



# Analysis of Regional Rural banks in Rajasthan: Bankometer Model

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## Abstract:

*The bankometer method was developed by the IMF to assess a bank's financial health. By taking into account the influence of each ratio in the framework following IMF (2000) guidelines, the Model assists in determining the banks' solvency ratings to avoid insolvency issues and to establish their financial stability. This study uses the bankometer approach to assess RRBs in Rajasthan over five years (2018–2022). The Baroda Rajasthan Kshetriya Gramin Bank (BRKGB) and Rajasthan Marudhara Gramin Bank (RMGB) are the two RRBs that this study has taken into account. The study's findings led to the conclusion that the BRKGB and RMGB banks are sound and can be addressed as "super sound" because their average scores are above 70. However, the BRKGB has a greater S-score than RMGB (97.41), showing that it is in a better overall financial condition.*

**Keywords:** Financial Soundness, Bankometer Model, Baroda Rajasthan Kshetriya Gramin Bank (BRKGB), Rajasthan Marudhara Gramin Bank (RMGB)

## 1. Introduction

A long-standing goal of the Indian authorities is to improve citizens' access to official banking services. Till the 1970s, banking facilities in the rural areas were very little developed so the aspirations of farmers and urban dwellers for traditional banking were previously unfulfilled. Due to this need, RRBs were formed to support credit in rural and agricultural areas. Before the formation of RRBs, unregulated or co-operative banks were responsible for most of the credit in agriculture and rural areas. The Regional Rural Banks were established to offer the types of financial institutions required for enterprises to operate in rural areas. The Regional Rural Banks (RRBs) were established in 1975 as a result of the provisions of the Regional Rural Banks Act, 1976, and the Ordinance promulgated on September 26, 1975, to develop the rural economy by providing credit and other facilities, in particular to small and marginal farmers, agricultural laborers, artisans, and small business owners, for the development of trade, agriculture, commerce, industry, and other productive activities in the rural areas.

## 2. Literature Review

**Chauhan and Kumar (2019)** investigated the financial Soundness of Indian commercial banks from 2009 to 2018 by using the Bankometer model. It was discovered that foreign sector banks along with new private banks have good financial Soundness in terms of the Bankometer model, public sector banks show low performance, and old private banks as a group show moderate financial soundness.

**Zahidur Rahman(2017)** analyzed the financial soundness of 24 private commercial banks operating in Bangladesh from 2010 - 2015 by using the Bankometer model. The study discovered that the banks had financial strongly sound financial status during the study periods.

### 3. Objectives of the study

- 1.To evaluate the financial soundness of Rural Regional Banks (RRBs) operating in Rajasthan through the Bankometer model
- 2.To make a comparison of the Bankometer variables between the two RRBs in Rajasthan.

### 4. Research Methodology

**Sample:** The Baroda Rajasthan Kshetriya Gramin Bank (BRKGB) and the Rajasthan Marudhara Gramin Bank (RMGB) are the two banks chosen for the study's sample.

**Data Source and Time Frame:** The annual reports from the websites of the specified Rajasthan RRBs between 2018 and 2022 (five years) are used as secondary data in this study. A descriptive analysis is used to describe the assessment data in more detail.

### 5. Hypothesis

**H<sub>0</sub>:** There is no significant difference between the mean value of the Bankometer parameters of the two banks.

**H<sub>1</sub>:** There is a significant difference between the means value of the Bankometer parameters of the two banks.

### 6. Tools and Techniques for Data Analysis

**Bankometer Model:** There are numerous models readily accessible evaluating a bank's soundness, but Bankometer is a recently created and straightforward method that uses financial ratios derived from both the CAMELS framework and the CLSA-stress (Credit Leona's Securities Asia) test parameters with minor percentage changes to synthesize a bank's soundness. In this concept, a number known as the solvency score (S-score) is used to assess a bank's soundness. The internal management of the bank may find this technique useful in identifying insolvency issues and fixing the problems identified by the Bankometer approach. It can be used by both people and supervisory organizations to quickly assess the soundness or solvency of any bank. Following the guidelines made by the IMF (2000), the researcher took the initiative and employed a thorough method called Bankometer, which has the advantage of producing the most accurate results with the fewest possible parameters. However, the "Bankometer" model's expression is as follows (Rahman 2017)

$$S\text{-Score} = 1.5 (CA) + 1.2 (EA) + 3.5 (CAR) + 0.6 (NPL) + 0.3 (CI) + 0.4 (LA)$$

S represents the solvency score

Value of Score	Position
S<50	Insolvent
50<S<70	Grey zone
S>70	Financially Sound

### IMF regulations and Bankometer variables

Variables	CA = Capital to Asset Ratio	EA = Equity to Asset Ratio	CAR = Capital Adequacy Ratio	NPL = Non-Performing Loan Ratio	CI = Cost to Income Ratio	LA = Loans to Asset Ratio
<b>IMF regulations</b>	higher than 4%	greater than 2%	between 8% to 40%	below 15%	less than 40%	below 65%

### 7. Statistical tools

**T-TEST:** A statistical test known as a t-test compares the average values of two samples. The t-test was applied to compare the mean ratio values for the two RRBs in the current study.

8. Analysis and interpretation

Table: A

Years	2018	2019	2020	2021	2022	Mean	S.D	C.V	T-Value	P-Value
<b>Capital to Asset Ratio (CA≥04percent)</b>										
BRKGB	6.38	6.28	6.33	6.65	7.83	6.69	0.65	9.72	4.11	0.00
RMGB	5.80	5.60	5.18	4.79	4.91	5.26	0.44	8.28		
<b>Equity to Asset Ratio (EA≥02percent)</b>										
BRKGB	1.93	1.72	1.54	1.30	1.16	1.53	0.31	20.30	1.37	0.21
RMGB	1.60	1.42	1.29	1.13	1.03	1.29	0.23	17.54		
<b>Capital Adequacy Ratio (40percent≤CAR≥08percent)</b>										
BRKGB	10.20	10.27	10.26	12.90	11.42	11.01	1.17	10.66	1.88	0.10
RMGB	10.21	10.05	9.70	9.82	10.23	10.00	0.24	2.36		
<b>Non-Performing Loan Ratio( NPL ≤ 15percent)</b>										
BRKGB	2.01	1.69	1.04	0.42	0.51	1.13	0.70	62.11	-3.67	0.01
RMGB	2.10	3.28	3.56	2.53	2.15	2.72	0.66	24.38		
<b>Cost to Income Ratio( CI≤40percent)</b>										
BRKGB	59.77	73.15	83.41	63.52	56.79	67.33	10.90	16.19	1.15	0.28
RMGB	59.80	77.45	94.93	74.38	72.90	75.89	12.60	16.60		
<b>Loans to Asset Ratio (LA ≤65percent)</b>										
BRKGB	62.08	64.75	65.26	66.29	68.03	65.28	2.19	3.35	7.27	0.00
RMGB	58.80	57.85	56.51	55.54	56.43	57.03	1.29	2.26		

Source: Author's Calculations

**Capital to Asset Ratio**

The ratio demonstrates how much of an asset's funding comes from sources like funds, and external sources such as bank capital and long-term loans. To meet the standards set by the International Monetary Fund (IMF) the bank is required to maintain a Capital Asset Ratio of 4%. Table: A shows that during the study period, BRKGB's capital-to-assets ratio (6.69) was greater than RMGB's (5.26). In contrast to BRKGB (CV=9.72%), the rise of the ratio is observed to be more consistent in RMGB (CV=8.28 %). The t-test results (t=4.12, p=0.00) further demonstrated that the alternative hypothesis was accepted and that there was a significant difference between the mean values of the two banks. Here, BRKGB and RMGB have an appropriate capital-to-assets ratio following IMF guidelines.

**Equity to Asset Ratio**

The equity-to-asset ratio assesses the quantity of assets that are derived from owner investments by contrasting the bank's total equity to its total assets. Higher ratios indicate a more stable financial position for the bank because the majority of its assets are supported by equity capital, which means it depends less on outside funding. In compliance with IMF requirements, the bank must maintain equity to asset ratio that is higher than 2%. Table: A shows that throughout the study period, BRKGB's equity-to-assets ratio (1.53) was larger than RMGB's (1.29). However, RMGB's increase in the ratio is shown to be more steady (CV= 17.54%) than BRKGB's (CV=20.30%). Furthermore, the t-test results (t=1.37, p=0.21) demonstrated that the null hypothesis was accepted and that there was no discernible difference between the mean values of the two banks. In this case, neither bank complies with IMF regulations regarding the equity-to-assets ratio.

**Capital Adequacy Ratio**

Capital to risk-weighted assets is a way to express the ratio of a bank's capital to its risk. It shows how much money is saved in comparison to how much is at risk of going bankrupt. It guarantees that the bank has sufficient capital to serve as a safety net against any losses that might occur in the upcoming years. Following IMF guidelines, the bank should maintain Capital Adequacy Ratios of greater than 8% but less than 40%. Both can maintain their ratios over the 9% minimum set by the RBI, which shows greater financial stability. For the ratio to follow the bankometer model, it should be between 40% and 8%. Table: A shows that during the study period, the CAR ratio of BRKGB (11.01) was

higher than that of RMGB (10.00). However, RMGB's rise of the ratio is shown to be more steady (CV=2.36%) than BRKGB's (CV=10.66%). Furthermore, the t-test results (t=1.88, p=0.10) demonstrated that the null hypothesis was accepted and that there was a negligible difference between the mean values of the two banks. Here, both banks do have a CAR following IMF guidelines.

**Non-Performing Loan Ratio**

This ratio displays the percentage of loans that are considered non-performing advances (delays in interest recovery of more than 90 days). A bank distributes more non-performing advances when the ratio is greater. A maximum non-performing debt ratio of 15% is allowed, according to IMF guidelines. Table: A shows that during the study period, BRKGB's non-performing loan ratio (1.13) was lower than RMGB's (2.72) value. Additionally, BRKGB's rise of the ratio is observed to be less steady (CV= 62.11%) than RMGB's (CV= 24.38%). The t-test's findings (t=-3.67, p=0.01) also demonstrated that the null hypothesis was rejected and that there was a significant difference between the mean values of the two banks. According to IMF guidelines, both banks in this situation have a non-performing loan ratio.

**Cost to Income Ratio**

The calculation of income and expenses is done together. If there is more value it suggests lower profitability. On the contrary if there is less value it indicates profitability. According to the recommendations of the IMF, it is advisable to keep the cost, to revenue ratio below 40%. Table: A shows that during the study period, the cost of income ratio for BRKGB (67.33) was lower than that for RMGB (75.89). Additionally, BRKGB (CV= 16.90%) exhibits a more steady rate of ratio growth than RMGB (CV= 16.60%). Further evidence that the null hypothesis was accepted and that there was a negligible difference between the mean values of the two banks came from the t-test results (t=1.15, p=0.28). According to IMF regulations, no bank in this situation has a cost-to-income ratio.

**Loans to Asset Ratio**

The ratio shows what percentage of a bank's assets is financed by debt as opposed to equity. The ratio is used to determine a bank's level of financial risk. More loans with a good influence on the bank's revenue but a negative impact on its liquidity are present when the ratio is higher. IMF guidelines state that the loan-to-asset ratio must be 65% or below. Table: A shows that during the study period, the loans to assets ratio of BRKGB (65.28) was larger than that of RMGB (57.03). However, RMGB's rise of the ratio is shown to be more steady (CV=2.26%) than BRKGB's (3.35%). The findings of the t-test (t=7.27, p=0.00) also supported the alternative hypothesis and demonstrated that there was a substantial difference between the mean values of the two banks. Here, both banks have a loan-to-asset ratio that complies with IMF guidelines.

**S score**

**S score of RBKGB and RMGB**

**Table: B**

Banks	Calculation	Score	Rank
BRKGB	1.5(6.69)+1.2(01.53)+3.5(11.01)+0.6(1.13)+0.3(67.33)+0.4(65.28)	97.41	1
RMGB	1.5(5.26)+1.2(1.29)+3.5(10)+0.6(2.72)+0.3(75.89)+0.4(57.03)	90.18	2

According to the outcome shown in Table B, it is discovered that the S scores of the RBKGB and RMGB over the study period were 97.41 and 90.18, respectively, which points to extremely healthy regional rural banks in Rajasthan. Furthermore, if we compare the scores, the Bankometer model parameters place BRKGB at the top and RMGB at the bottom.

**9. Conclusion**

The Bankometer's t-test results reveal a significant gap between the two banks' Capital-to-asset and Loans to Asset ratios. However, the two banks' capital adequacy, equity-to-asset, non-performing loan, and cost-to-income ratios don't significantly differ from one another. According to the Bankometer approach's specifications, BRKGB and RMGB have S score values of 97.41% and 90.18%, respectively, which are higher than 70% and place them in the super sound group. The "S" scores

indicate that BRKGB has a higher score than RMGB, which is why BRKGB is rated first and RMGB is placed second.

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