DOI: 10.36347/sjebm.2016.v03i07.005

Scholars Journal of Economics, Business and Management e-ISSN 2348-5302
Doley SR.; Sch J Econ Bus Manag, 2016; 3(7):391-399 p-ISSN 2348-8875

(An International Publisher for Academic and Scientific Resources)

A Comparative Study between Non Swarnajayanti Gram Swarozgar Yojana and Swarnajayanti Gram Swarozgar Yojana Self Help Group- Bank Linkage Program in India

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Abstract: The Swarnajayati Gram Swarozgar Yojana (SGSY) is a program for the poor promoted by the Government that primarily focuses on group approach like Self Help Group (SHGs) which are linked with bank. The objective of the study is to make comparative study of the cyclical variation in the time series data between SGSY SHG- BL program and non SGSY SHG-BL program in India. The study is based on secondary sources of data. In the process of data analysis, statistical tools of time series analysis and compound annual growth rate (CAGR) are used. The present study covers a period of seven years from 2006-07 to 2012-13. The result of the analysis reveals that CAGR in number of SHGs with respect to savings of SHGs with bank under SGSY SHG-BL program is more as compared to non SGSY SHG- BL program for the study period. The CAGR in amount of savings of SHGs with bank under non SGSY SHG- BL program is less as compared to SGSY SHG- BL program for the study period. The CAGR in number of SHGs with respect to loan disbursed to SHGs under SGSY SHG-BL program is negative (-0.62 percent) as against 1.82 percent under non SGSY SHG- BL program for the period. The CAGR in amount of loan disbursed to SHGs under non SGSY SHG- BL program is 19.90 percent as against 6.60 percent under SGSY SHG-BL program. The CAGR in number of SHGs with respect to loan outstanding of SHGs under SGSY SHG-BL program is 5.72 percent as against 8.20 percent under non SGSY SHG-BL program for the period. The CAGR in amount of loan outstanding of SHGs under non SGSY SHG- BL program is 19.03 percent as against 14.79 percent under SGSY SHG-BL program. Therefore, it is evident from the various models that cubic model is best fitted with the time series data.
Keywords: SGSY, CAGR, SHGs, SHG- BL program, savings, loan, loan outstanding

INTRODUCTION

Self Help Group-Bank Linkage Program(SHG-BL)encourages women, particularly rural poor women, join together as self-help groups (SHGs); regularly contribute certain amount as savings to the group; engage in internal lending (within the group members); and after a specified period, banks lend loans to these groups without any collateral security, mostly for income generation purposes. This SHG-BL is being executed in three models. In model I, banks themselves promote SHGs and extend credit to its members as a group and the responsibility lies with the promoter banks. In model II, SHGs are promoted and fostered by government or non government organizations. Banks directly finance such SHGs which meet the mandatory conditions laid down by such banks and here too, the responsibility lies with the bank. Under model III, SHGs are promoted and nurtured by other agencies (not by the banks), and unlike the second model, loans are given to the promoting agencies, which in turn distribute the loan amount among the SHGs. In the third model, the whole liability is with the promoting and loan distributing intermediary agencies. Mostly, in remote areas, where bank services are unavailable, the third model helps in reaching out the unreached [1].

Under the Swarnajayanti Gram Swarozgar Yojana (SGSY) scheme, during the stage of group formation, the SHG should be brought into contact with the local banks through opening of savings bank account preferably in their service area branch. The Block Development Officer (BDO) and the banker may visit the SHG as often as they can and explain to the members the opportunities for self-employment. The District Rural Development Agencies (DRDAs) should involve the bank functionaries also in the training program of SHGs. In case the SHGs have been in existence prior to the SGSY under other programs and have completed six months from the date of formation and it is being brought under the SGSY, such groups may be subjected to first grading immediately, without waiting for another six months. For minor irrigation schemes, relaxation of time for the second grading could be allowed if the group is found credit-worthy and the project is viable. The decision in regard to the relaxation may be taken by the Block Level SGSY Committee. In case the SHG has been in existence prior

to the SGSY under other programs and has completed one year from its date of formation and it is being brought under SGSY, the group may be subjected to second grading directly to assess its eligibility for economic activity without subjecting to first grading. The choice of the agency carrying out the grading as well as the criteria should be to the satisfaction of the bank. It would be desirable that bank functionaries are involved in the grading exercise of groups functioning in their Service Area [2].

DEFINITION OF SELF HELP GROUP

The Self-Help Groups are voluntary associations of people formed to attain a collective goal. People who are homogenous with respect to social background, heritage, caste or traditional occupation come together for a common cause to raise and manage resources for the benefit of the group members [3].

REVIEW OF LITERATURE

Reddy, AA and Malik, DP [4] in their paper stated that there is acute shortage of fund under SHG-BL program compared to SGSY program in all district. That is why most of the NGOs/Suvida Dhata is not willing to be part of SHG- BL Program. Narang, U [5] in the article mentioned that the SHG- BL program is considered as most successful, promising and widely accepted model in India. The SHG- BL program has provided a more favorable environment for enhancing Indian potential for greater equitable growth with empowerment while considering the positive sign in their performance. Chandran, KPV and Sandhya, P [6] in their article concluded that the SHG bank linkage program in India is rapidly expanding its outreach under the pioneering initiative NABARD, monitoring and supervision of the RBI and promotional policies of the Government of India. Thekkekara, TF [7] in her paper concluded that the SGSY has not succeeded because it has not outgrown the IRDP mindset of making subsidy the cornerstone of undertaking poverty alleviation. At the same time, the disbursal of subsidies has necessitated the elaborate procedures to protect this disbursal. Singh, S [8] in his paper stated that the strategy for microfinance has been successful in providing much needed financial services to the poor on a sustainable basis. The access of financial services has enabled a large number of the poor throughout the developing world to make a significant progress in their own efforts to challenge poverty through the exercise of options. Dave, HR [9] in his paper stated that more experimentation needs to be carried out by the banking system to evolve need-based savings products for SHGs of different maturities. Similar initiatives also need to be tried by the system for tapping the occasional surpluses of individual members.

Research Gap

It is clear from the earlier literature review that there is seldom any comparative study between SGSY SHG-BL and non SGSY SHG-BL program in India. Thus, it is justified to make comparative study between these two programs.

Statement of the Problem

Under both programs, the deposit amount is received by the banks in the name of group. The banks extend loan to the group for doing economic activities as per the guidelines. The banks recover the loan amount from the group. While recovering the loan, the banks maintain record of outstanding amount of the group in its register for future reference. In the present study, the paper highlights the amount of savings of the SHGs with bank, loan amount extended to the group and outstanding loan to be repaid to the bank for the period of seven years from 2006-07 to 2012-13. It is a comparative study between SGSY SHG-BL program and non SGSY SHG-BL program in India.

OBJECTIVE OF THE STUDY

The objective of the study is to make comparative study of the cyclical variation in the time series data between SGSY SHG- BL program and non SGSY SHG-BL program in India.

METHODOLOGY ADOPTED

Sources of Data

The study is based on secondary sources of data. The study used published sources of NABARD website that is available in it. These data are statistically analyzed to find the result in order to draw conclusion. In the process of data analysis, statistical tools of time series analysis and compound annual growth rate (CAGR) are used. A brief description of these analytical tools is given below:

Compound Annual Growth Rate (CAGR)

It is a useful measure of growth over time periods. It can be thought of as the growth rate that gets you from the initial value to the ending investment value if you assume that the investment has been over the time period. The formula is given below:

$$\mathbf{CAGR = (EV / BV)^{1/n} - 1}$$

EV = Ending value,
BV= Beginning value and
N= Number of periods [10].

Trend Analysis

Ordinary Linear Square (OLS) is the most popular and widely used method of fitting mathematical functions to a given set of data. The method yields almost correct results if sufficiently good appraisal of the form of the function to be fitted is obtained by either by a scrutiny of the graphical plot of values overtime or

by a theoretical understanding of the mechanism of the variable change. An examination of the plotted data over time often provides an adequate basis for deciding upon the type of trend to use. The following are some of the types of curves that may be used to describe the given data in practice.

1) A straight line $Q_t = a + bt + u_t$
2) Second degree parabola $Q_t = a + bt + ct^2 + u_t$
3) K^{th} degree parabola $Q_t = a_o + a_1 + a_2 + \ldots\ldots\ldots\ldots + a_K + u_t$
4) Exponential curves $Qt = ab^t u_t$

In the present study, linear, second degree parabola, third degree parabola are fitted to study financial aspect in the SGSY scheme. Types of curves have been decided by graphical plots and mathematical formulae [11]. Various models viz simple linear, quadratic, exponential models are fitted to study the trend between non SGSY SHG- BL program and SGSY SHG-BL program in India for the period 2006-07 to 2012-13. The coefficient of determination (R square) has been obtained for each of the model together with F scores. The highest value of R^2 is considered for selection of the model in the present analysis. The curve estimation of econometric analysis in the present study was done with the help of SPSS 17.0.

Period of the Study

The present study covers a period of seven years from 2006-07 to 2012-13.

Scope of the Study

The collected data is associated with progress under micro finance at All India level in terms of geographical area. The study is confined to comparison between non SGSY SHG- bank linkage program and SGSY SHG- BL program.

Limitation of the Study

The study is restricted to the period of seven years because SGSY SHG- BL data was available in NABARD website from the year 06-07, thus, it may not give a true picture of cyclical variation of trend analysis. The sources of data are based on the published annual reports of NABARD.

RESULT AND DISCUSSION

Discussion is made with regard to savings with bank, loan disbursed to SHGs and outstanding loan by comparing two programs SGSY SHG- BL program and non SGSY SHG-BL program throughout India.

Savings of SHGs with Bank

Table 1: Savings of SHGs with Bank under both Programs

Years	Savings with Bank					
	Non SGSY SHG- BL Program		SGSY SHG-BL Program		Total	
	No. (Lakh)	Amt (Rs. Crore)	No. (lakh)	Amt (Rs. Crore)	No. (lakh)	Amt (Rs. Crore)
06-07	32.04	2755.21	9.56	757.50	41.61	3512.71
07-08	38.07 (18.82%)	2975.88 (8.9%)	12.03 (25.8%)	809.51 (6.9%)	50.10 (20.4%)	3785.39 (7.8%)
08-09	46.15 (21.22%)	3982.24 (33.8%)	15.06 (25.1%)	1563.38 (93.1%)	61.21 (22.2%)	5545.62 (46.5%)
09-10	52.59 (14.0%)	4906.09 (23.2%)	16.94 (12.5%)	1292.62 (-17.3%)	69.53 (13.6%)	6198.71 (11.8%)
10-11	54.39 (3.4%)	5199.18 (6.0%)	20.23 (19.4%)	1817.12 (40.6%)	74.62 (7.3%)	7016.30 (13.2%)
11-12	58.37 (7.3%)	5156.16 (-0.8%)	21.23 (5.0 %)	1395.25 (-23.2%)	79.60 (6.7%)	6551.41 (-6.7%)
12-13	52.71 (-9.7%)	6395.60 (24.0%)	20.47 (-3.6%)	1821.65 (30.6%)	73.18 (-8.1%)	8217.25 (25.4%)
CAGR	3.37	12.78	11.49	13.35	8.40	12.91

Source: Status of microfinance, NABARD website

Note: Figure in parenthesis implies annual growth rate, *CAGR stands for compound annual growth rate

Table 2: Model Summary and Parameter Estimate savings amount of SHGs under non SGSY

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	.943	82.545	1	5	.000	2124.527	589.238		
Quadratic	.945	34.494	2	4	.003	1922.446	723.959	-16.840	
Cubic	.946	17.571	3	3	.021	1679.276	1000.903	-97.897	6.755
Exponential	.927	63.752	1	5	.000	2469.584	.139		

Note: Among four models, value of R square is the highest in cubic model. Therefore, it is considered in this case.

Table 3: Model Summary and Parameter Estimates savings amount of SHGs under SGSY

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	.671	10.203	1	5	.024	691.337	164.917		
Quadratic	.732	5.473	2	4	.072	346.161	395.034	-28.765	
Cubic	.740	2.843	3	3	.207	121.491	650.908	-103.655	6.241
Exponential	.686	10.944	1	5	.021	737.956	.138		

Note: Among four models, value of R square is the highest in cubic model. Therefore, it is considered in this case

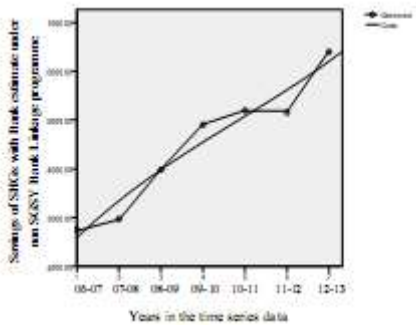


Fig-1:

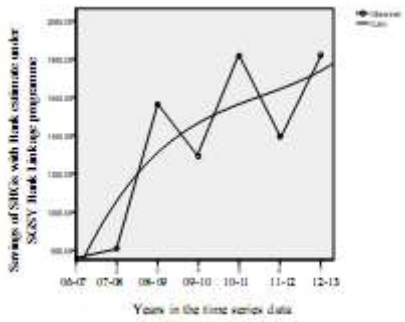


Fig-2:

Table 1 reveals that under non SGSY SHG-BL program, the growth in number of group savings with bank for the period 06-07 to 07-08 is 18.82 percent. For the year 07-08 to 08-09, there is a slight increase of growth in number to 21.22 percent. The growth declines to 14 percent during years 08-09 to 09-10 and continues to decline to 3.4 percent in next year. It increases to 7.3 percent during the year 10-11 to 11-12. For the period 11-12 to 12-13, growth rate comes down to -9.7 percent. The mean value in number of group savings with bank is 47.76 with SD 9.56 and CV 20.02. The CAGR in number of the SHGs for the period is 3.37 percent. Table 1 and Figure 1 show that the growth in amount of group savings with bank for the period 06-07 to 07-08 is 8.9 percent. For the year 07-08 to 08-09, the rate of growth increases at an increasing rate to 33.8 percent. It goes down to 23.2 percent during years 08-09 to 09-10 which decreases to 6 percent for the period 09-10 to 10-11. In succeeding year 10-11 to 11-12, there is a negative growth of -0.8 percent which goes up to 24 percent during 11-12 to 12-13. The mean value in the amount of savings with bank is 4481.47 with SD 1310.91 and CV 29.25. The CAGR of amount for the study period is 12.78 percent. Thus, it is evident from the Table 2 that cubic model fits the time series data.

Under SGSY SHG- BL program, the growth in number of group savings with bank for the period 06-07 to 07-08 is 25.8 percent. For the year 08-09 to 09-10, there is a slight decline of growth in number to 25.1 percent. The growth rate continues to go down 12.5 percent during 09-10 to 10-11 which goes up to 19.4 percent for the period 09-10 to 10-11. Then it declines to 5 percent during years 10-11 to 11-12. The last year 11-12 to 12-13, there was a negative growth -3.6 percent. The mean value in number of group savings with bank is 16.50 with SD 4.52 and CV 27.39. For the period of seven years, the CAGR in number of SHGs under the scheme is 11.49 percent. Table 1 and Figure 2 present that the growth in amount of group savings with bank for the period 06-07 to 07-08 is 6.9 percent. For the year 07-08 to 08-09, there is a steep increase in growth of amount to 93.1 percent. The growth rate steeply goes down to -17.3 percent during year 08-09 to 09-10 which goes up to 40.6 percent for the period of next year. There was a negative growth of -23.2 percent during years 10-11 to 11-12. The last year 11-12 to 12-13, rate of growth increases to 30.6 percent. The mean value in the amount of savings with bank is 1350.99 with SD 434.85 and CV 32.19. Under the scheme, the CAGR in amount for the study period is 13.35 percent. Therefore, it is seen from Table 3 that cubic model is best fitted with the time series data.

Under both programs, the growth in number of group savings with bank for the period 06-07 to 07-08 is 20.4 percent. For the year 07-08 to 08-09, there is a slight increase of growth in number to 22.2 percent. The growth goes down to 13.6 percent during years 08-09 to 09-10 and continues to go down to up to year 11-12 to 12-13. The mean value in number of group savings with bank is 64.26 with SD 13.98 and CV 21.76. The CAGR of number of the SHGs for the period is 8.40 percent. The growth in amount of group savings with bank for the period 06-07 to 07-08 is 7.8 percent. For the year 07-08 to 08-09, the rate of growth increases at an increasing rate to 46.5 percent. It goes down to 11.8

percent during years 08-09 to 09-10 which increases to 13.2 percent for the period 09-10 to 10-11. In succeeding year 10-11 to 11-12, growth declines to -6.7 percent which goes up to 25.4 percent during 11-12 to 12-13. The mean value in the amount of savings with bank is 5832.48 with SD 1702.63 and CV 29.19. The CAGR of amount for the study period is 12.91 percent.

It is observed from the above table that CAGR in number of SHGs with respect to savings of SHGs with bank under SGSY SHG-BL program is more as compared to non SGSY SHG-BL program for the study period. The CAGR in amount of savings of SHGs with bank under non SGSY SHG- BL program is less as compared to SGSY SHG-BL program for the study period.

Loan disbursed to SHGs

Table 4: Loan disbursed to SHGs under both Programs

	Loan disbursed					
Years	Non SHG- BL Program		SGSY SHG-BL Program		Total	
	No. (Lakh)	Amt (Rs. crore)	No. (lakh)	Amt (Rs. crore)	No. (lakh)	Amt (Rs.crore)
06-07	9.16	5159.37	1.89	1411.02	11.06	6570.39
07-08	9.81 (8.0)	6991.52 (35.5%)	2.47 (30.7%)	1857.74 (31.7%)	12.28 (11.0%)	8849.26 (34.7%)
08-09	13.45 (37.1)	10238.29 (46.4%)	2.65 (7.3%)	2015.22 (8.5%)	16.10 (31.1%)	12253.51 (38.5%)
09-10	13.20 (-1.9)	12255.30 (19.7%)	2.67 (1.0%)	2198.00 (9.1%)	15.87 (-1.4%)	14453.30 (17.9%)
10-11	9.55 (-27.7)	12067.36 (-1.5%)	2.41 (-9.9%)	2480.37 (12.8%)	11.96 (-24.6%)	14547.73 (0.01%)
11-12	9.38 (-1.8)	13891.21 (15.1%)	2.10 (12.9%)	2643.56 (6.6%)	11.48 (-4%)	16534.77 (13.7%)
12-13	10.39 (10.8)	18377.89 (32.3%)	1.81 (-13.8%)	2207.47 (-16.5%)	12.20 (6.3%)	20585.36 (24.5%)
CAGR	1.82	19.90	-0.62	6.60	1.41	17.72

Source: Status of microfinance, NABARD website

Note: Figure in parenthesis implies annual growth rate, *CAGR stands for compound annual growth rate

Table 5: Model Summary and Parameter Estimates loan amount disbursed under non SGSY

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	.943	83.279	1	5	.000	3385.276	1974.429		
Quadratic	.944	33.509	2	4	.003	3635.011	1807.938	20.811	
Cubic	.973	35.646	3	3	.008	-854.749	6921.276	-1475.775	124.716
Exponential	.924	60.678	1	5	.001	4884.192	.191		

Note: Among four models, value of R square is the highest in cubic model. Therefore, it is considered in this case.

Table 6: Model Summary and Parameter Estimates amount of loan disbursed under SGSY

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	.700	11.647	1	5	.019	1483.891	158.076		
Quadratic	.908	19.805	2	4	.008	885.846	556.774	-49.837	
Cubic	.943	16.455	3	3	.023	1340.366	39.126	101.670	-12.626
Exponential	.701	11.699	1	5	.019	1506.499	.081		

Note: Among four models, value of R square is the highest in cubic model. Therefore, it is considered in this case.

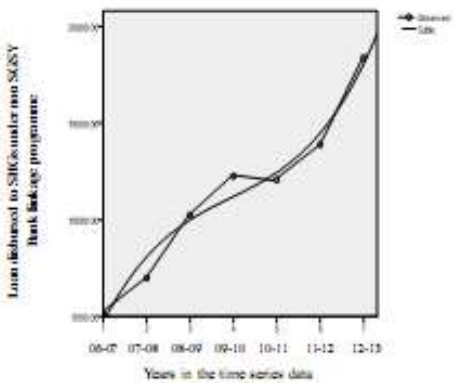


Fig-3:

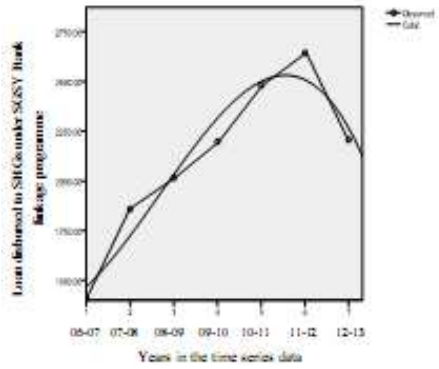


Fig-3:

Under non SGSY SHG- BL program, the growth in number of SHGs for disbursement of loan for the period 06-07 to 07-08 is 8 percent as presented in Table 4. For the year 07-08 to 08-09, there is a slight increase of growth to 37.1 percent. The growth goes down to -1.9 percent during years 08-09 to 09-10 then continues to go down to -27.7 percent in next year. It decreases slightly to -1.8 percent during the year 10-11 to 11-12. For the period 11-12 to 12-13, growth rate increases to 10.8 percent. The mean value in number of SHGs for disbursement of loan is 10.71 with SD 1.8 and CV 16.81. The CAGR in number of the SHGs for the period is 1.82 percent. Table 4 and Figure 3 present that the growth in amount of loan disbursement to SHGs for the period 06-07 to 07-08 is 35.5 percent. For the year 07-08 to 08-09, the rate of growth increases at an increasing rate to 46.4 percent. It goes down to 19.7 percent during years 08-09 to 09-10 which decreases to -1.5 percent for the period 09-10 to 10-11. In succeeding year 10-11 to 11-12, there is a growth of 15.1 percent which goes up to 32.3 percent during 11-12 to 12-13. The mean value in amount of loan disbursement to SHGs is 11283.05 with SD 4391.35 and CV 38.91. The CAGR of amount for the study period is 19.90 percent. Thus, it is evident from the Table 5 that cubic model fits the time series data.

Under SGSY SHG- BL program, the rate of growth in number of loan disbursed to SHGs for the period 06-07 to 07-08 is 30.7 percent. The growth rate goes down foe three consecutive years which goes up to 12.9 percent for the period 10-11 to 11-12. Then it declines to -13.8 percent during year 11-12 to 12-13. The mean value in number of SHGs for disbursement of loan is 2.29 with SD .35 and CV 15.28. For the period of seven years, the CAGR in number of SHGs under the scheme is -0.62 percent. Table 4 and Figure 3 show that the growth in amount of group savings with bank for the period 06-07 to 07-08 is 31.7 percent. For the year 07-08 to 08-09, there is a decrease in growth of amount to 8.5 percent. The growth rate goes up to 9.1 percent during year 08-09 to 09-10 which continues to go up to 12.8 percent for the period of next year. It declines to 6.6 percent during years 10-11 to 11-12. The last year 11-12 to 12-13, growth rate declines to -16.5 percent. The mean value in amount of loan disbursement to SHGs is 2116.14 with SD 408.30 and CV 19.29. Under the scheme, the CAGR of amount for the study period is 6.60 percent. Therefore, it is seen from Table 6 that cubic model is best fitted with the time series data.

Under both programs, the growth in number of SHGs for disbursement of loan for the period 06-07 to 07-08 is 11 percent as presented in Table 4. For the year 07-08 to 08-09, there is an increase of growth to 31.1 percent. The growth goes down to -1.4 percent during years 08-09 to 09-10 then continues to go down to -24.6 percent in next year. It decreases to - 4 percent during the year 10-11 to 11-12. For the period 11-12 to 12-13, growth rate goes up to 6.3 percent. The mean value in number of SHGs for disbursement of loan is 13 with SD 2.09 and CV 16.08. The CAGR in number of the SHGs for the period is 1.41 percent. Table 4 and Figure 4 present that the growth in amount of loan disbursement to SHGs for the period 06-07 to 07-08 is 34.7 percent. For the year 07-08 to 08-09, the rate of growth increases to 38.5 percent. It goes down to 17.9 percent during years 08-09 to 09-10 which decreases to 0.01 percent for the period 09-10 to 10-11. In succeeding year 10-11 to 11-12, growth increases to 13.7 percent which continues to go up to 24.5 percent during 11-12 to 12-13. The mean value in amount of loan disbursement to SHGs is 13399.19 with SD 4700.18 and CV 35.08. The CAGR of amount for the study period is 17.72 percent.

It is observed from the above table that CAGR in number of SHGs with respect to loan disbursed to SHGs under SGSY SHG-BL program is negative (-0.62 percent) against 1.82 percent under non SGSY SHG-BL program for the study period. The CAGR in amount of loan disbursed to SHGs under non SGSY SHG- BL program is 19.90 percent against 6.60 percent under SGSY SHG-BL program for the study period.

Loan outstanding of SHGs

Table 7: Loan outstanding of SHGs under both Programs

	Loan outstanding					
Years	Non SGSY SHG- BL Program		SGSY SHG- BL Program		Total	
	No. (Lakh)	Amt (Rs. crore)	No. (lakh)	Amt (Rs. crore)	No. (lakh)	Amt (Rs. crore)
06-07	22.07	9093.42	6.87	3273.07	28.95	12366.49
07-08	27.08 (22.7)	12813.04 (40.9)	9.16 (33.3%)	4816.87 (47.2%)	36.26 (25.3%)	16999.91 (37.5%)
08-09	32.47 (19.9)	16818.12 (31.3)	9.77 (6.5%)	5861.72 (21.7%)	42.24 (16.5%)	22679.84 (33.4%)
09-10	36.06 (11.1)	21787.20 (29.5)	12.45 (27.5%)	6251.08 (6.6%)	48.51 (14.8%)	28038.28 (23.6 %)
10-11	35.01 (2.9)	23391.78 (7.7)	12.86 (3.4%)	7829.39 (25.2%)	47.87 (-1.3%)	31221.17 (11.4%)
11-12	31.38 (-10.4)	28285.17 (20.9)	12.16 (-5.4%)	8054.83 (2.9%)	43.54 (-9.0%)	36340.00 (16.4%)
12-13	32.58 (3.8)	30778.21 (8.8)	11.93 (-1.9%)	8597.09 (6.7%)	44.51 (2.2%)	39375.30 (8.4%)
CAGR	5.72	19.03	8.20	14.79	6.34	17.99

Source: Status of microfinance, NABARD website

Note: Figure in parenthesis implies annual growth rate, *CAGR stands for compound annual growth rate

Table 8: Model Summary and Parameter Estimates of outstanding loan amount under non SGSY

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	.991	581.274	1	5	.000	5770.664	3663.296		
Quadratic	.994	315.398	2	4	.000	4567.757	4465.234	-100.242	
Cubic	.994	159.156	3	3	.001	4928.757	4054.095	20.091	-10.028
Exponential	.951	96.629	1	5	.000	8538.234	.199		

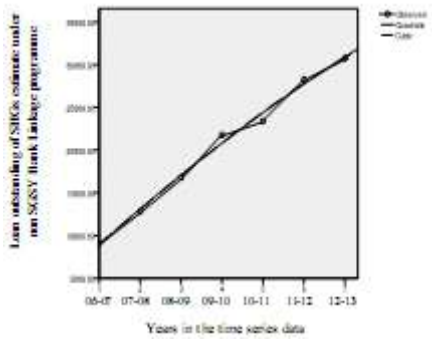
Note: Among four models, value of R square is the highest in two models quadratic and cubic models. Therefore, both models are considered in this case.

Table 9: Model Summary and Parameter Estimates of outstanding loan amount under SGSY

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	.959	116.636	1	5	.000	2895.486	871.988		
Quadratic	.983	116.739	2	4	.000	1934.507	1512.640	-80.082	
Cubic	.983	58.742	3	3	.004	1816.117	1647.473	-119.545	3.289
Exponential	.903	46.379	1	5	.001	3339.051	.151		

Note: Among four models, value of R square is the highest in two models quadratic and cubic models. Therefore, both models are considered in this case.

Fig-5:



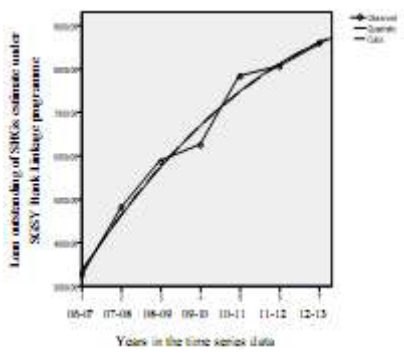


Fig-5:

Under non SGSY SHG-BL program, the growth in number of SHGs for loan outstanding for the period 06-07 to 07-08 is 22.7 percent (Table7). The growth declines for next four consecutive years. For the period 11-12 to 12-13, growth rate increases to 3.8 percent. The mean value in number of SHGs for outstanding loan is 30.95 with SD 4.9 and CV 15.83. The CAGR in number of the SHGs for the period is 5.72 percent. The growth in amount of loan outstanding of SHGs for the period 06-07 to 07-08 is 40.9 percent (Table7 and Figure 5). The growth decreases for next three consecutive years. In succeeding year 10-11 to 11-12, the growth rises to 20.9 percent which goes down to 8.8 percent during 11-12 to 12-13. The mean value in amount of loan outstanding against SHGs is 20423.85 with SD 7947.59 and CV 38.91. The CAGR of amount for the study period is 19.03 percent. Therefore, it is seen from Table 8 that quadratic and cubic model are best fitted with the time series data.

Under SGSY SHG-BL program, the rate of growth in number of group having payable loan for the period 06-07 to 07-08 is 33.4 percent. For the year 07-08 to 08-09, there is a decline of growth to 6.5 percent. The growth rate goes up to 27.5 percent during 08-09 to 09-10. It goes down to 3.4 percent in next year which continues to go down to -5.4 percent for the period 10-11 to 11-12. Then it declines slowly to -1.9 percent during year 11-12 to 12-13. The mean value in number of SHGs for outstanding loan is 10.74 with SD 2.21 and CV 20.58. For the period of seven years, the CAGR in number of SHGs under the scheme is 8.20 percent. The growth in amount of outstanding loan for the period 06-07 to 07-08 is 47.2 percent (Table 7 and Figure 6). For the year 07-08 to 08-09, there is an increase in growth of amount to 21.7 percent. The growth rate declines to 6.6 percent during year 08-09 to 09-10 which goes up to 25.2 percent in next year. It declines to 2.9 percent during years 10-11 to 11-12. The last year 11-12 to 12-13, rate of growth rises to 6.7 percent. The CAGR of amount for the study period is 14.79 percent. Therefore, it is seen from Table 9 that quadratic and cubic model are best fitted with the time series data.

Under both programs, the growth in number of SHGs for loan outstanding for the period 06-07 to 07-08 is 25.3 percent (Table7). The growth goes down for four consecutive years. For the year 11-12 to 12-13, the growth rises to 2.2 percent. The mean value in number of SHGs for outstanding loan is 41.70 with SD 6.93 and CV 16.61. The CAGR in number for the study period is 6.34 percent. The growth in amount of loan outstanding of SHGs for the period 06-07 to 07-08 is 37.5 percent. The downward trend of growth declines for next three consecutive years. During the year 10-11 and 11-12, growth rises to 16.4 percent and then it declines to 8.4% for the year 11-12 to 12-13. The mean value in amount of loan outstanding against SHGs is 26717.28 with SD 9929.13 and CV 37.16. The CAGR in amount for the study period is 17.99 percent.

It is observed from the above table that CAGR in number of SHGs with respect to loan outstanding of SHGs under SGSY SHG-BL program is 5.72 percent against 8.20 percent under non SGSY SHG- BL program for the study period. The CAGR in amount of loan outstanding of SHGs under non SGSY SHG- BL program is 19.03 percent against 14.79 percent under SGSY SHG-BL program for the study period.

CONCLUDING OBSERVATION

It is observed from the study that rate of highest growth in number of SHGs under non SGSY SHG-BL program is 21.22 percent with respect to savings with bank during the year 07-08 and 08-09 with CAGR 3.7 percent and under SGSY SHG- BL program it is 25.8 percent for the period 06-07 and 07-08 with CAGR 11.49 percent. The rate of highest growth in amount of savings with bank under non SGSY SHG-BL program is 33.8 percent during year 07-08 and 08-09 with CAGR 12.78 percent and growth rate is 93.1 percent during the same year under SGSY SHG- BL program. The rate of highest growth in number of SHGs under non SGSY SHG-BL program is 37.1 percent with respect to loan disbursed to SHGs during the year 07-08 and 08-09 with CAGR 1.82 percent and under SGSY SHG-BL program it is 30.7 percent for the period 06-07 and 07-08 with CAGR -0.62 percent. The rate of highest growth in amount of loan outstanding under non SGSY SHG-BL program is 46.4 percent during year 07-08 and 08-09 with CAGR 19.9 percent and growth rate is 31.7 percent during 06-07 and 07-08 with CAGR 6.60 percent under SGSY SHG-BL program. The rate of highest growth in number of SHGs under non SGSY SHG- BL program is 22.7 percent regarding loan outstanding during the year 06-07 and 07-08 with CAGR 5.72 percent and under SGSY SHG- BL program it is 33.3 percent for the same period with CAGR 8.20 percent. The rate of highest growth in amount of loan outstanding under non SGSY SHG- BL program is 40.9 percent during year 06-07 and 07-08

with CAGR 19.03 percent and growth rate is 47.2 percent under SGSY SHG-BL program with CAGR 14.79 percent. It is observed from table 1 that CAGR in number of SHGs with respect to savings of SHGs with bank under SGSY SHG-BL program is more as compared to non SGSY SHG- BL program for the study period. The CAGR in amount of savings of SHGs with bank under non SGSY SHG- BL program is less as compared to SGSY SHG-BL program for the study period. Table 4 that CAGR in number of SHGs with respect to loan disbursed to SHGs under SGSY SHG-BL program is negative (-0.62 percent) against 1.82 percent under non SGSY SHG- BL program for the study period. The CAGR in amount of loan disbursed to SHGs under SHG- BL program is 19.90 percent against 6.60 percent under SGSY program for the study period. Table 7 reveals that that CAGR in number of SHGs with respect to loan outstanding of SHGs under SGSY SHG-BL program is 5.72 percent against 8.20 percent under non SGSY SHG- BL program for the study period. The CAGR in amount of loan outstanding of SHGs under non SGSY SHG- BL program is 19.03 percent against 14.79 percent under SGSY SHG-BL program for the study period. Therefore, it is evident from the various models that cubic model is best fitted with the time series data.

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