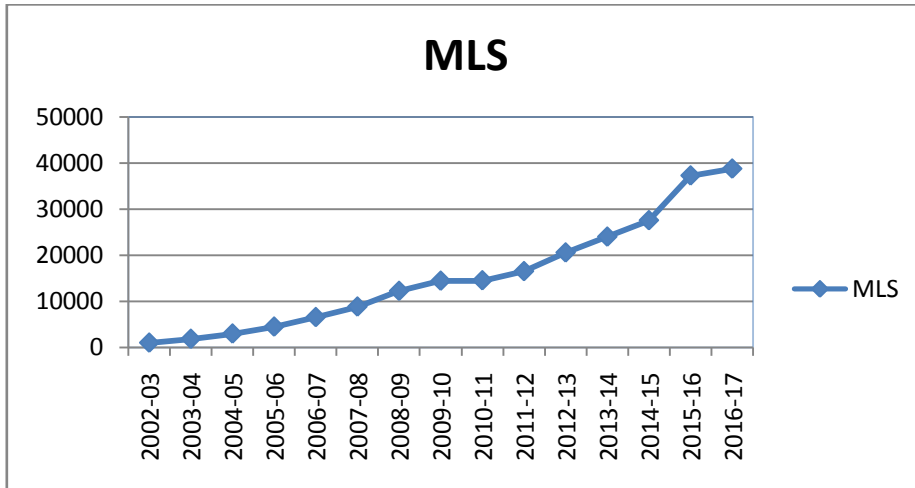
Source: Status of microfinance in India, NABARD, various issues

Scheme for Promotion of Women SHGs in backward districts of India

 With the object of scaling up SHG promotion activities in "Left Wing Extremism" (LWE) affected and backward districts in the country, a special initiative was commenced by NABARD with the Govt. of India. The programme entails promoting "Women" Self-help Groups in 150 districts with the assistance of anchor NGOs and support organisations identified for the purpose. The USP of the programme is that the anchor NGOs serves as "Business Facilitators" for banks, promoting, handholding and monitoring the functioning of the SHGs for a fee to be collected from the client. This is expected to ensure continuing interest of the anchor institutions. The agency will also be responsible for repayment of loans by SHGs to banks. The programme also provides for an institutional arrangement by way of Memorandum of understanding (MoU) between an anchor NGO in each of the district and the financing bank to ensure 186 continuous credit flow. The anchor NGOs are expected to map the potential for promotion of SHGs and attempt to saturate the allocated district with quality WSHGs in a limited time span. During the year 2012-13, an amount of Rs.16.94 crore has been utilised towards promotional grant assistance to anchor NGOs and for training and capacity building of stakeholders from Women SHG Development Fund maintained with NABARD and contributed fully by Government of India.[†]

[†] www.shodhganga.com

Figure 1:

Progress Of SHG- BLP During Past Three Years

(No. of SHGs in Lakh, Amount in ₹ 000 crore)

2014-15 | 2015-16 | 2016-17

	No. of SHGs with savings Linkage	Amount of savings outstanding	No. of SHGs disbursed with loan	Amount of loan disbursed	No. of SHGs with loan outstanding	Amount of loan outstanding
2014-15	76.97	11.06	16.26	27.58	44.68	51.55
2015-16	79.03	13.69	18.32	37.29	46.73	57.12
2016-17	85.77	16.11	18.98	38.78	48.48	61.58

Source: Status of microfinance in India, NABARD, 2016-17

7. No. OF SAVINGS LINKED SHGs

The number of savings linked SHGs has shown a huge jump of 8.53% during the year. The increase is highest during this decade. With the expanding coverage of SHG-Bank Linkage Programme in Eastern and North Eastern Regions and other priority States during the last three years, there has been perceptible correction in the Southern bias of the Programme. Bihar, Maharashtra, Rajasthan and West Bengal account for 63% of the net addition of SHGs during the year. The share of Southern Region in terms of number of SHGs declined to 43.4% in 2016-17 from almost half (48.3%) in 2014-15. There was a slight decline in the percentage share of SHGs in Southern Region as well as Central Region during 2016-17 over the previous year in spite of an absolute rise in number of SHGs. Major States like Telangana, Maharashtra, Gujarat, Chhattisgarh, Uttarakhand, West Bengal, Bihar, Jharkhand, and Rajasthan have recorded higher growth rate. [‡]

8. EMPIRICAL DATA ANALYSIS:

Table 1 : Pearson's Bivariate correlation analysis

	GDP GROWTH RATE	*MFBL*	*INV*	*INFL*
GDP GROWTH RATE	1			
MFBL	-0.29067	1		
INV	-0.23046	-0.05047	1	
INFL	-0.09721	0.492558	-0.21871	1

Source: Excel output

[‡] *Status of microfinance in India, NABARD, 2016-17*

Table 2: DESCRIPTIVE STATISTICS

GDP GROWTH RATE		MFBL	INV	INFL
Mean	7.646667	15455.54	33.99267	0.215607
Median	7.9	14453.3	34.28	0.0649
Standard Deviation	1.703721	12164.99	2.81625	0.55822
Sample Variance	2.902667	1.48E+08	7.931264	0.31161
Kurtosis	0.265605	-0.38096	1.684171	14.87376
Skewness	-0.4697	0.725467	-1.06062	3.850251
Range	6.4	37759.16	11.2	2.2081
Minimum	3.9	1022	26.83	0.0219
Maximum	10.3	38781.16	38.03	2.23

Source: Excel output

STATIONARITY TEST

An Augmented Dickey–Fuller **test** (**ADF**) tests the null hypothesis that a **unit root** is present in a time series sample. The alternative hypothesis is different depending on which version of the **test** is used, but is usually stationarity or trend-stationarity. The first step in applying the ARDL technique is to determine the degree of integration of each variable in model. The common practice is to run ADF test. However, to ensure, we have used the PP test. The results of the unit root tests are presented in the Table below

Table 3 : Result of Unit Root Test

RESULT OF UNIT ROOT TEST						
		AUGMENTED DICKEY-FULLER			PHILLIPS-PERRON	
VARIABLES	UNIT ROOT IN	T-STAT	PROB.		T-STAT	PROB.
GDP	LEVEL	-4.418	0.020*		-6.046	0.002*
	1ST DIFF					
MLS	LEVEL	-0.986	0.913		-0.829	0.936
	1ST DIFF	-4.163	0.030*		-4.168	0.030*
INV	LEVEL	-3.369	0.096		-3.939	0.040*
	1ST DIFF	-4.813	0.003*			
INFL	LEVEL	0.154	0.993		-0.663	0.955
	1ST DIFF	-3.986	0.043*		-4.958	0.009*

Source: Author's Calculations using E-Views 9.01.
*** impllies significance at the, 5%.2. The numbers within parentheses for the ADF (Dickey-Fuller 1979) statistics represents the lag length of the dependent variable used to obtain white noise residuals.3. The lag length for the ADF was selected using Akaike Information Criterion (AIC).**
We found that GDP and INV are stationary at I (0) Whereas and MLS and INFL are stationary at I(1). Same situation also happened in case of Phillip-Perron test. So we concluded to apply ARDL (Auto regressive Distributed lag model) for our analysis purpose.

AUTOREGRESSIVE DISTRIBUTED LAG (ARDL) ESTIMATES

MODEL SPECIFICATION:

We propose an *ARDL* modeling for univariate cointegration test, where the *GDP* is considered to be the dependent variable and the independent variables are MLS, INV, INFL .

THE MODEL

D(GDP) C D(GDP(-1)) D(GDP(-2)) D(MLS(-1)) D(MLS(-2)) D(INV(-1)) D(INV(-2)) D(INFL(-1)) D(INFL(-2)) GDP(-1) MLS(-1) INV(-1) INFL(-1)

9. DIAGNOSTIC TEST:

SERIAL CORELATION TEST:

Then to check whether there is serial correlation or not, we **have used** Breusch-Godfrey Serial Correlation LM Test: and this result is here.

Table 4: LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.276358	Prob. F(2,9)	**0.1585**
Obs*R-squared	5.038897	Prob. Chi-Square(2)	**0.0805**

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 02/15/18   Time: 00:41
Sample: 1 15
Included observations: 15
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFL	0.348785	0.923471	0.377689	0.7144
INV	0.108107	0.166359	0.649843	0.5320
MLS	-8.88E-06	4.08E-05	-0.217648	0.8326
C	-3.605413	5.685818	-0.634106	0.5418
RESID(-1)	-0.186792	0.282961	-0.660132	0.5257
RESID(-2)	-0.600673	0.284980	-2.107772	0.0643

R-squared	0.335926	Mean dependent var	-3.06E-15
Adjusted R-squared	-0.033003	S.D. dependent var	1.575609
S.E. of regression	1.601398	Akaike info criterion	4.068806
Sum squared resid	23.08029	Schwarz criterion	4.352026
Log likelihood	-24.51604	Hannan-Quinn criter.	4.065789
F-statistic	0.910543	**Durbin-Watson stat**	**2.391218**
Prob(F-statistic)	0.514966		

Source: Author's Calculations using E-Views 9.0

We found here that the Durbin-watson statistics is 2.39 which is within the limit. And the F- statistics and R squared is not significant at 5 % level. Hence the null hypothesis that there is no serial correlation is rejected. The inference drawn that there is no serial correlation in our model.

HETEROSCEDACITY TEST:

Table 5: Heteroskedasticity Test:

Heteroskedasticity Test: ARCH

F-statistic	0.859600	Prob. F(1,9)	0.3780
Obs*R-squared	0.959024	Prob. Chi-Square(1)	0.3274

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 02/15/18   Time: 01:03
Sample (adjusted): 5 15
Included observations: 11 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.174700	0.213573	0.817987	0.4345
RESID^2(-1)	0.289416	0.312158	0.927146	0.3780

R-squared	0.087184	Mean dependent var	0.275835
Adjusted R-squared	-0.014240	S.D. dependent var	0.604693
S.E. of regression	0.608983	Akaike info criterion	2.008914
Sum squared resid	3.337745	Schwarz criterion	2.081258
Log likelihood	-9.049024	Hannan-Quinn criter.	1.963310
F-statistic	0.859600	Durbin-Watson stat	1.614775
Prob(F-statistic)	0.378044		

Source: Author's Calculations using E-Views 9.0

In this case also the probability Value is more than 5 %, Hence we accept the null hypothesis that there is no heteroscedacity in our model.

NORMALITY TEST:

Chart 2: Normality Test Result
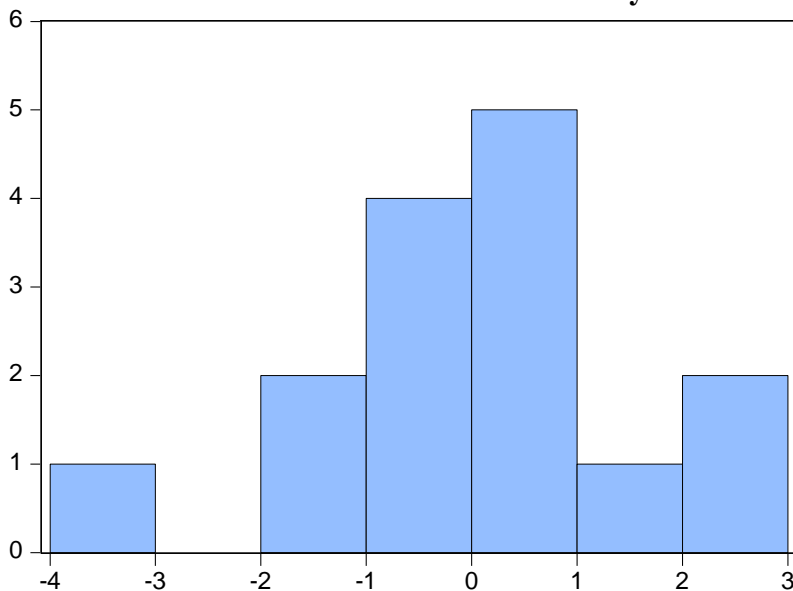
Series: Residuals	
Sample 1 15	
Observations 15	
Mean	-3.06e-15
Median	0.007672
Maximum	2.953763
Minimum	-3.425528
Std. Dev.	1.575609
Skewness	-0.214881
Kurtosis	3.096661
Jarque-Bera	0.121275
Probability	0.941165

Source: Author's Calculations using E-Views 9.0

Here the Jarque-Bera value is 0.12 and the probability value is 0.94 meaning that we will accept the null hypothesis that there is normality in the residuals in our model.

Graph 3: CUSUM TEST:
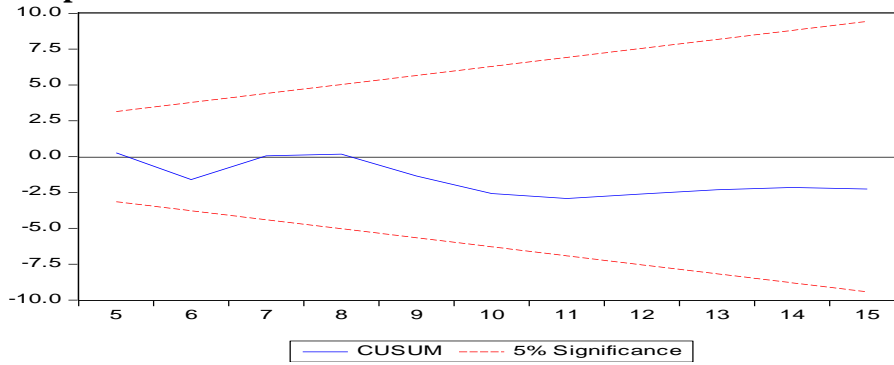
Source: Author's Calculations using E-Views 9.0

The CUSUM test is based on the cumulative sum of recursive residuals based on the first set of n observations. It is updated recursively and is plotted against the break points. If the plot of CUSUM statistic stays within 5% significance level, then estimated coefficients are said to be stable. Since the plots of CUSUM statistic 1 marginally cross the critical value lines, and it is within the two red lines we can confident that our model is stable and we can proceed further now.

RESULTS OF ARDL MODEL

Table 6: ARDL Results

Dependent Variable: D(GDP)
Method: Least Squares
Date: 02/15/18   Time: 00:20
Sample (adjusted): 4 15
Included observations: 12 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	33.92644	8.915735	3.805231	0.0626
D(GDP(-1))	1.199856	0.800884	1.498165	0.2728
D(GDP(-2))	0.090129	0.560971	0.160665	0.8871
D(MLS(-1))	-0.004323	0.002207	-1.958877	0.1892
D(MLS(-2))	0.002237	0.001003	2.229447	0.1556
D(INFL(-1))	130.8471	56.02926	2.335335	0.1446
D(INFL(-2))	140.0220	80.13542	1.747318	0.2227
GDP(-1)	-3.028943	0.924707	-3.275570	0.0819
MLS(-1)	0.000307	0.000337	0.910687	0.4586
INFL(-1)	-122.6108	53.40592	-2.295828	0.1486

R-squared	0.950103	Mean dependent var		-0.216667
Adjusted R-squared	0.725565	S.D. dependent var		2.646381
S.E. of regression	1.386348	Akaike info criterion		3.366130
Sum squared resid	3.843919	Schwarz criterion		3.770218
Log likelihood	-10.19678	Hannan-Quinn criter.		3.216521
F-statistic	4.231373	Durbin-Watson stat		3.058231
Prob(F-statistic)	0.205731			

Source: Author's Calculations using E-Views 9.0

N.B   INV has been excluded due to insufficient no of observations.

Then we can check whether there is association between GDP, MLS, INV and INFL for this we will do bound test. Bound test is simply based with WALD test.

WALD TEST

To find the association we will frame an equation that c7=c8=c9= 0

So H$_0$= c7=c8=c9= 0

Table 6: Wald Test Result

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	6.471810	(3.2)	**0.1368**
Chi-square	19.41543	3	0.0002

Null Hypothesis: C(7)=C(8)=C(9)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(7)	140.0220	80.13542
C(8)	-3.028943	0.924707
C(9)	0.000307	0.000337

Source: Author's Calculations using E-Views 9.0

Here in the wald test we found that the f-statistics value is 3.2 and p value is **0.1368**. So null hypothesis is accepted that there is no association among the variables. Again to be more reliable we should   compared this value with pesaran critical value at 5% level. Unrestricted intercept and trend. The guide line is if f statistics is lower than upper bound we can reject the null hypothesis. And we found **Upper bound 7.153**, **Lower bound 2.99**. So null hypothesis is is accepted. I.e. c7=c8=c9= 0

from the above test we concluded that there is no long term association among them.

10. SHORT RUN ASSOCIATION THROUGH ERROR CORRECTION MODEL

ERROR CORRECTION MODEL

$$\Delta \mathbf{GDP_t} = \boldsymbol{\alpha_0} + \sum_{i=1}^{n} \boldsymbol{\alpha_{1i}} \Delta \mathbf{GDP_{t\text{-}i}} + \sum_{i=0}^{n} \boldsymbol{\alpha_{2i}} \Delta \mathbf{MLS_{t\text{-}i}} + \sum_{i=0}^{n} \boldsymbol{\alpha_{3i}} \Delta \mathbf{INV_{\text{-}i}} +$$

$$\sum_{i=0}^{n} \boldsymbol{\alpha_{4i}} \Delta \mathbf{INFL_{t\text{-}i}} + \boldsymbol{\beta_1} \mathbf{ECT_{t\text{-}1}} + \boldsymbol{\mathcal{E}_t}$$

Thus;

D(GDP) C D(GDP(-1)) D(GDP(-2)) D(MLS (-1)) D(MLS(-2)) D(INV(-1)) D(INV(-2)) D(INFL(-1)) D(INFL(-2)) ECT(-1)

Table 7 : Results of Error Correction model

Dependent Variable: D(GDP)
Method: Least Squares
Date: 02/15/18   Time: 01:25
Sample (adjusted): 5 15
Included observations: 11 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.383608	0.806650	-4.194644	0.1490
D(GDP(-1))	-0.699998	0.181085	-3.865574	0.1612
D(GDP(-2))	-0.218611	0.274261	-0.797091	0.5716
D(MLS(-1))	0.001246	0.000407	3.062441	0.2009
D(MLS(-2))	-7.92E-06	0.000406	-0.019507	0.9876
D(INV(-1))	-0.434869	0.243439	-1.786362	0.3249
D(INV(-2))	0.453673	0.364748	1.243798	0.4311
D(INFL(-1))	-4.361660	1.071531	-4.070492	0.1534
D(INFL(-2))	11.04910	11.32975	0.975229	0.5080
ECT(-1)	-3.451045	0.507615	-6.798543	0.0930

R-squared	0.995073	Mean dependent var		-0.236364
Adjusted R-squared	0.950729	S.D. dependent var		2.774625
S.E. of regression	0.615883	Akaike info criterion		1.288769
Sum squared resid	0.379312	Schwarz criterion		1.650492
Log likelihood	2.911773	Hannan-Quinn criter.		1.060753
F-statistic	22.44006	Durbin-Watson stat		**2.291086**
Prob(F-statistic)	0.162488			

Source: Author's Calculations using E-Views 9.0

We will now check here that whether there is any short term correlation between the

variables pair wise.

D(MLS(1))
D(MLS(2))

Table 8: Wald Test Result

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	12.32635	(2, 1)	0.1974
Chi-square	24.65270	2	0.0000

Null Hypothesis: C(3)=C(4)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(3)	-0.218611	0.274261
C(4)	0.001246	0.000407

Restrictions are linear in coefficients.

Source: Author's Calculations using E-Views 9.0

F- STATISTIC value not significant., So H_0 is accepted .

D(INV(1))
D(INV(2))

Table 9 : Wald Test Result

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	1.907281	(2, 1)	0.4557
Chi-square	3.814562	2	0.1485

Null Hypothesis: C(5)=C(6)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(5)	-7.92E-06	0.000406
C(6)	-0.434869	0.243439

Restrictions are linear in coefficients.
Source: Author's Calculations using E-Views 9.0

F- STATISTIC value not significant., So H_0 is accepted .
   D(INFL(1))
   D(INFL(2))

Table 10 : Wald Test Result

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	8.288593	(2, 1)	0.2385
Chi-square	16.57719	2	0.0003

Null Hypothesis: C(7)=C(8)=0
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(7)	0.453673	0.364748
C(8)	-4.361660	1.071531

Restrictions are linear in coefficients.

Source: Author's Calculations using E-Views 9.0
F- STATISTIC value not significant., So H_0 is accepted .

11. OVERALL INTERPRETATION AND DISCUSSION OF THE RESULT:

The bound test depicts that there is no long term association among the variables understudy like GDP, MLS, INV and INFL. These results can be interpreted from different angles. Probably inadequate lending to SHGs unable to reflect the relationship between growth and MLS. Inflation shows the increasing trend. On the other hand unstable political system and different focus areas of various political parties might be a reason for such non association. Besides that high unemployment rate ushering low human capital contribution

towards country's GDP may be a micro cause for such type of negative relationship. There may be some other factors which have a significant impact and a larger contribution to economic growth. Therefore in our study we concluded that Lending to SHGs is not a harbinger of economic growth in India both in long run and in short run.

12. CONCLUSION AND RECOMMENDATIONS:

This study was undertaken to evaluate Lending to SHGs and economic growth nexus in India through the use of ARDL technique. The ARDL results show that a there is no relationship exists between Micro finance lending to SHGs and economic growth in India (proxied by GDP). Thus it will be worthwhile for the India government and policymakers to implement policies geared towards the development of Micro finance. Apart from that, our Government and policy makers should concentrate on maintaining uniformity and continuity in policy making govt. after govt. The focal point should be more on qualitative rather than quantitative. Since SHGs are the backbone of any country, govt. should focus more on this sector by boosting more and more Micro Finance institutions and Microfinance banks (MFBs) should be front-liners of ethical and professional conduct by ensuring that soft loans are given to credible and promising entrepreneurs.

REFERENCES

1. Ango, Y. I. (2011, January 9-11th). The impact of Banking Sector Reforms on Growth and Development of Entrepreneurs in Nigeria. Retrieved November 6th, 2015, from www.essex.ac.uk/conference/ief/10/documents/10EF papers/pdf.

2. Apere, T.O (2004). *Research Methodology* (2nded). Port- Harcourt: *Pearl Publishers*

3. Babjide, A. (2012). Impact analysis of microfinance banks in Nigeria. *International Journal of Economics and Finance*, *3*(4), 217–223.

4. C.B.N. (2005). Microfinance Policy, Regulatory ans Supervisory Framework for Nigeria. Abuja: C.B.N.

5. Central Bank of Nigeria (C.B.N). (2010). A Summary of the Microfinance Policy Framework for the Establishment of Microfinance Banks (MFBs) in Nigeria. Abuja: C.B.N.

6. Central Bank of Nigeria (2013). *Annual Statistical Bulletin. CBN, Abuja.*

7. Dauda, R. O. S. (2007). The Role of Community Banking System In Nigeria's Development Process: An Appraisal. *Journal of Banking, 2*(1) 82-103.

8. Ehigiamusoe, E. O. (2005). Micro Credit; Tool for Poverty Alleviation. A Lead paper Presented at the 12th Annual LAPO Development Forum in Benin City, 17th October, 2005.

9. Gujarati, D.N. et al. (1998). *Basic Econometrics* (5thed.). New York: McGraw-Hill Publishing Company. pp. 780-808

10. Status of micro finance in India, various issues, NABARD

11. Planning Commission

12. CSO, Ministry of statistics and programme implementation, Govt. of India.