A study on the performance of various categories of banks in providing refinance to the agriculture sector in India

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Abstract

Banks and financial institutions provide refinancing facilities by disbursing loans to various sectors. This study mainly focuses on the performance of various categories of banks in providing refinance the agricultural sector. Since this primary sector has a high potential to contribute to the GDP of the nation, it has become a significant light on the disbursement of loans to farmers. The apex body NABARD will disburse funds routed through various categories of banks like SCARDBs, SCBs, CBs, RRBs and PUCBs were taken for this study. Friedman's test is used as a statistical tool to check the hypotheses framed. The goal of the study is to determine whether or not all bank types perform similarly when refinancing loans or if there are any performance differences. In order to boost the Indian economy, it is also important to know which types of banks are performing better and worse at disbursing loans to the agricultural sector.During the period of the study, the results show that SCBs are performing very well compared with other selected categories of banks in providing refinance to the agriculture sector.

Key words: *loan disbursement, Indian economy, rural banks, financial institutions, SCARDBs, SCBs.*

Introduction:

The agriculture sector has continued to be a key driver of economic growthin our country. It plays a major role of predominance by contributing to an extent of the core to the GDP of a nation. The agriculture sector is now exhibiting the chameleon color of its brightest part by inviting farmers to make money out of it.This sector got tremendous potential to compete on par with other sectors like manufacturing service, etc. The debatable task these days is how to best utilize the resources imbibed in the sector to maximize productivity.

We feel optimum utilization of core sources of product factor i.e. land can be a prominent solution to believe objectives. Our country is equipped with small and marginal farmers, who are badly in need of financial support to be focused on by lending institutions.

The foundation of the Indian economy is agriculture. The agricultural sector is crucial to the nation's prosperity. It is essential to the economic health of Indian society. Agriculture and related industries make for 19% of the GVA in India's economy at current prices, and the GVA is growing at a rate of 3.5%. During 2021–22, agricultural exports increased by 19.92%, reaching $50.21 billion. The farm industry accounts for 45.5% of the employed labour force in the nation, according to the most recent Periodic Labour Force Survey (PLFS) report from the National Sample Survey Office (NSSO) for 2021–22 (July–June). Along with the industrial and service sectors, it provides a wealth of options and is crucial to economic planning and development. The requirements of finance in agricultural sector is ever increasing, very few farmers will have capital of their own to invest in agriculture. Therefore, a need arises to provide credit to all those farmers who need. Therefore, credit facility makes the farmer to advantageously use seeds, fertilizers, irrigation, machinery, etc.

Farmers have to invariably search for a source, which supplies adequate credit. During the time of independence, the most important source of agricultural credit was the money lenders. In 1951, which is the year of initiation of planning, money lenders accounted for 71.6 percent of the rural credit. This predominant position of the money lenders was due to the lack of any worth wile alternative source of

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credit for the farmers. Farmers were therefore forced to barrow from them. Farmers total depended on the money lenders, enabled them to dictate terms and exploit the farmers in a number of ways like money lenders charged exorbitant rates of interest ranging from 18-50% or even more, they often manipulated accounts to their advantage by not entering the money returns and interest paid in to the account, they also forced the farmers to sell the agricultural produce to them at lower prices. The Governmentof independent India took various measures tohelp the farmers to meet their needs of agricultural farmers such as; Nationalization of 14 major commercial banks in 1969, followed by 6 more banks in 1970, Establishment of regional rural bank in 1975, setting up of the National Bank for Agriculture and Rural Development (NABARD) in 1982. The source of agriculture finance can be divided into two categories Institutional finance and non-institutional finance. Institutional finance consists of cooperatives, scheduled commercial banks and regional rural banks, among cooperatives primary agriculture credit societies (PACs) provide mainly short- and medium-term loans; whereas primary cooperative agricultural and rural development banks (PCARDBs) provide long term loans for the agriculture. The commercial banks including regional rural banks (RRBs) provide both short- and medium-term loans for agriculture and activities. The NABARD is the apex institute at the national level for agricultural credit and provides refinance assistance to the above agencies.

Statement of the Problem:

There are approximately 1,02,559 million village level Primary Agricultural Credit Societies (PACS), 351 District Central Cooperative Banks (DCCBs) and 34 State Cooperative Banks (SCBs) that provide primarily short-term and medium-term agricultural credit in the country. The long-term cooperative structure consists of 653 State Cooperative Agriculture and Rural Development Banks (SCARDBs) and Primary Cooperative Agriculture and Rural Development Banks (PCARDBs) with 1091 branches respectively, which cater to the requirement of investment credit. Besides, as at the end of June 2021, we have 1,57,868 commercial bank branches out of which 52,914 branches are in rural areas. 14,494branches of RRBs and 268 micro-finance institutions. NABARD, a dominant rural favored financial institution, is majorly involved in supporting the agricultural sector by lending money to farmers. Major intermediaries between NABARD and needy rural former and networking agents like commercial banks (CBs), Regional Rural Banks (RRBs) and Cooperatives are disbursing loans to make use of land effectively to have an optimum yield.

In this article, the debatable task is to analyze to what extent the targeted and disbursement of credit by these agencies are performed. Disbursement depends on the performance of the networking agencies & any significant difference in performance scores of grants for refinance to the agricultural sector. The study is to understand whether all categories of banks are performing equally in refinancing or any difference in performance. And also, to understand what categories of banks are more performing and less performing in disbursement of loans to agriculture sector to support Indian Economy.

Objectives of the Study:

The following are the main objectives of the study.
  i)   To analyze the performance of financing to agriculture sector by various forms of banks in Indian economy.
  ii)   To examine the significant difference in the performance scores of loans grants to agriculture sector by various types of banks using Friedman's test.

Scope and limitations of the study

The various financial institutions in India are crucial in helping to finance the country's agriculture industry. The performance of various lending institutions in providing loans to farmers has been examined in this study to see how it affects the Indian economy. Secondary data was gathered for this purpose from the fiscal years 2015–2016 to 2021–2022. The study considers loans given by different types of banks to the agricultural industry.

Period of the Study:

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The present study covers a period of five years from 2015-16 to 2021-22. Each year is termed as credit plan. The credit plan is implemented by the various banks, which plays a predominant role in the development of agriculture sector.

Review of literature

Abhiman Das, Manjusha Senapati, and Joice John's (2009)[1], agriculture credit is still essential for sustaining agricultural productivity despite several flaws in the current institutional credit delivery system, such as the insufficient provision of credit to small and marginal farmers, the lack of medium- and long-term lending, the limited deposit mobilization, and the heavy reliance on borrowed money by major agricultural credit purveyors.

Babli (2021)[2], studied the impact on the growth of the Indian economy, NABARD's financial initiatives in rural areas are anticipated. NABARD is extending its reach into all areas of agriculture, manufacturing, and services because each of these industries will continue to be essential to overall GDP growth and job creation.

Binswanger and Khandker (1992)[3], the impact of greater rural finance on output and employment has been far less pronounced than in the nonfarm sector. Even though agriculture loans have significantly expanded fertilizer use and private investment in machinery and animals, the impact on crop productivity is not significant. The additional capital investment has certainly had a greater impact on replacing agricultural workers than it has on improving crop output, as evidenced by the high impact on inputs and the minor impact on output.

Nisha Bharti and Sneha Kumari (2022)[4] their results also show a non-significant association between the financial performance of the weaker parts and non-performing assets. According to this study, when RRBs were compared to the conventional banking system, they were the victims of inadequate benchmarking. To encourage lending for rural areas and agriculture, they require more assistance.

Ramesha H.C. (2018)[5], The Performance of Banking Sector in Agriculture Credit in India: An Analysis explains the difficulty to overstate the importance of financing agriculture given that its output is still low as a result of financial limitations. The sources of agricultural finance are thoroughly discussed in the current paper. While the second section examines the agencies involved in indirect finance for various purposes related to the agriculture industry, the first part deals with agencies involved in direct financing.

Hypothesis:

Null Hypothesis (H0): There is no significant difference in the performance in lending to agriculture sector by the lending agencies of different classification.

Alternative Hypothesis (H$_1$): There is a significant difference among the lending agencies of different classification.

Methodology:

Collection of data:

The data for this study had been collected from secondary sources, viz., Annual reports of NABARD and other financial institutions.

Analytical tool:

In order to know whether there is any significant difference in the performance scores of refinances granted to agriculture sector by different classification of commercial & cooperative banks in India, Friedman's Test has been used. The term performance refers to percentage of disbursement to agriculture sector.

Performance scores of Commercial and Cooperative Banks:

The Performance scores of Commercial and Cooperative Banks of different classifications in lending to Agriculture sector in India is given in Table 1.

SCARDBs: From the Table 1, it is ascertained that the disbursed from SCARDBs to agriculture sector, which stood at 3258.00 crores in 2015-16, has steadily increased to Rs. 3398.00 crores in 2016-17 and it starts its declining movement and reached to Rs. 1936.00 crores in 2018-19, resulting in nearly 1.68 times decreases. When compared to 2018-19 and from 2019- 20 to 2020-21 a bit increases in disbursing part and again in 2021-22 it shows down trend.The lending percentage of SCARDBs is

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to Agriculture sector ranges from 2% to 6.78%. Coming to the overall difference between higher and lower performance scores is 4.78.

Agency	2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22		Difference bitween highest and lowest performance scores	Rank
	Disbursement	Share (%)	Disbursement	Share (%)	Disbursement	Share (%)	Disbursement	Share (%)	Disbursement	Share (%)	Disbursement	Share (%)	Disbursement	Share (%)		
SCBs	22,824	47.5	25,834	48.3	40,000	61.3	54,082	60	52,042	67	57095	62	76736	66.2	19.51	6
RRBs	12,140	25.3	11,370	21.3	11,537	17.7	13,862	16	10,849	14	15157	16	14389	12.4	12.84	5
StCBs	6,231	13	6,434	12	7,086	10.9	6,464	7	8,069	10	6200	7	11454	9.89	5.96	3
SCARDBs	3,258	6.78	3,398	6.35	2,594	3.98	1,936	2	2,147	3	2976	3	2541	2.19	4.78	2
NABARD Subsidiaries	611	1.27	532	0.99	1,228	1.88	1,146	1	1,163	1	1121	1	1400	1.21	0.89	1
NBFCs	3,000	6.24	5,938	11.1	2,794	4.28	12,764	14	3,910	5	10237	11	9320	8.05	9.72	4
Total	48,064	100	53,506	100	65,240	100	90,254	100	78,180	100	92786	100	115840	100		

Performace scores of various categories of banks in India for providig refinancing to agriculture sector (Rs. In crores)

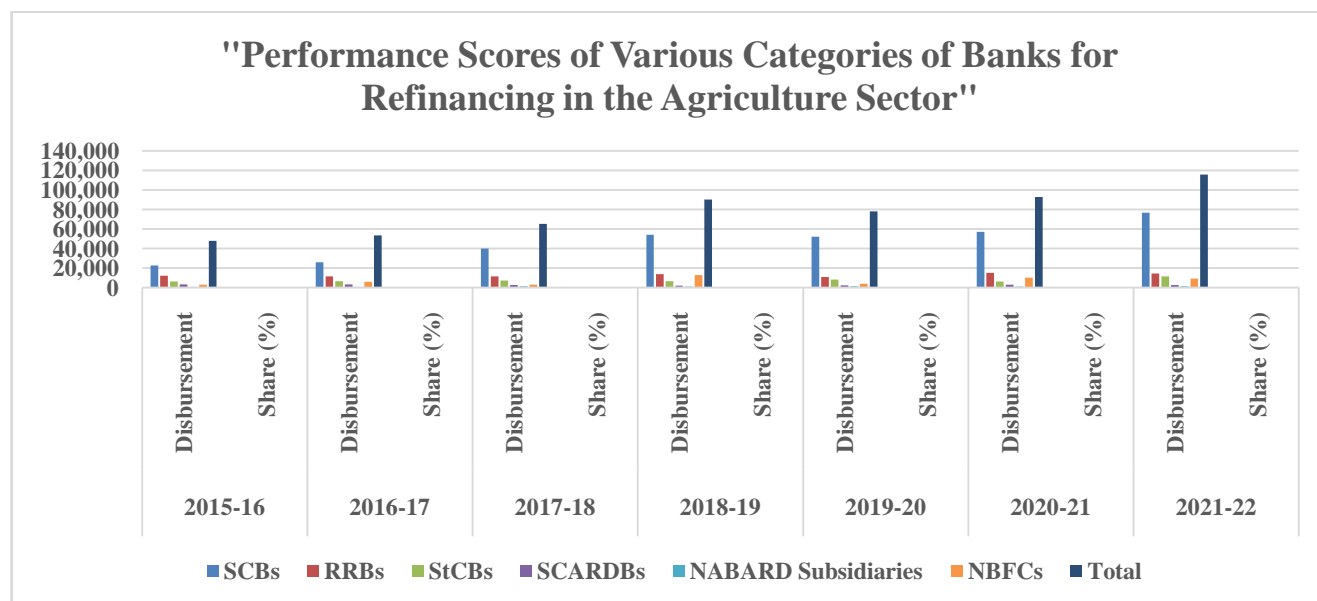**Source: Annual Reports of NABARD from 2015 - 16 to 2021 - 22 Agency wise disbursmet of Refinance**

StCBs: It was found from the table that the target to StCBs in lending agriculture sector which stood at Rs. 6231.00 crores in 2015-16 has steadily increased to Rs. 11454 crores in 2021-22, resulting in nearly 1.839 times increase.The refinance of StCBs is lending share to agriculture sector ranges from 7% to 13%.

SCBs: It was found from the table that the disbursement of SCBs in lending agriculture sector which stood at Rs. 22824 crores in 2015-16 has steadily increased to Rs. 76736 crores in 2021-22, resulting in nearly 3.362 times increase.The refinancing share of SCBs is lending to agriculture sector ranges from 47.5% to 66.2%. And the overall difference between highest and lowest performance score is 19.51.

RRBs: Refinancing of RRBs which stood at Rs. 12140 crores in 2016 has increased to Rs. 14389 crores in 2022. There is more than 1.185 times increase in the actual lending to agriculture sector in 2022, when compared to 2016. The lending share of RRBs to agriculture sector ranges from 12.4% to 25.3% and its heighest and lowest performance scores difference is 12.84.

NABARD subsidiaries:It was found the table that in the year of 2015-16 it is ascertained that NABARD subsidiaries for lending to agriculture sector, which stood at 611 crores and it's lending to agriculture sector has increased to Rs. 1400 crores in 2021-22, resulting in nearly 2.29 times increase.

NBFCs: It was found that in 2015-16, NBFCs lent a total of 3,000 crores and 2016-17 the lending increased to 5,938 crores than after in the following year it shows decrease in lending to 2,794 crores. But for 2018-19, the lending significantly increased to 12,764 crores, resulting4.254 times increase in the actual lending to agriculture sector in 2019.In 2019-20, NBFCs lent 3,910 crores, resulting 3.264 times declined compare to 2018-19. Coming to overall contribution in the actual lending to agriculture sector from 2015-16 to 2021-22 is 3.16 times increased.

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"Performance Scores of Various Categories of Banks for Refinancing in the Agriculture Sector"

Graphical representation of loan disbursement of banks to agriculture sector

**The performance of financing Agriculture Sector using Friedman's Test:**

Friedman's test is non-parametric test. This test requires less restrictive assumptions concerning the level of data measurement. It does not require the assumption of normality and equal variance. It is used whenever the number of samples is greater than or equal to 3 (say K) and each of the sample size is equal (say k) parallel to two-way analysis of variance.

	Table II							
Performance scores of Agriculture sector by the different classifications of Banks: Friedman's Test								
Agency	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**Total Ranks (Row wise)**
	Share (%)	Share (%)	Share (%)	Share (%)	Share (%)	Share (%)	Share (%)	
SCBs Rank	47.49	48.29	61.32	60	67	62	66.24	**42**
	6	6	6	6	6	6	6	
RRBs Rank	25.26	21.25	17.68	16	14	16	12.42	**35**
	5	5	5	5	5	5	5	
StCBs Rank	12.96	12.02	10.86	7	10	7	9.89	**26**
	4	4	4	3	4	3	4	
SCARDBs Rank	6.78	6.35	3.98	2	3	3	2.19	**15**
	3	2	2	2	2	2	2	
NABARD Subsidiaries Rank	1.27	0.99	1.88	1	1	1	1.21	**7**
	1	1	1	1	1	1	1	
NBFCs Rank	6.24	11.1	4.28	14	5	11	8.05	**22**
	2	3	3	4	3	4	3	
Total Ranks (Row wise)	**21**	**21**	**21**	**21**	**21**	**21**	**21**	**147**
Note: Figures represents ranks to various categories of banks for each year.								
Source:Author computations based on Table 1								

The following are the graphs showing the share of loan disbursement performance for the agriculture sector:

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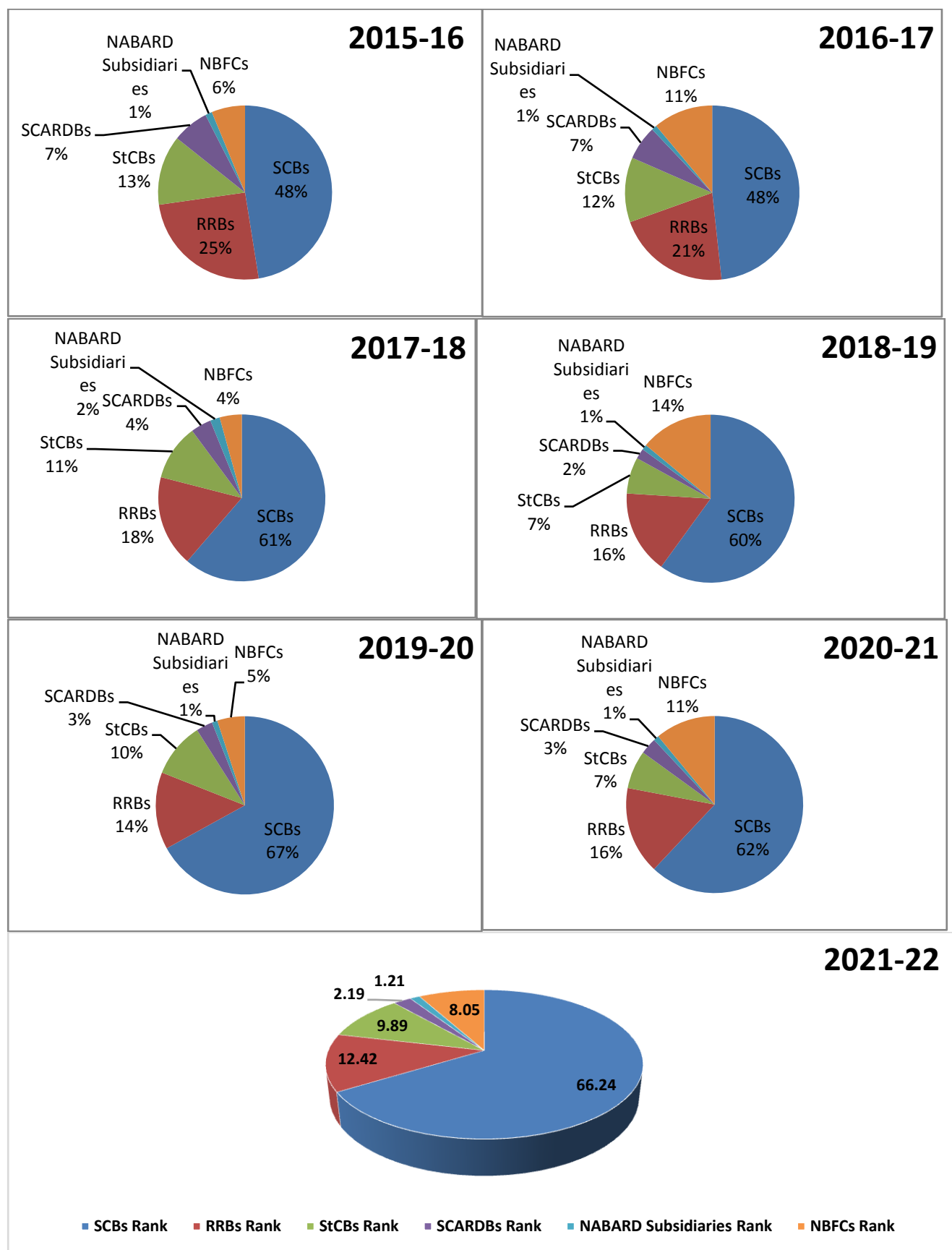
Discussion of results:

In order to calculate the 'F' values, ranks are assigned for the banks performance scores in lending to agriculture sector by the various Commercial and cooperative banks of different classification (SCARDBs, SCBs, CBs, RRBs and PUCBs) for each year, from 2015-16 to 2021-22. The lowest performance score in each year (among the six agencies) receives a rank of 1, whereas the

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highest performance score receives the total ranks of 6, intermediary performance scores receives the ranks of 2 – 5. Hence, the total ranks in each row are constant and equal to:

$$k(k+1)/2 = 6(6+1)/2 = 21$$

Where, k = Number of samples = 6

(Various categories of banks SCBs, RRBs, StCBs, SCARDBs, NABARD Subsidiaries and NBFCs).

The null hypothesis (H0) to be tested is that all the 'k' samples have come from identical populations. In case of this study the null hypothesis (H0) is that there is no significant difference in the performance in lending to agriculture sector by various classifications of banks during the period under study. The alterative hypothesis (H1) is that at least two samples (two classifications of banks) differ from each other.

Under null hypothesis (H0), the Friedman's test is:

$$F = \frac{12}{nk(k+1)} \sum_{j=1}^{K} R_j^2 - 3n(k+1)$$

Where:

k is the number of treatments (bank categories)

n is the number of observations (years)

$$F = \frac{12}{7 \times 6(6+1)} (42^2 + 35^2 + 26^2 + 15^2 + 7^2 + 22^2) - 3 \times 7(6+1)$$

$$F = \frac{12}{294} (1764 + 1225 + 676 + 225 + 49 + 484) - 147 = 33.5306122449$$

Calculation of the degrees of freedom (df):

df = k - 1

df = 6-1 = 5

At 0.05 significance level and with 5 degrees of freedom (k - 1 = 6 - 1 = 5), we would locate the chi-square distribution for alpha = 0.05 andthe critical value is 11.07.

At 0.01significance level and with 5 degrees of freedom (k - 1 = 6 - 1 = 5), we would locate the chi-square distribution for alpha = 0.01 andthe critical value is 15.086.

Since the calculated Friedman statistic of 33.5306122449 is greater than the critical value of 11.07 and 15.086. Hence null hypothesis(H0) is rejected and alternate hypothesis(H1) is accepted. It can be concluded that there is difference in lending performance to agriculture sector among various classification of banks taken during the period for the study.

Friedman's test results:

The performance scores I respect of lending to agriculture sector by various classifications of banks revel the following.

- There exists difference in performance of various banks in refinancing loans to agriculture sector.
- Commercial banks have exhibited a high range of performance score (viz., 19.51%) resulting to a high record of disbursement in finance.
- Regional Rural Banks have occupied a second place as the performance score variation is12.84%. This indicates that these banks also lend acceptable rate of performance to agriculture and allied sectors.
- NBFCs and StCBs stands with third and fourth place as the performance score variation is 9.72% and 5.96%, resulting a satisfactory record of disbursement in finance to the field of agriculture and allied activities.
- SCARDBs have engaged a fifth place as the performance score variation is 4.78% and the sixth place occupied by NABARD Subsidiaries with the performance score of 0.89%.
- With the evidence of above statistics, we can say that, the poor disbursement of financing to agriculture sector on the basis of performance score and disbursement of finance goes to SCARDBs and NABARD subsidiaries.

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CONCLUSION:

Refinancing and loan disbursements by various categories of banks provide vital financial support to the agriculture sector, helping farmers and agricultural businesses improve their productivity, profitability, and sustainability. By facilitating access to capital, promoting investments, and offering tailored financial solutions.These mechanisms contribute to the growth and resilience of the agricultural economy. The performance of various categories of banks in loan disbursement is tested among SCBs, RRBs, StCBs, SCARDBs, NABARD subsidiaries, and NBFCs. The results of Friedman's test show that all categories of banks do not have a similar share of the disbursement of loans. As a result, an alternate hypothesis (H_1) is accepted. Hence, we can conclude that there is a difference in lending performance to the agriculture sector among various classifications of banks. SCBs have a higher share of loan disbursement performance in the agriculture sector compared with other categories of banks.

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