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## Indian commercial banks' contribution towards SDG 1 & SDG 2: A study of Indian states

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### Abstract

Present paper is to check the existence of relationship Indian Commercial Banks and the SDG 1 and SDG 2. Yearly data from 2018 to 2020 are collected from the SDG index of NITI Ayog reports and RBI published reports of the twenty-seven states. Correlation and multiple linear regression models have been used to understand this issue. The study shows that there is a significant relationship among the selected variables.

The paper can be useful at the governmental policy making and the study can also be useful for further study to the researchers and to find better planning for the proper impact of banking initiatives with respect to the SDG 1 & SDG 2 development.

**Keywords:** SDG, SDG 1, SDG 2, sustainable development, commercial banks, priority sector lending

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### Introduction

In the recent period achieving sustainable development goals (SDGs) for any country is considered to be one of the vital issues. For the support of sustainable goals, different SDGs are being selected by the international organisation, the United Nations (UN). India is also trying to achieve its target for SDGs. The government of India is following the practice of issuing the SDG index report on a yearly basis for the states and union territories since 2018.

Money being the blood of any economy, the achievement of SDGs is next to impossible without the help of financial institutions. In a country like India, commercial banks, among the other financial institutions, are the primary players to mobilise money for the development and proper functioning of the SDG projects.

It is, therefore, at this juncture, imperative to investigate whether the banks are able to significantly influence the achievement of SDGs or not. With this brief introduction in section one, the extant literatures are reviewed in section two, section three specifies the objectives of the study, section four is dedicated for research methodology, results are analysed in section five and conclusions are given in section six.

### Literature Review

There are some selective literatures on the issue related with commercial banks' funding to the priority sectors. Specifically, a limited number of studies can be found on the Indian context. Most importantly, the measurement of impact of commercial banks lending towards priority sectors leading to the achievement of SDGs has been unexplored. Some of the extant relevant studies are mentioned below.

There are only a few countable studies on the priority sectors lending (PSL) by commercial banks in India. Selvi (2014) <sup>[8]</sup> has highlighted the role of scheduled commercial banks in India in lending to various priority sectors priority. The results show positive pace in all sectors except food credit and the proportion of priority sector advances.

Ahmed (2010) <sup>[1]</sup> has mentioned about the rules of RBI for PSL by commercial banks and the status of banks' lending. He has found that overall priority sector lending target was fixed at 40 per cent for domestic banks and 32 per cent for foreign banks. But the banks are not able to achieve the prescribed target of lending to priority sector.

The study of Kumar & Gambhir (2012) <sup>[3]</sup> has explored that a large number of private banks are at the back bench in making any significant contribution towards priority sectors. They have suggested some policy changes and ideas to make the PSL successful towards achieving a sustainable economy. Kadiwala (2017) <sup>[2]</sup> has also made a similar study to understand the private and public sector banks lending towards priority sectors In India.

Therefore, the above selective studies are found to have been reporting on the PSL and its economic perspectives. But no such Indian studies have been found on the issue of PSL impact on the achievement of SDGs.

Considering that unexplored area in the literature, the presented paper is a little initiative to understand the degree of impact commercial banks PSL on the selected SDGs in India.

### Objective of the Study

The objectives of the present study are to understand the nature association between PSL and sustainable development goals index and also to investigate the impact of contribution of Indian banks towards the achievement of two primary SDGs, viz., no poverty and zero hunger targets, of the different states in India.

### Research Methodology

In order to accomplish the above-mentioned objectives, following methodology has been used in the present study:

**i. Sample:** In the present study we have considered twenty-seven Indian states in the present study in respect of which the Government of India reports SDG index. Necessary data are taken from the NITI Ayog and Reserve Bank of India yearly reports from 2018-19 to 2020-21. The index scores for SDG 1 and SDG 2 are taken from the SDG Index reports of twenty-seven states. State wise contribution of commercial banks as outstanding loan in the selective priority sectors are taken from the RBI reports.

**ii. Variables:** The variables used in the study are mentioned in the following ways with indicators and definitions.

- a. SDGI => Sustainable Development Goals Index.
- b. NOPOV=> It is the index value for SDG 1 as No poverty target.
- c. ZERHU=> It is the index value for SDG 2 as Zero hunger target
- d. PSOSB=> Commercial banks' outstanding amount of priority sector lending.
- e. AGROSB=> Commercial banks' outstanding amount to agriculture sector lending.
- f. LWOSB=> Commercial banks' outstanding amount to weaker section lending.
- g. SGDP=> State gross domestic production.

The first three variables are expressed in terms of index score while the last four variables' values are INR in crores.

**iii. Hypotheses:** Considering the objectives of the study the following three null hypotheses can be narrated:

H01: The commercial banks' priority sector lending has no significant impact on the SDGI, against

H11: The commercial banks' priority sector lending has significant positive impact on the SDGI,

H02: The commercial banks' selective priority sector lending has no significant impact on the NOPOV, against

H12: The commercial banks' selective priority sector lending has significant positive impact on the NOPOV.

H03: The commercial banks' selective priority sector lending has no significant impact on the ZERHU, against

H13: The commercial banks' selective priority sector lending has significant positive impact on the ZERHU.

### iv. Statistical Tools & Models

For all the hypotheses, descriptive statistics and Pearson's bi-variate correlation analysis are made. Multiple linear regression models are formed by considering SGDP as a control variable, SDG indexes as dependent variable and banks' priority sector lending as independent variable. These models are mentioned below:

$$SDGI_n = \alpha_0 + \alpha_1 PSOSB_n + \alpha_2 SGDP_n + \varepsilon \text{ --- (1) for H01.}$$

$$NOPOV_n = \alpha_0 + \alpha_1 AGROSB_n + \alpha_2 LWOSB_n + \alpha_3 SGDP_n + \varepsilon \text{ --- (2) for H02.}$$

$$ZERHU_n = \alpha_0 + \alpha_1 AGROSB_n + \alpha_2 LWOSB_n + \alpha_3 SGDP_n + \varepsilon \text{ --- (3) for H03.}$$

The Equation-1 (Eq-1) is to understand the impact of total loan outstanding in the priority sectors with respect to the achievement of SDG Index. Considering the other two hypotheses, the Eq-2 and Eq-3 are to understand the nature of impact of the selective components of commercial banks priority sector lending for agriculture and weaker section on the no poverty index and zero hunger index respectively.

### Findings and Analysis

The study results are divided as descriptive statistics, correlation analysis and regression analysis.

#### i. Descriptive Statistics

The Table 1 discloses average, standard deviation, minimum and maximum values of the selected variables in the study. Here, it can be seen that the average SDG index is around 60, whereas the average score of NOPOV and ZERHU are below 60. This indicates that less contributions made by these two sub-indexes to the SDG index. The standard deviation (SD) of SDGI is also very lower than that of NOPOV and ZERHU. This also clarifies that there are more inconsistencies among SDG 1 and SDG 2. But so far as the SDGI minimum (42) and maximum (75) values concern, the index is in a better position with respect to the average value of 60.

**Table 1:** Descriptive Statistics

	SDGI	NOPOV	ZERHU	CBL	PSOSB	AGROSB	LWOSB	SGDP
Mean	60.8	57.60	50.30	319932.00	124153.00	53067.00	35679.00	661673.00
SD	6.95	13.50	14.30	526356.00	171770.00	76631.00	44051.00	642304.00
Min	42	28.00	19.00	2759.00	902.00	109.00	284.00	19385.00
Max	75	86.00	80.00	2791677.00	1010000.00	470565.00	280193.00	2820000.00

Sources: Authors' own calculations

The commercial banks priority sector lending average value is around INR 1,24,153 crore. The lending or outstanding values of AGROSB and LWOSB are INR 53,067 crore and INR 35,679 crore. These are almost 42% and 28% of the average PSOSB, respectively. This implies that a significant portion of priority sector lending amount are outstanding for AGROSB and LWOSB.

## ii. Correlation Analysis

Now, the Table 3 shows the Pearson's bi-variate correlation coefficients among the selected variables. Here, it can be seen that the correlation between PSOSB and SGDP significantly positive (0.905 at  $p < 1\%$ ). This is in general expected that the bank lending should have some positive relation with gross domestic production. However, the correlation coefficient between SDGI and PSOSB (0.305) is positive and statistically significant at  $p < 1\%$ . It signifies that the priority sector lending has a good impact on the achievement of better SDGI.

**Table 2:** Pearson's Correlations

		PSOSB	AGROSB	LWOSB	SGDP	SDGI	NOPOV	ZERHU
PSOSB	Cor.	—						
	Sig.	—						
AGROSB	Cor.	0.989*	—					
	Sig.	< .001	—					
LWOSB	Cor.	0.938*	0.954*	—				
	Sig.	< .001	< .001	—				
SGDP	Cor.	0.905*	0.869*	0.885*	—			
	Sig.	< .001	< .001	< .001	—			
SDGI	Cor.	0.305*	0.308*	0.360*	0.260#	—		
	Sig.	0.006	0.005	< .001	0.019	—		
NOPOV	Cor.	0.026	0.052	0.116	-0.07	0.553*	—	
	Sig.	0.821	0.648	0.301	0.561	< .001	—	
ZERHU	Cor.	-0.156	-0.13	-0.104	-0.27*	0.406*	0.519*	—
	Sig.	0.166	0.247	0.357	0.015	< .001	< .001	—

\*. at the 0.01 & #. at the 0.05 level (2-tailed) Pearson Correlation is significant (N=81)

Sources: Authors' own calculations

The associations of AGROSB (0.308) and LWOSB (0.360) with the SDGI are also found to be significant and positive. But no significant relationship is found among the AGROSB and LWOSB with NOPOV and ZERHU. This can be considered as a notable concern for policy making in the achievement of SDGs.

To understand the nature of impact of banks priority sector lending on the SDGI, NOPOV and ZERHU, the linear multiple regression analyses are made with the help of results found in Tables 3, 4 & 5 in the next sub-section.

## iii. Regression Analysis

Considering the Eq-1 regression results in Table 3, it is observed that the  $R^2$  value is around 10% with significant F-Statistic (4.08 at  $p < 5\%$ ). The constant term (59.50) is positive and significant ( $p < 1\%$ ). The coefficient value of PSOSB is positive (0.016) but not significant at  $p < 5\%$ . In future with the increase in data, we may get a significant value. But it is as per the expectation that the priority sector lending will have a positive impact on the SDGI. The Shapiro-Wilk test shows normality of the regression model while the Breusch-Pagan test indicates that the regression has no heteroscedasticity issue. The VIF value is around 5, which can be accepted for non-existence of multicollinearity issue.

**Table 3:** Regression Results of Equations 1

		SDGI Dependent									
Eq	$R^2$	F	F-Sig	Variables	B	SE	Sig.	VIF	Test	Statistic	p
1	0.095	4.080	0.021	C	59.500	1.130	0.003				
				SGDP	-0.001	0.003	0.718	5.53	Shapiro W	0.987	0.562
				PSOSB	0.016	0.010	0.129	5.53	Breusch P	2.250	0.325

Sources: Authors' own calculations

The Table 4 reveals the regression results for Eq-2. It is found from the table that  $R^2$  value is around 16% with significant F-Statistic (5.05 at  $p < 1\%$ ). The constant term (58.93) is positive and significant at  $p < 1\%$ . The coefficient of LWOSB is positive (0.373) and significant at  $p < 1\%$ . This indicates that increase in the loan for weaker section by one unit (one thousand crore) can increase the NOPOV index by 0.373. The coefficient of AGROSB is negative and insignificant. However, it is a vital concern that the SGDP coefficient (-0.015) is very marginally negative but significantly ( $p < 1\%$ ) impacting the NOPOV value. This needs to be searched further.

**Table 4:** Regression Results of Equations 2

		NOPOV Dependent									
Eq	R <sup>2</sup>	F	F-Sig	Variables	B	SE	Sig.	VIF	Test	Statistic	p
2	0.165	5.050	0.003	C	58.929	2.115	0.000				
				AGROSB	-0.084	0.062	0.183	11.00	Shapiro W	0.985	0.485
				LWOSB	0.373	0.116	0.002	13.00	Breusch P	1.620	0.655
				SGDP	-0.015	0.005	0.002	4.76			

Sources: Authors' own calculations

The Table 5 reflects the regression results for Eq-3. This table shows that the  $R^2$  value is around 15% with significant F-Statistic (4.78 at  $p < 1\%$ ). The constant term (54.92) is positive and significant at  $p < 1\%$ . The coefficient of LWOSB is positive (0.241) and significant at  $p < 10\%$ . This indicates that increase in the loan for weaker section by one unit (one thousand crore) can increase the ZERHU index by 0.241. The coefficient of AGROSB is negative and insignificant at  $p < 10\%$ . However, it is a vital concern that the SGDP coefficient (-0.018) is very marginally negative but significantly ( $p < 1\%$ ) impacting the NOPOV value. This also needs to be searched further.

**Table 5:** Regression Results of Equations 3

		ZERHU Dependent									
Eq	R <sup>2</sup>	F	F-Sig	Variables	B	SE	Sig.	VIF	Test	Statistic	p
3	0.157	4.780	0.004	C	54.921	2.246	0.000				
				AGROSB	-0.026	0.066	0.698	11.00	Shapiro W	0.972	0.076
				LWOSB	0.241	0.123	0.055	13.00	Breusch P	4.610	0.202
				SGDP	-0.018	0.005	0.001	4.70			

Sources: Authors' own calculations

However, both the above equations, Eq-2 and Eq-3, are having normality and heteroscedasticity tests. The Shapiro-Wilk normality test values are with  $p$  values more than 5%, which are showing normality of the regression results. The Breusch-Pagan test statistics have  $p$  values above 5%. It signifies that both the equations have no heteroscedasticity issue. Altogether, it can be said that both these regression models are valid and regression results are providing evidences partly in conformity with the alternative hypotheses. On the basis of the analysis, conclusions are drawn in the next section.

### Conclusions and Recommendations

From the recent publications of SDG reports, it can be seen that there have been progresses in the achievement of SDGs in India. But, so far the present study concerns, it is also necessary to explore about the banking sectors' contribution or funding towards SDG projects. The study reveals that commercial banks lending can be helpful in the achievement of some selected SDGs and if not for all. Mainly, the loan to weaker section is a notable contributor toward achieving 'no poverty' and 'reduce hunger' goals of the SDGs in India.

Recommendation can be given for the government and business houses in this respect. Government should move early towards policy making and other related laws in the matter of mobilising funds for the weaker sections of the society for the better achievement of SDG targets. Researcher may consider further study by increasing the study period on the availability of SDGI for India. They can also include other contributing variables for the better achievement of sustainability.

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