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Performance of scheduled commercial banks in disbursement of agriculture credit in Haryana

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Abstract

This study used an ANOVA to compare the performance of three public and three private sector scheduled commercial banks in terms of agriculture credit recovery and disbursement from 2010 to 2021. The ANOVA findings demonstrated a substantial difference in credit recovery and disbursement amongst the chosen institutions. An analysis of the descriptive statistics of agricultural credit disbursement and recovery of credit indicates that the issue is prevalent among both public as well as private sector banks. Notable institutions such as the PNB, CANARA, and Axis Bank have significantly increased agricultural credit during the study period. According to the study's findings, scheduled commercial banks can enhance their overall performance by strengthening the areas where they were falling short.

Keywords: Agriculture credit, scheduled commercial banks, ANOVA

Introduction

Agriculture is a vital component of every nation's economy, engaging a substantial part of the global population either directly or indirectly in related agricultural activities. In the last decade, it has been observed that agriculture and allied sectors have contributed a good proportion of the state's gross domestic product. Agriculture contributes 18 percent to India's total GDP across all industries. Although MSMEs contributed only 8% to India's GDP and accounted for 16% of Haryana's GDP. Over the years, the evolution of the state's economic structure has led to significant advancements in the service sector, reducing the prominence of agriculture and allied sectors. India's growth potential is immense, and a sufficient flow of agricultural credit is crucial for its growth. However, the flow of agricultural credit by commercial banks is an issue of considerable concern in most countries. These commercial banks are among the principal sources of agricultural credit, and their contributions to total agricultural credit constituted only 53% of the total credit (NABARD, 2023) [14].

The credit disbursement to the agriculture sector determines the effectiveness of SCBs in agricultural credit. Uninterrupted flow of credit to the agriculture sector requires effective recovery of these credits as a pre-condition. Non-performing assets (NPAs) have existed almost ever since the SCBs began to take root in the country. SCBs issue loans based on an analysis of borrowers' creditworthiness; therefore, from a theoretical standpoint, these loans should be recoverable. However, specific weaknesses in the loan recovery system impact the repayment process and the overall financial health of SCB.

Literature review

Credit plays a vital role for agricultural production, and an efficient rural credit delivery system is necessary to ensure timely, sufficient, and equal access to credit, consequently improving agricultural productivity and revenue. A study conducted by the Reserve Bank of India (RBI) emphasizes the significance of equitable access to institutional credit, given the limited availability and high cost of informal credit. The study reveals that the credit market structure has undergone changes over time, with an increasing share of institutional credit. Government initiatives have yielded positive results, leading to a significant increase in the flow of institutional credit to rural areas (Chand, 2022; Mohapatra and Mishra, 2020a, 2020b; Sarjolta, 2018) [7, 12, 13, 16]. Furthermore, Sarjolta (2018) [16] highlights banks potential in improving the agriculture sector by providing timely credit. In India, the RBI has set a lending target of 18 percent for the agriculture sector (Ahmed, 2010; Kumar and Kumar, 2016) [1, 10]. However, banks often struggle to meet this target due to some factors such as the continued presence of moneylenders Gaur and Khatkar (2010) [9], the sensitivity of bank deposits Betubiza and Leatham (1995) [4], out dated legal frameworks and tenancy laws Mohan (2005) [11], credit risk (Gulati; & Juneja;, 2019) [3] the multiagency approach Satyasai (2008) [17], and loan waivers (Parikh, Jha, and Srinivasan, 1993) [15]. A study by Kundu and Malik emphasize an increasing trend in agricultural credit disbursement associated with farmer-friendly policy frameworks and the establishment of credit institutions in recent years. However, despite various policy interventions, equitable access to agricultural credit still needs to be

improved in developing countries (Bharti and Kumari, 2022; E. Saqib *et al*., 2018) [5, 18]. Commercial banks tend to favour large farmers, as revealed by E. Saqib *et al*. (2018) [18] and Biradar and Abale (2018) [6], while Yadav (2019) [19] highlights the dominance of the southern region in India over other areas. Moreover, E. Saqib *et al*. (2018) [18] surveyed Pakistan and found poor government performance in implementing credit policies effectively for the benefit of smallholders. Thus, there is an urgent need to revamp agricultural credit policies and ensure their proper implementation, facilitating access to formal credit sources for subsistence farmers. These findings bring into line with a similar survey conducted in Zanzibar (Biradar and Abale, 2018) [6]. Rural indebtedness and reliance on private moneylenders have long been persistent issues in India.

Materials and Methods

H1: There is no a significant difference in terms of disbursement performance of agriculture credit in different banks.

H2: There is no a significant difference in terms of disbursement performance of agriculture credit in different financial years.

H1: There is no a significant difference in terms of recovery performance of agriculture credit in different banks.

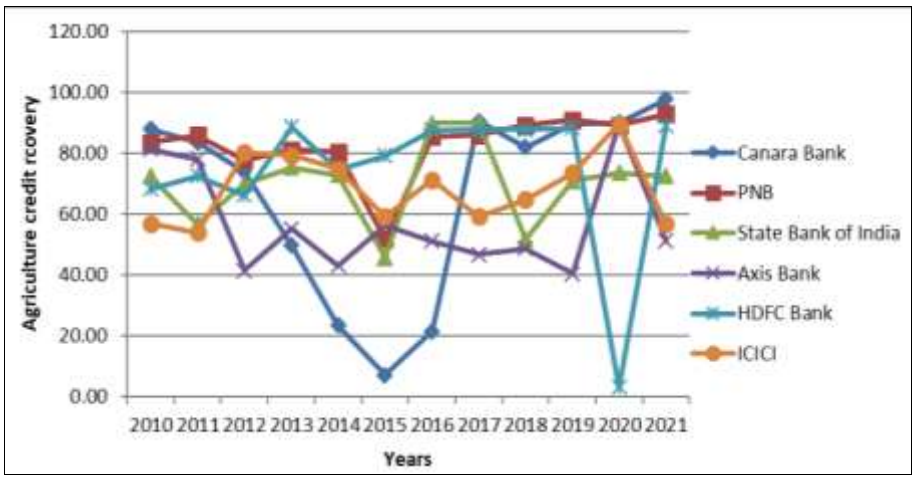
H2: There is a significant difference in terms of recovery performance of agriculture credit in different financial year.

Results and Discussion

Table 1: Recovery Performance of Agriculture Credit

Bank wise performance						
Summary	**N**	**Mean**	**Variance**	**Sum**	**Std. Deviation**	**C.V**
CANARA	12	66.48	1040.13	797.73	32.25	48.51
PNB	12	82.91	115.77	994.94	10.76	12.98
SBI	12	67.44	416.89	809.28	20.42	30.28
AXIS	12	56.97	277.81	683.60	16.67	29.26
HDFC	12	74.50	577.95	893.97	24.04	32.27
ICICI	12	68.36	131.83	820.26	11.48	16.80
Year- wise performance						
2010	6	75.16	132.48	450.96	11.51	15.31
2011	6	71.85	185.90	431.12	13.63	18.98
2012	6	68.29	197.93	409.74	14.07	20.60
2013	6	71.61	241.29	429.65	15.53	21.69
2014	6	61.57	531.53	369.39	23.06	37.45
2015	6	44.38	804.76	266.28	28.37	63.92
2016	6	67.87	727.69	407.23	26.98	39.75
2017	6	76.80	358.94	460.77	18.95	24.67
2018	6	70.72	328.68	424.30	18.13	25.64
2019	6	75.70	370.53	454.17	19.25	25.43
2020	6	72.56	1196.51	435.38	34.59	47.67
2021	6	76.80	385.49	460.79	19.63	25.57

Source: collected and assembled from State Level Bankers Committee Haryana.



Source: collected and assembled from State Level Bankers Committee Haryana.

Figure 1: Bank wise recovery of agriculture credit during the period from 2010 to 2021

Table 1 indicates that the Axis bank's performance level is at its lowest point (56.97%), while the average recovery rate at PNB Bank (82.91%) is at its highest when compared to the other five banks. In terms of recovery performance, PNB Bank exhibits a high degree of stability (Coefficient of Variation = 12.98), followed by ICICI Bank (16.80) and Axis Bank (29.26). Conversely, Canara Bank's recovery performance has a significant degree of unpredictability (Coefficient of Variation = 48.51). From the graph, it is clear that PNB Bank's recovery performance is steadily improving (the average recovery rate is 82.91%), while Canara Bank's performance fell rapidly until 2014–2015. However, recuperation performance steadily improves after that. The difference in recovery percentage is shown by the space between the lines in Figure 1. When SBI Bank and Canara Bank are compared (the average recovery performance seemingly appears to be the same in both regions), the former began with a lower recovery rate than the latter until 2011–2012, after which it had a higher recovery rate than Canara Bank until 2016–2017.

Table 2: Recovery Performance of Credit Bankwise

BANK NAME	Mean	Levene Statistics	sig.	F-value	sig.	Welch	sig.
CANARA	66.48						
PNB	82.91						
SBI	67.44						
AXIS	56.97	3.73	0.005*	N.A	N.A	4.48	0.004*
HDFC	74.50						
ICICI	68.36						
Total	69.44						
Recovery performance year wise							
Years	**Mean**	**Levene Statistics**	**sig.**	**F-value**	**sig.**	**Welch**	**sig.**
2010	75.16						
2011	71.85						
2012	68.29						
2013	71.61						
2014	61.57						
2015	44.38	1.12	0.356	1.07	0.39	N.A	
2016	67.87						
2017	76.80						
2018	70.72						
2019	75.70						
2020	72.56						
2021	76.80						

*Indicate significant at 5 per cent significant level
Source: collected and assembled from State Level Bankers Committee Haryana

Table 2 shows how ANOVA has been used to depict the diversity in demand recovery percentage performance among banks and years. For homogeneity of variance, the Levene test's significance value must be greater than 0.05. The Levene test's significance value for the banks is less than 0.05, indicating that the homogeneity of variances assumption is not met. In order to determine whether there are any notable differences in the recovery performance of agricultural credit across various banks, the significance values of the Welch test have been computed. The null hypothesis (H1: There is a substantial difference in terms of recovery performance of agricultural credit across various banks, the significance values of the Welch test have been computed. The null hypothesis (H1: There is a substantial difference in terms of recovery performance of agriculture credit in different banks) is rejected based on the Welch test's significance value. It is determined by the mean value that the recovery performance of agricultural credit in various banks varies significantly.

However, the Levene tests' significance value for the fiscal year is more than 0.05, indicating that the homogeneity of variance assumption is met. The null hypothesis (H2: There is no significant difference in terms of recovery performance of agriculture credit in different financial years) is accepted based on the p-value of the ANOVA statistics. Based on the mean value, it is determined that the recovery performance of agriculture credit does not significantly differ between fiscal years.

Table 3: Descriptive Statistics on disbursement Performance of Agriculture Credit in Different Banks and Years.

BANK	Mean	Std. Deviation	Sum	Variance	CV
CANARA	77.38	20.30	1083.32	411.94	26.23
PNB	110.73	25.07	1550.20	628.37	22.64
SBI	92.04	59.17	1288.50	3501.11	64.29
AXIS	120.72	60.59	1690.10	3671.62	50.19
HDFC	202.41	125.03	2833.80	15631.88	61.77
ICICI	147.68	136.44	2067.54	18616.59	92.39
Year- wise descriptive statistics					
2009	143.76	76.92	862.53	5916.36	53.51
2010	188.13	173.98	1128.78	30267.60	92.48
2011	156.95	79.09	941.68	6255.67	50.39
2012	128.36	57.81	770.18	3342.57	45.04
2013	123.13	61.09	738.80	3732.19	49.61
2014	253.88	209.54	1523.27	43906.04	82.53
2015	97.21	40.35	583.28	1627.97	41.50
2016	93.39	38.85	560.31	1509.20	41.60
2017	91.25	30.79	547.47	947.74	33.74
2018	107.80	29.37	646.79	862.51	27.24
2019	94.30	44.46	565.77	1976.79	47.15
2020	96.05	31.50	576.30	992.43	32.80
2021	86.75	29.39	520.48	863.48	33.87
2022	91.30	30.84	547.82	951.27	33.78

Source: collected and assembled from State Level Bankers Committee Haryana

Table 3 indicates that while the Canara's performance level is at its lowest point (77.38%), HDFC Bank's average percentage of agriculture credit disbursement target attainment (202.41%) is at its highest when compared to the other five banks. PNB Bank exhibits a high degree of consistency in terms of target achievement performance level (Coefficient of Variation = 22.64), followed by Canara Bank (Coefficient of Variation = 26.23) and Axis Bank (Coefficient of Variation = 50.19). Conversely, ICICI Bank's objective achievement performance has a significant degree of unpredictability (Coefficient of Variation = 92.39). The graph makes it clear that Canara Bank, PNB Bank, and SBI are steadily declining in their target achievement performance (the average percentage of target achievement is 77.38%, 110.73%, and 92.04%, respectively). Both HDFC and ICICI Bank's performance increased significantly between 2013 and 2014, but afterwards, their target achievement performance steadily declined. The discrepancy in the goal achievement percentage is shown by the space between the lines.

Table 4: Disbursement performance of agriculture Credit Bank wise and year wise

Disbursement Performance of agriculture Credit in Different Banks							
BANK NAME	**Mean**	**Levene Statistics**	**sig.**	**F-value**	**sig.**	**Welch**	**sig.**
CANARA	77.38						
PNB	110.73						
SBI	92.04						
AXIS	120.72	3.074	0.014*	N.A	N.A	5.761	0.001*
HDFC	202.41						
ICICI	147.68						
Total	125.16						
Year wise performance							
Years	**Mean**	**Levene Statistics**	**sig.**	**F-value**	**sig.**	**Welch**	**sig.**
2010	143.76						
2011	188.13						
2012	156.95						
2013	128.36						
2014	123.13						
2015	253.88						
2016	97.21	5.356	0.000*	N.A	N.A	0.897	0.567
2017	93.39						
2018	91.25						
2019	107.80						
2020	94.30						
2021	96.05						
2022	86.75						

*Indicate significant at 5 per cent significant level

Source: collected and assembled from State Level Bankers Committee Haryana.

Table 4 uses an ANOVA to show how different banks and years have performed in terms of the percentage target achievement of agriculture credit disbursement. For homogeneity of variance, the Levene test's significance value must be greater than 0.05. The Levene test's significance value for the banks is less than 0.05, indicating that the homogeneity of variances assumption is not met. In order to determine whether there are any notable differences in the recovery performance of agricultural credit across various banks, the significance values of the Welch test have been computed. The null hypothesis (H1: There is no significant difference in terms of the disbursement performance of agriculture loan in different banks) is rejected based on the Welch test's significance value. The mean value leads to the conclusion that the performance of agriculture credit distribution among banks varies significantly.

However, the Levene tests' significance value for the fiscal year is less than 0.05, indicating that the homogeneity of variance assumption is not met. The null hypothesis (H2: There is no significant variation in terms of disbursement performance of agriculture loan in different financial years) is accepted based on the p-value of the Welch test statistics. Based on the average value, it is determined that the disbursement performance of agricultural credit does not significantly differ between fiscal years.

Conclusion

According to earlier research, the commercial banks in Haryana do not provide thorough performance analyses for the agricultural credit they disburse. ANOVA is being used in this study to analyze the scheduling commercial banks' comparative performance. According to the study's findings, various banks' recovery performance for agricultural credit varies significantly. However, it is shown that the recovery performance of agricultural loan does not significantly differ between fiscal years. This model can be used in the future to compare the effectiveness of banks before and after agriculture sector government reforms. The process of implementing changes to government policies is ongoing, and the government continuously enhances bank operations. It is also possible to measure the relative effectiveness of each scheduled commercial bank's branches.

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