Empirical Analysis of Indian Public and Private Sector Banks' Financial Resilience Using the Bankometer S - Score Model

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Abstract: *This empirical study seeks to examine the financial stability of the Indian banking industry in the context of the IMF Bankometer S - score model. For the purpose of achieving the study's goals, both private and public sector banks registered on the National Stock Exchange of India Ltd. (NSE) and the Bombay Stock Exchange (BSE) were used as on 31st March 2023 and compared with a continuous data of 7 years from 2016 - 17 to 2021 - 23. The result shows that the private sector banks have shown more resilience outperforming the public sector banks in India. Almost all Indian banks struggle to maintain their cost to income ratios, with the efficiency ratio being the one ratio where they all significantly fall short. It also studies the impact of mergers of public sector banks on its Bankometer S - score and findings shows that S - score initially falls and then struggles to come back to its pre - merger level. Overall, the study concludes that the Indian banking system is extremely strong, with banks able to withstand the effects of pandemics, financial fraud and large levels of non - performing assets.*

Keywords: Bankometer, S - Score, financial soundness, Banks, Mergers

1. Introduction

In present era, banks are essential to a nation's economic expansion and development. With onset of Indian Banks getting ready to adopt Basel III norms, it becomes highly critical to understand the financial resilience of the banks. In India, by providing a framework for implementing monetary policies and conducting business transactions, banks significantly contribute to the country's economic growth, thus channelizing savings into investments (Ouma & Kirori, 2019) . India's banking sector is regarded as being strong and well - funded. In addition, there are 96, 508 rural cooperative banks, 12 public sector banks, 21 private sector banks, 46 foreign banks, 1534 urban cooperative banks, 43 regional rural banks, and 12 public sector banks in the Indian financial system (IBEF, 2023).

Any bank - related issue will make it more expensive for the government to save banks, make it more difficult to facilitate financial transactions, undermine monetary policy's effectiveness, deepen downturns of the economy and cause capital flight. A strong, robust and financially resilient banking sector can act as a pillar for the maintenance of balance in the financial system and generate real revenue for a developing economy (Ouma & Kirori, 2019) . The paper tries to study the Indian banking sector's financial resilience in the light of Bankometer S - score model. This model, created first by IMF in 2002, is a widely adopted method for evaluating the performance of financial institutions. This study also measures the pre and post covid, soundness of the top 5 Indian Private sector banks and 5 public sector banks from 2016 - 2021.

Indian government has more than 50% stake holdings in Public Sector Banks (PSBs). Data obtained from the RBI also revealed that the public sector banks Gross NPAs have dramatically increased from Rs 2, 79, 016 billion as of March 31, 2015, to Rs 6, 84, 732 billion as of March 31, 2017, and Rs 8, 95, 601 billion as of March 31, 2018, which has paved the way for the need to act urgently moving forward to save the Indian banking sector.

With stronger governance, underwriting, monitoring, and the introduction of leveraged technology, the merger plan aims for betterment of the state of the banking system in India, which is plagued by a large number of bad debts. It also aims to lower the non - performing assets (NPAs) of PSBs. As on April 1, 2020, there are currently 12 PSBs in India due to the merger of several state banks into four large, financially stable banks.

2. Literature Review

In 1969 after a major paradigm shift of priority sector of banks from class banking to mass banking due to nationalization of banks by the then Govt. of India, the banking sector has witnessed enormous changes (Langston, 2007) .

(Erari et al., 2013) employed the CAMEL, Z - Score and Bankometer models to measure Bank Papua's financial indicators for a period starting from 2003 to 2011 in Indonesia. They concluded in their study that Bankometer model combines financial ratios and CAMEL, making it possible to accurately characterize bank performance. Additionally, they discovered that the Bankometer model combines into a unique index model that can be applied to simulations.

(Shamanth & Rajgopal, 2016) in their study concluded that Bankometer S score is a model that can give early warning of

bankruptcy of any bank. They also concluded that banks with high liquidity, profitability and strong capital lacked efficiency.

(Shar et al., 2010) evaluated Bankometer model and gauged the solvency of banks in Pakistan. After comparing the findings to the CAMELS framework and the CLSA - Stress test, they came to the conclusion that the Bankometer model may be used globally to assess the vulnerability of each bank. To second this, (Z. Rahman, 2017) financial soundness of Bangladesh's two dozen banks were examined and usage of Bankometer model was preferred over CAMELS methodology and CLSA - Stress test and they concluded that Bankometer model is more efficient in determining insolvency issues and thus overcoming inefficiency in banking operations.

(Kattel, 2015) investigated the financial stability of Nepal's commercial institutions. According to the study's findings, the bankometer model will help internal management of banks in reducing the operational risk of insolvency through appropriate supervision and control.

(Mousa, 2017) did a performance evaluation of commercial banks in Jordan through Bankometer parameters. This study concluded that despite slowdown of economy in Jordan, its impact on the banking sector was negligible. It concluded that all the banks under the study had satisfactory bankometer parameters.

(BOLAT, 2017) used Altman's Model and the Bankometer framework to analyse the financial state of Kazakhstan's banking sector. In which he came to the conclusion that the bankometer model is better than Altman's Model at predicting insolvency and has a higher capacity to forecast the financial health of the banks.

(Africa, 2018) did research on the implementation of the Bankometer Model to forecast financial distress in both conventional and syariah banking. While using the model, there was no change between the two firms.

A study conducted by detailed analysis of data set of 62 banks, for a decade starting from 2009 - 2018 was it was determined that new private banks and foreign sector banks have higher Bankometer S - scores than public sector banks. In the Indian financial system, old private banks are generally considered to be in fair condition (Chauhan & Kumar, 2019)

For a span of six years, the Bankometer framework was used to evaluate the financial stability of Tashi Bank and Bank of Bhutan Limited (2012 - 2017). It was determined that both institutions had preserved their financial stability. The study also concluded that individual banks' financial performance is key for maintaining customers and building the financial system and country's economic growth. (Ligori et al., 2019)

(Hussain Shar et al., 2010) supervised a study on individual banks in Pakistan from 1999 to 2002 to assess each bank's solvency. The findings were compared with those from the CAMEL and CLSA - stress tests. Additionally, the Bankometer model's limits and percentage weights underwent minor adjustments in contrast to these models.

Using the Bankometer model, (Ouma & Kirori, 2019) examined the financial stability of 16 small and 12 midsized banks in Kenya over a span of four years (2014–2017). They came to the conclusion that both types of banks were fiscally stable. While two of the banks in the research had capital adequacy ratios that were below the benchmark, the banks under study had poor performance in loans and operations.

(JI et al., 2018) extensively studied 35 listed private and public sector banks in India over period of 10 years from 2011 - 2020, using Bankometer model and concluded that S - score of private players in banking Industry is superior to that of public sector banks.

(Naga & Tabassum, 2013) concluded in their study that mergers can help banks can reduce competition, expenses and can achieve significant growth in operations. (P. Singh, 2019) opinioned that mergers and acquisition is a strategy used by banks to survive in a competitive environment and significant improvement in financial performance can be observed in post - merger era.

(S. Singh & Das, 2018) analyzed the mergers impact on banks financial performance like State Bank of India, Punjab National Bank, Bank of Baroda and concluded that the management - instituted policies and initiatives, such as the credit risk, be reviewed in order to improve operations and a more encompassing strategy for integrated marketing and communications strategy should be implemented in the promoting the Bank's new and existing goods in order to increase market share.

(Mudaliar & Luther, 2023) pointed out that private sector banks manage their NPA's better as compared to public sector banks.

3. Research Objectives

a) To study the financial stability of selected private and public sector banks in India through Bankometer S - score model from 2016 - 2023.
b) To do a comparison of the financial resilience of selected private sector bank and public Banks from 2016 - 2023.
c) To analyze the impact of mergers on the financial soundness of selected public sector banks.

4. Methodology of the Study

To attain the objectives of the study private and public sector banks listed on Bombay Stock Exchange (BSE) and on National Stock Exchange of India Ltd. (NSE) as on 31st March 2023 was taken with a continuous data of 7 years from 2016 - 17 to 2022 - 23. Accordingly, out of 23 private banks listed on BSE and NSE and 12 public sector banks listed on BSE and NSE, top 5 private sector and top 5 public sector banks from the Banking industry in India have been selected based on the market capitalization of respective banks, as sample, applying purposive sampling method. The historical data is accumulated from published annual reports, financial statements of respective banks and data available on various websites. The data is further used to calculate Bankometer S - score of each of the selected banks.

The large banks in any economy bears the central role for maintaining the credit cycle and financial stability in the economy. Hence the performance of such banks is highly critical. (Baron et al., 2022)

Therefore, for the purpose of study, a sample of top 5 private sector banks and public sector banks was selected based on the market capitalization of respective banks.

Table 1 shows the List of the banks under the study.

Table 1: List of Selected Banks

Categories	S. No.	Bank Name
Public Sector Banks	1	SBI
	2	Bank of Baroda (BoB)
	3	Punjab National Bank (PNB)
	4	Indian Overseas Bank (IOB)
	5	Canara Bank
Private Sector Banks	1	ICICI Bank
	2	HDFC Bank
	3	Axis Bank
	4	IndusInd Bank
	5	Kotak Mahindra Bank

Method of Analysis: Bankometer S - score Model
Among many other frameworks available for analyzing soundness of banks, International Monetary Fund (IMF) developed a new model in 2002 called Bankometer S - score. This framework is a modified version of CAMELS and CLSA stress test parameters. In order to synthesise the measurement of bank soundness, this adjustment was necessary. This model produced the most accurate results with the fewest parameters. (Permata & Purwanto, 2018) . Hence Bankometer is considered as a superior method to CAMELS.

In this model soundness of banks is measured by a solvency score called S - score.

The solvency score (S) is calculated as under:

S = 1.5 (Capital Asset Ratio) + 1.2 (Equity to Asset Ratio) + 3.5 (Capital Adequacy Ratio) + 0.6 (Non - performing Loans to Loans Ratio) + 0.3 (Cost to Income Ratio) + 0.4 (Loans to Assets Ratio)

5. Data Interpretation and Analysis

Capital to Assets Ratio (CA)

CA=Bank's Capital/ Total Assets

CA determines whether there is enough Equity capital and retained earnings to cover the assets of the bank. Since the assets of the bank are financed with long - term capital, a greater ratio indicates that the bank is safer.

As per the guidelines of IMF and bankometer framework, Capital to Assets Ratio (CA) should be more than or equal to 4%. As per Table 2 all the banks under study have CA as per the norms.

Table 2: Calculation of Capital to Assets ratio

	Year	2016 - 17	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22	2022 - 23
Capital Assets Ratio (CA) (%)	ICICI Bank	31.8	32.53	28.15	25.23	19.23	19.49	20.04
	HDFC Bank	18.93	21.56	21.4	20.62	19.42	20.54	19.75
	Axis Bank	26.73	30.59	27.4	25.45	24.54	25.55	23.66
	IndusInd Bank	23.97	27.92	26.55	31.02	26.02	23.58	22.59
	Kotak M	22.7	23.64	24.07	24.15	22.79	22.93	21.83
	SBI	17.74	16.22	16.39	13.31	14.36	13.75	14.45
	BoB	10.21	14.72	15.13	14.24	12.45	14.85	13.72
	PNB	11.01	12.89	10.44	13.06	10.1	10.26	9.82
	IOB	11.3	9.07	9	8.27	7.52	8.71	14.68
	Canara	11.73	11.12	10.27	10.55	8.78	8.53	9.28

(Source: Computed by Authors)

Equity to Assets Ratio (EA)
EA= Net Worth/Total Assets
This ratio evaluates how much equity money is used to fund assets. In the long run, the bank's financial position will be stronger if this ratio is larger since more assets can be sustained by equity capital and will be less dependent on outside funding. As per Bankometer framework, Equity to Assets Ratio (EA) should be greater than or equal to 2%. As per Table 3 all the banks under study have EA as per the norms.

Table 3: Calculation of Equity to Assets Ratio

	Year	2016 - 17	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22	2022 - 23
Equity to Asset Ratio (EAR) (%)	ICICI Bank	12.61	11.66	10.96	10.35	11.77	11.88	12.5
	HDFC Bank	10.36	9.99	11.99	11.17	11.66	11.6	11.36
	Axis Bank	9.27	9.18	8.32	9.28	10.2	9.8	9.52
	IndusInd Bank	11.37	10.61	9.5	11.21	11.87	11.79	11.87
	Kotak M	12.87	14.15	13.74	13.61	16.62	16.88	17.04
	SBI	5.86	5.66	5.37	5.3	5.11	5.17	5.46
	BoB	5.8	6.03	6.53	6.21	6.67	6.72	6.73
	PNB	5.32	4.91	5.34	6.97	6.68	6.76	6.29
	IOB	4.73	5.35	6.54	6.2	6.18	7.68	8.05
	Canara	4.9	4.76	4.32	4.59	4.42	4.73	4.94

(Source: Computed by Authors)

Capital Adequacy Ratio (CAR)
CAR= Tier I Bank's Capital+ Tier II Bank's Capital /Risk Weighted Assets

It is also known as the capital to risk - weighted assets ratio and assesses the bank's capital status. A high CAR suggests that the banks are secure and will most likely pay their financial obligations. Bank S - scores are primarily influenced by capital adequacy rates.

The bankometer framework prescribed the Capital Adequacy Ratio (CAR) should be between 8% to 40%. As per Table 4 all the banks under study have CAR as per the norms.

Table 4: Capital Adequacy Ratio (CAR)

	Year	2016 - 17	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22	2022 - 23
Capital Adequacy Ratio (CAR) (%)	ICICI Bank	17.39	18.42	16.89	16.11	19.12	19.16	18.34
	HDFC Bank	14.55	14.82	17.11	18.52	18.79	18.9	19.26
	Axis Bank	14.95	16.57	15.84	17.53	19.12	18.54	17.64
	IndusInd Bank	15	15	14	15.04	17.38	18.42	17.86
	Kotak M	17	18	17	18	22.26	22.69	21.8
	SBI	13	13	13	13.13	13.74	13.85	14.68
	BoB	13	12	13	13	14.99	15.84	16.24
	PNB	12	9	10	14	14.32	14.5	15.5
	IOB	11	9	10	11	15.32	13.83	16.1
	Canara	13	13	12	14	13.18	14.9	16.68

Non - Performing Loans to Loans Ratio (NPL)
NPL=Bank's Non - Performing Loans/Bank's Total Outstanding Loans

It measures the quality of loan portfolios among banks. A higher ratio indicates that Non performing loans of the banks are lesser as compared to performing loans.

As per Bankometer framework, Non - performing Loans to Loans Ratio (NPL) should be less than or equal to 15%. As shown in Table 5, all the banks under study are adhering to the stated norms, except Punjab National Bank (PNB) which has NPL as 18 in 2017 - 18 and 16 in 2018 - 19. Another exception to the norms is Indian Overseas Bank (IOB) which has NPL as 22 in 2016 - 17 and 2018 - 19 and slightly higher NPL as 25 in 2017 - 18. All the banks have managed to reduce their NPA as per the prescribed norms in the recent year.

Table 5: Calculation of Non - Performing Loans to Loans Ratio (NPL)

	Year	2016 - 17	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22	2022 - 23
Non - Performing Loan to Loan Ratio (%)	ICICI Bank	9	0	7	6	8	4	2.87
	HDFC Bank	1	1	1	1	1	1	1.12
	Axis Bank	5	7	5	5	4	3	2
	IndusInd Bank	1	1	2	2	3	2	1.98
	Kotak M	3	2	2	2	3	2.34	1.8
	SBI	7	11	8	6	5	4	2.78
	BoB	10	12	10	9	9	7	4
	PNB	13	18	16	14	14	12	9
	IOB	22	25	22	15	12	10	7
	Canara	10	12	9	8	9	8	5

Cost to Income Ratio (CI)
CI= Bank's Operating Expenses / Bank's Operating Income
It is an efficiency ratio that compares the expenses and income of the banks, higher ratio indicates higher profit for the banks.

As per Bankometer parameters and IMF limits, Cost to Income Ratio (CI) should be less than or equal to 40%. As per the computed values of CI shown in Table 6, private sector banks as well as their public counterparts are falling short on this ratio with the maximum ratio reaching to 82.77 for Indian Overseas Bank, almost double than the prescribed norm.

Table 6: Calculation of Cost to Income Ratio (CI)

	Year	2016 - 17	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22	2022 - 23
Cost to Income Ratio (%)	ICICI Bank	42.68	46.51	48.98	45.79	42.57	40.65	38.79
	HDFC Bank	37.84	39.62	38.41	38.52	40.37	41.05	38.35
	Axis Bank	46.42	51.64	44.28	50.03	47.76	42.77	49.05
	IndusInd Bank	39.65	39.22	40.1	40.83	48.51	46.53	41.24
	Kotak M	38.68	39.91	38.52	40.01	42.83	43.72	42.81
	SBI	41.15	47.52	44.68	42.57	43.34	41	35.58
	BoB	38.58	48.92	43.41	43.13	48.69	49.24	47.72
	PNB	40.22	63.44	58.8	41.81	44.1	43.07	45.35
	IOB	51.87	71.61	60.55	82.77	47.17	43.93	43.66
	Canara	33.31	48.4	38.78	40.83	43.52	43.3	38.37

Loans to Assets Ratio (LA) ratio

LA=Loans/Total Assets

It compares the quantity of long - term loan granted to the amount of assets. Higher ratios suggest higher profitability for banks as a result of long - term loan returns, which may affect bank liquidity and vice versa. (Abirami, 2018)

As per Bankometer parameters and IMF limits, Loans to Assets Ratio (LA) should be less than or equal to 65%. It is clear from Table 7 that all public sector banks under study have adequate LA ratio whereas as far as private sector banks, some are falling short marginally, with only ICICI bank, Axis Bank have adequate LA consistently in the years 2016 - 17 till 2022 - 23.

Table 7: Calculation of Loans to Assets Ratio (LA)

	Year	2016 - 17	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22	2022 - 23
Loan to Asset Ratio (%)	ICICI Bank	60.38	58.48	61.01	58.91	59.78	61.01	64.49
	HDFC Bank	64.2	61.88	65.84	64.93	64.85	66.17	64.9
	Axis Bank	62.03	63.59	61.77	62.44	62.62	60.22	64.17
	IndusInd Bank	63.43	65.51	67.17	67.41	58.62	59.51	63.37
	Kotak M	63.41	64.06	65.89	61	58.33	63.17	65.29
	SBI	58.75	56.41	59.78	59.2	54.3	55.07	58.28
	BoB	55.16	59.37	60.03	59.6	61.13	60.81	64.52
	PNB	58.54	56.91	59.41	57.13	53.79	55.68	57.17
	IOB	57.33	53.43	53.04	46.54	46.61	48.18	56.75
	Canara	59.16	62.54	62.14	60.23	55.79	57.74	62.07

(Source: Author's computation)

S - Score

According to the bankometer framework, banks with S Score higher than 70 are considered as solvent or super sound banks. Banks with S score lower than 50 are termed as insolvent. Banks with S score lying between 50 and 70 are determined to be under gray zone (M. Z. Rahman, 2017) .

Bankometer S - Score: Public sector and Private sector banks

Table 8 represents the Bankometer Solvency Value (S) of selected private sector banks from 2016 - 17 to 2022 - 23.

Table 8: Bankometer S - Score (Private sector Bank)

BANKOMETER S - SCORE	2016 - 17	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22	2022 - 23
ICICI Bank	166.05	164.6	157.78	147.55	151.37	149.55	148.41
HDFC Bank	129.37	133.44	144.83	147.28	147.54	150.26	148.80
Axis Bank	145.29	160.02	147.52	153.65	157.75	153.69	150.24
Indus Ind Bank	139.96	145.68	140.33	153.03	153.91	152.95	149.55
KotakMahindra Bank	147.77	154.24	151.21	153.16	170.01	173.85	169.53

(Source: Computed by Authors)
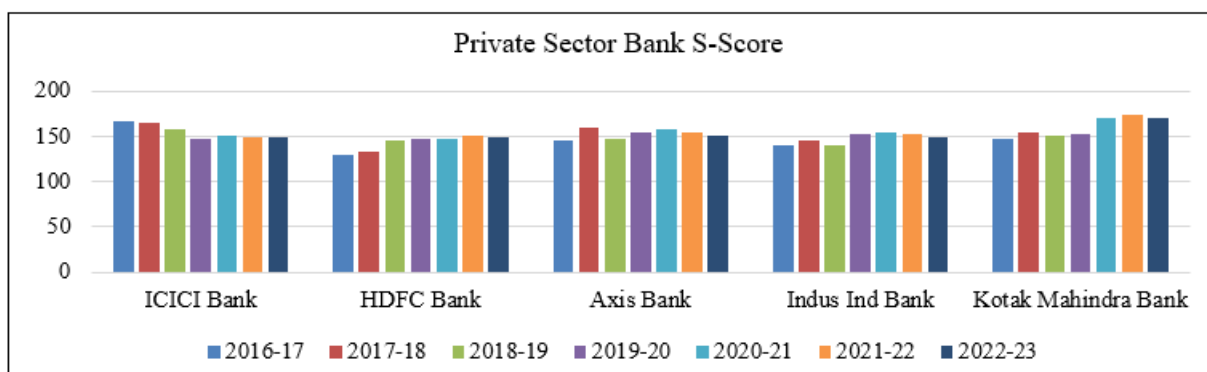
Chart 1: S - Score of Private Sector Banks

The private sector banks are resilient even during pandemic the mean S - score is not falling beyond 140 points. The chart depicts the falling S - score of ICICI Banks and the increasing S - score of the Kotak Mahindra Bank with the highest S - score 0f 173.85 in the year 2021 - 22.

Table 9: Bankometer S - Score (Public sector Bank)

BANKOMETER S - SCORE	2016 - 17	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22	2022 - 23
State Bank of India	119.18	120.05	118.64	112.34	113.47	112.03	115.26
Bank Of Baroda	107.4	116.93	119.07	116.49	123.61	129.08	128.02
Punjab National Bank	108.17	109.32	108.07	120.75	116.43	116.65	118.40
Indian Overseas Bank	112.81	109.39	108.94	110.79	112.32	109.14	128.03
Canara Bank	108.63	114.64	104.49	111.48	105.38	111.51	117.57

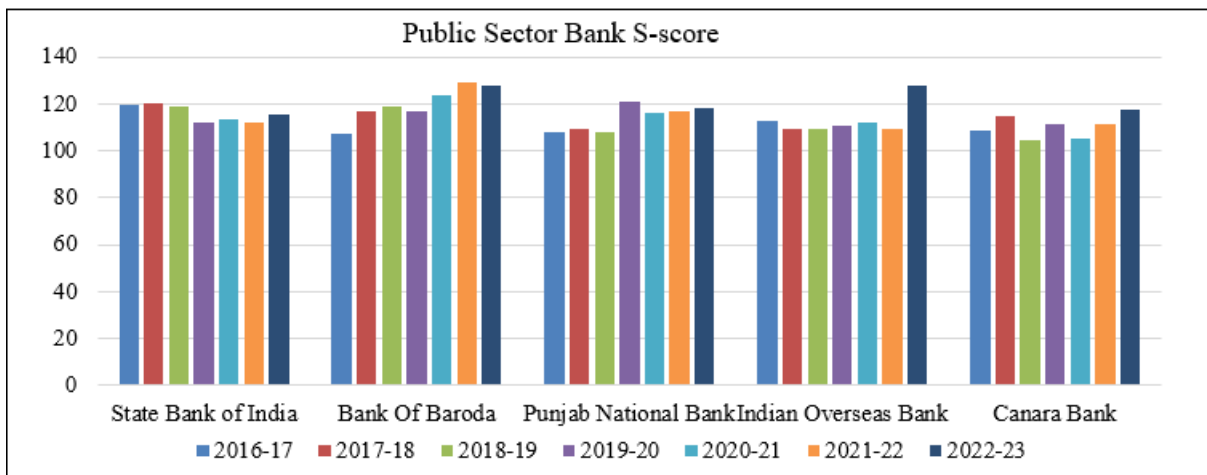(Source: Computed by Authors)

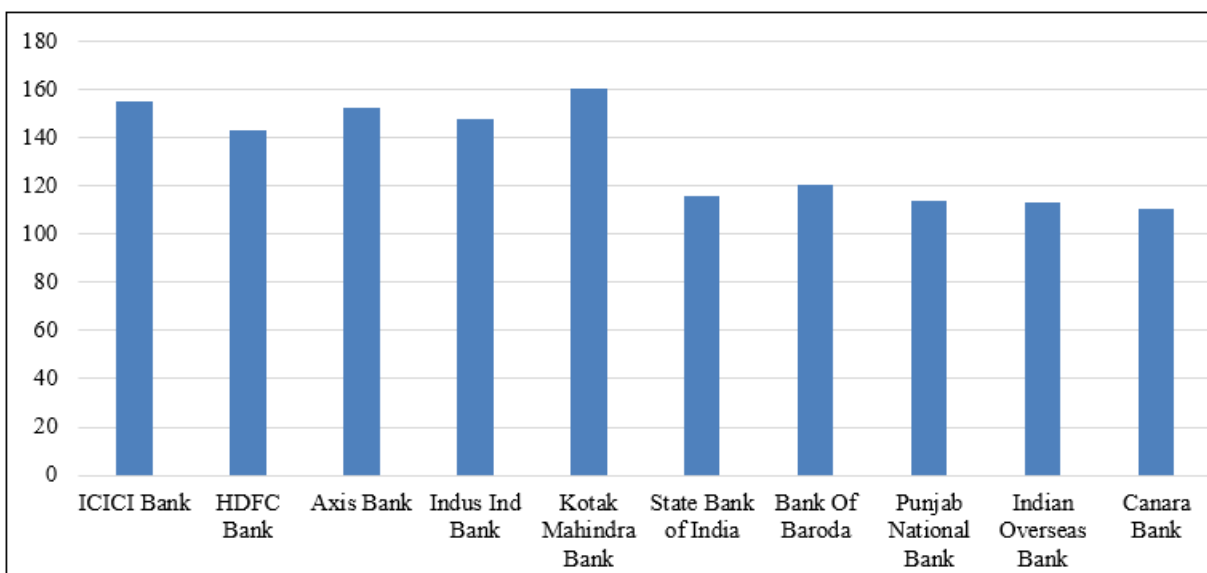**Chart 2:** S - Score of Public Sector Banks

Chart 3: The Mean S - score of Public and Private Sector bank for the period 2016 - 2023.

The Public sector banks are also resilient but not as much as their private counterparts with the Mean S - score of 120 points, 20 points lower than the mean Solvency value of Private sector banks. Although none of the banks in the study fall under the grey area of solvency and was able to cope up even in the pandemic situations without much impact on their Bankometer S - score. Chart 3 depicts the mean S (solvency value) for both public and private sector bank where the difference in their s - score is clearly visible.

The Indian public sector banks have long been suffering from accumulating NPA, which resulted in mergers in majority of the public sector banks. The pre - merger and post - merger s - score of the selected public sector banks are depicted in Table 10. All the public sector banks in the study were subject to mergers except for Indian Overseas Banks.

Table 10: Pre - Merger and Post - Merger Bankometer S - score

Merged Into (Anchor Banks)	Banks Merged	Merger effective from
State Bank of India (SBI)	Bharatiya Mahila Bank State Bank of Bikaner and Jaipur State Bank of Hyderabad State Bank of Mysore State Bank of Patiala State Bank of Travancore	01/04/2017
Bank of Baroda (BoB)	Dena Bank Vijaya Bank	01/04/2019
Punjab National Bank (PNB)	Oriental Bank of Commerce United Bank of India	01/04/2020
Indian Overseas Bank (IOB)	None	NA
Canara Bank	Syndicate Bank	01/04/2020

Table 11: Pre - merger and Post - merger S - score of Public sector banks

BANKOMETER S - SCORE	2016 - 17	2017 - 18	2018 - 19	2019 - 20	2020 - 21	2021 - 22	2022 - 23
State Bank of India	119.18	120.05	118.64	112.34	113.47	112.03	115.26
Bank Of Baroda	107.4	116.93	119.07	116.49	123.61	129.08	128.02
Punjab National Bank	108.17	109.32	108.07	120.75	116.43	116.65	118.4
Indian Overseas Bank	112.81	109.39	108.94	110.79	112.32	109.14	128.03
Canara Bank	108.63	114.64	104.49	111.48	105.38	111.51	117.57

The reason for merger of public sector banks were highly attributed to accumulating NPA's of the respective merging banks (Agarwala and Agarwala, 2019), but as shown in Table 5, most of the banks were able to maintain their NPA's well within the prescribed limit even after the mergers. It can be seen in the Table 11 that SBI is struggling to achieve its pre - merger S - score. Bank of Baroda and Canara Bank are performing good to have S - score of more than their pre - merger level, While Bank of Baroda is outperforming all of them. Even after major financial frauds crippling the Indian Banking system, it has been resilient enough to come cope up and maintain the S - score of strong and sound banks.

6. Conclusion and Future Scope of Study

The survival of any economy is dependent on its pillars of support, banking industry being one of them. The Public sectors banks in India have shown resilience even after the mergers which is reflected in their S - score. The banks in India have shown resilience even during the time of pandemic with private sector banks outperforming the public sector banks. The impact of mergers of the public sector banks is also visible in the Bankometer S - score, with the S - score falling and then struggling to come back to its pre - merger level. Indian Banks are majorly falling short on only one of ratio which is the efficiency ratio, almost all the banks are struggling to maintain their cost to income ratio. Overall, the Indian Banking system have super sound banks which were able to survive the impact of pandemic, financial frauds, high non - performing assets etc. None of the banks in the study fall under the grey area (S - Score between 70 - 50 points) or below. The S - score of more than 100 (super sound banks) is maintained by all the banks in the study. Further study can be done to analyse the readiness of Indian Banks to adopt Basel III norms.

References

[1] Abirami, K. (2018). *Impact Factor: 5.2 IJAR*.4 (3), 357–362. www.allresearchjournal. com

[2] Africa, L. A. (2018). Bankometer Models for Predicting Financial Distress in Banking Industry. *Jurnal Keuangan Dan Perbankan*, 22 (2). https: //doi. org/10.26905/jkdp. v22i2.2050

[3] Baron, M., Schularick, M., & Zimmermann, K. (2022). *Survival of the Biggest : Large Banks and Crises since 1870 ∗. March*.

[4] BOLAT, A. (2017). Evaluating the current financial state of banking sector in kazakhstan using altman's model, bankometer model. *Revista ESPACIOS*, 38 (48).

[5] Chauhan, P., & Kumar, S. (2019). Analysis of Scheduled Commercial banks: Bankometer Model. *International Journal of 360 Management Review*, 07, 2320–7132.

[6] Erari, A., Salim, U., & Syafie Idrus, M. (2013). Financial Performance Analysis of PT. Bank Papua: Application of Cael, Z - Score and Bankometer. *IOSR Journal of Business and Management (IOSR - JBM), 7* (5), 8–16. www.iosrjournals. orgwww.iosrjournals. org8%7C

[7] Hussain Shar, A., Professor, A., ali Shah Professor, M., Jamali Professor, H., & University, P. (2010). Performance Evaluation of Banking Sector in Pakistan: An Application of Bankometer. *International Journal of Business and Management*, *5* (9). www.ccsenet. org/ijbm

[8] JI, O., N, O., O, P., & SN, A. (2018). Evaluation of financial soundness of selected commercial banks in Nigeria: An application of Bankometer S - score model. *Journal of Finance and Marketing*, *02* (04). https: //doi. org/10.35841/finance - marketing.2.4.22 - 25

[9] Kattel, I. K. (2015). Evaluating the Financial Solvency of Selected Commercial Banks of Nepal: An Application of Bankometer. *Journal of Advanced Academic Research*, *1* (1), 88–95. https: //doi. org/10.3126/jaar. v1i1.13518

[10] Langston, C. (2007). Financial management. In *Workplace Strategies and Facilities Management* (pp.164–176). https: //doi. org/10.4324/9780080521299

[11] Ligori, A., Khan, S., & Khan, S. A. (2019). Comparative Financial Performance and Financial Soundness of Banks in Bhutan: Application of DuPont and Bankometer Models Measurement of GNH View project PERCEPTION OF BANKING PRODUCTS AMONG PEOPLE EVIDENCE FROM BHUTAN View project. *International Journal of Psychosocial Rehabilitation*, *23*. https: //doi. org/10.37200/IJPR/V23I1/PR190256

[12] Mousa, T. A. (2017). Performance Evaluation of the Jordanian Commercial Banks Based on Bankometer Parameters. *International Journal of Economics and Finance*, *9* (12), 249. https: //doi. org/10.5539/ijef. v9n12p249

[13] Mudaliar, P. V., & Luther, M. (2023). *Descriptive Analysis Of Trend Of Non - Performing Assets Of SBI And The Reasons For Its Decrease In The Recent Times.11* (2), 547–555.

[14] Naga, S. V. R., & Tabassum, S. S. (2013). Financial Performance Analysis in Banking Sector – A Pre and Post Merger Perspective. *Advances in Management*, *6* (10), 55–62.

[15] Ouma, M. O., & Kirori, G. N. (2019). Evaluating the Financial Soundness of Small and Medium - Sized Commercial Banks in Kenya: An Application of the Bankometer Model. *International Journal of Economics and Finance*, *11* (6). https: //doi. org/10.5539/ijef. v11n6p93

[16] Permata, M., & Purwanto, E. (2018). Analysis of CAMEL, Z - score, and bankometer in assessment soundness of banking listed on the Indonesia stock exchange (IDX) from 2012 - 2015. *Journal of Applied*

Economic Sciences, *13* (5), 1311–1324.

[17] Rahman, M. Z. (2017). Financial Soundness Evaluation of Selected Commercial Banks in Bangladesh: An Application of Bankometer Model. *Research Journal of Finance and Accounting Www.Iiste. Org ISSN*, *8* (2). www.iiste. org

[18] Rahman, Z. (2017). Financial Soundness Evaluation of Selected Commercial Banks in Bangladesh: An Application of Bankometer Model. *Research Journal of Finance and Accounting*, *8* (2), 63–70.

[19] Shamanth, N., & Rajgopal, M. (2016). Assessment of Financial Health of Select Private Sector and Foreign Banks in India : An Application of Bankometer Model. *Www.Ijemr. Net ISSN (ONLINE): 2250 - 0758, ISSN (PRINT): 2394 - 6962 Volume - 6, Issue - 4, July - August 2016 International Journal of Engineering and Management Research*, *6* (4), 26–30. https: //www.indianjournals. com/ijor. aspx?target=ijor: ijemr&volume=6&issue=4&article=006

[20] Shar, A. H., Shah, M. ali, & Jamali, H. (2010). Performance Evaluation of Banking Sector in Pakistan: An Application of Bankometer. *International Journal of Business and Management*, *5* (9), 113–118. https: //doi. org/10.5539/ijbm. v5n9p81

[21] Singh, P. (2019). Rational of Mergers and Acquisition of public sector banks – A study in Indian context. *Prastuti: Journal of Management & Research*, *8* (1), 10–17. https: //doi. org/10.51976/gla. prastuti. v8i1.811902

[22] Singh, S., & Das, S. (2018). Impact of post - merger and acquisition activities on the financial performance of banks: a study of Indian private sector and public sector banks Impacto de las actividades posteriores a la fusión y adquisición en el desempeño financiero de los bancos: un. *Espacios*, *39*, 25.