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Comparitive study of the selected indian private and public sector banks using camels model for the financial year 2015-16 to 2019-20.

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Abstract: CAMELS model consisting of capital adequacy, asset quality, management efficiency, earnings quality, liquidity and sensitivity is an effective tool to determine the financial performance of the banks. The present study was done to compare the financial performance of the public sector banks; State Bank of India (SBI) & Central Bank of India (CBI) versus two selected private sector banks; ICICI bank & AXIS bank from 2015-16 to 2019-20 by CAMELS model. The study-data was collected from the annual reports, banking bulletin, websites, magazines, newspapers and published literature in journals. Results of our study shows that for the criteria of capital adequacy ICICI bank secured 1st rank, for asset quality comparison AXIS bank secured 1st rank, for management efficiency comparison AXIS bank secured 1st rank, for Earning quality comparison ICICI bank secured the 1st rank for Liquidity comparison CBI got 1st rank and for sensitivity criteria, SBI got the 1st rank. In summary, CAMELS model is an effective tool to evaluate the financial performance of the banks. ICICI bank secured 1st rank followed by AXIS bank at 2nd rank, SBI at 3rd position and CBI at 4th position respectively in the composite and overall performance evaluation by CAMELS model.

Keywords: CAMELS, Banking, Financial performance, capital adequacy, asset quality, management efficiency

Introduction:

The banking sector plays an important role in the capital formation, development of the financial system and to improve the productive capacity of the economy. Banking system attracts deposits from savers and individuals, provides loans to encourage investment and production, and creates economic expansion to the vitals sectors such as Agriculture, industry and trade etc. Financial services provided by the banks, help to make the overall economy more efficient. Performance assessment of the banking sector is an effective measure and indicator of any country's economy. CAMELS model is an effective tool to determine the relative financial strength of the banks. CAMELS is an acronym consists of six critical dimensions or components to evaluate banks operations and performance, where 'C' represents Capital Adequacy, 'A' represents Asset Quality,

'M' represents Management Efficiency, 'E' represents Earnings Quality, 'L' represents Liquidity and 'S' represents Sensitivity [1,2]. Each of the component factors is rated on a scale of 1 (best rating) to 5 (lowest rating). A composite rating is assigned as an abridgement of the component ratings and is taken as the prime indicator of a bank's current financial condition. Indian banking sector can be classified into two major types; public sector and private sector banks. Public sector banks are the nationalized banks and account for more than 75 per cent of the total banking business in India. State Bank of India (SBI) is the largest public sector bank in India. Private sector banks include banks in which major stake or equity is held by private shareholders. ICICI and AXIS banks are among the largest private sector bank of India. The present study was done to analyze and compare the financial performance during five financial years from 2015-16 to 2019-20 of the selected public sector banks; State Bank of India (SBI) & Central Bank of India (CBI) with two selected private sector banks; ICICI bank & AXIS bank by CAMELS model.

Objectives:

To assess and compare the financial status of the two public sector banks (SBI & CBI) and two private sector banks (ICICI bank & AXIS bank) by CAMELS model.

Methodology:

For this study, two public sector banks, SBI & CBI and two private sector banks, ICICI bank & AXIS bank were selected. The financial performance of these 4 banks was evaluated for the period of five financial years from 2015-16 to 2019-20 by CAMELS model. The study-data was collected from the annual reports of the respective selected banks, banking bulletin, websites, magazines, newspapers and published literature in journals [4-7]. Ratios and averages of the variables were analyzed and comparison between the banks and ranking was done as per the score described by CAMELS model.

CAMELS model consists of six parts: Capital adequacy, Asset quality, Management efficiency, Earnings quality, Liquidity and Sensitivity.

1. Capital adequacy: The capital adequacy ratio (CAR) is a measurement of a bank's available capital expressed as a percentage of a bank's risk-weighted credit exposures. The ratios used in our study to assess the capital adequacy of the banks are: CAR, Debt to Equity ratio, Total Advances to Total Assets ratio, and Government Securities to Total Investment ratio

2. Asset quality: Asset quality indicates about the performance of assets such as current and fixed, loans, investments, real estates and all the off-balance sheet transactions. The ratios used in our study to assess the asset quality of the banks are: Net Non-Performing Assets (NPA) to Net Advances ratio, Total Investment to Total Assets ratio, and Net NPA to Total Assets ratio.

3. Management efficiency: Management efficiency reflects in administrative ability to ensure the safe and efficient operation, to follow up of defined norms of the bank and the capability to plan and respond to dynamic environment. The ratios used in our study to assess the management efficiency of the banks are: Total Advances to Total Deposits ratio, Profit per Employee and Business per Employee.

4. Earnings quality: Earnings Quality refers to the earning and profits of the bank. The ratios used in our study to assess the earning quality of the banks are: Return on equity (ROE), Return on assets (ROA), Net Interest Margin to Total Assets ratio, Operating Profit to Total Assets ratio and Interest Income to Total Income ratio.

5. Liquidity: Liquidity refers to the bank's capacity to meet its short term obligations as well as loan commitments. The ratios used in our study to assess the liquidity of the banks are: Liquid Assets to Total Deposit ratio, Approved Securities to Total Assets ratio, Liquid Assets to Demand Deposits ratio, and Liquid Assets to Total Assets ratio.

6. Sensitivity. It indicates the fluctuations in the interest rates (interest rate risk) or sensitivity in the market. The sensitivity to market risk determines the degree to which any changes in the equity prices, interest rates, and foreign exchange rates can affect the earnings of a bank. Re-pricing risk measures the gap between Interest-Rate Sensitive Assets (RSA) and Interest-Rate Sensitive Liabilities (RSL) and represents interest rate risk [8]. If a bank retains more liabilities re-pricing than its assets, it is liability-sensitive or negatively gapped and adversely affected by rising interest rates [8]. Assets and liabilities are very sensitive to interest rate risk. In our study we used the asset-liability gap of the banks as an indicator of interest rate risk.

Results:

Table 1 shows the ratios, mean value of the ratios from the year 2015-16 to 2019-2020 of the performance indicators of Capital adequacy, Asset quality, Management efficiency, Earnings quality and Liquidity. Table 1 also shows the ranking of the banks for these components of CAMELS model.

Table 2 shows gap value (Rupees in millions) between Interest-Rate Sensitive Assets and Interest-Rate Liabilities of the banks from the financial year 2015-16 to 2019-2020 as the performance indicator of sensitivity component of CAMELS. Table 2 shows that SBI obtained 1st rank followed by ICICI bank at 2nd rank, AXIS bank at 3rd rank and CBI got 4th rank while comparing the gap (Rupees in millions) between Interest-Rate Sensitive Assets and Interest-Rate Liabilities of the banks as an indicator of sensitivity.

Table 3 shows the final composite result (overall performance) after summing the results of comparison of Capital adequacy, Asset quality, Management efficiency, Earnings quality, Liquidity and Sensitivity of CAMELS model. Table 3 shows that for Capital adequacy comparison ICICI bank secured 1st rank and SBI got 2nd rank. Asset quality comparison shows AXIS bank secured 1st rank followed by ICICI at 2nd rank. Management efficiency comparison shows AXIS bank secured 1st rank followed by ICICI and SBI at 2nd rank, Earning quality comparison shows ICICI bank secured the 1st rank followed by AXIS at 2nd rank. Liquidity comparison shows CBI got 1st rank followed by ICICI bank at 2nd rank. In Sensitivity criteria, SBI got the 1st rank. In the final composite result as shown in table 3, ICICI bank secured 1st rank followed by AXIS bank at 2nd rank, SBI at 3rd position and CBI at 4th position respectively.

Discussion:

In our study financial performance comparison of SBI, CBI, ICICI bank and AXIS bank for the financial year 2015-16 to 2019-20 was done with CAMELS model components Capital adequacy, Asset quality, Management efficiency, Earnings quality, Liquidity and Sensitivity. In this study, ICICI bank performed best and secured 1st rank followed by AXIS bank at 2nd rank, SBI at 3rd position and CBI at 4th position respectively.

Banking sector plays a vital role in the economic development by enhancing financial resources for industrial activities which intern generate employment opportunities and overall development of the country. A strong banking system promotes investment by financing productive business opportunities, mobilizing savings, efficiently allocating resources and makes easy the trade of goods and services. The financial performance of banks reflects that how a bank is effectively utilizing its resources for business and generation of revenues to earn profit. The CAMELS model is an international bank supervisory rating system and uses a detailed analysis of ratios from financial statements used by banks regulators to evaluate the overall performance of banks and determine their strengths and weakness.

A comparative study was done between SBI, Bank of Baroda, Bank of India, ICICI Bank, HDFC bank, and AXIS bank to evaluate the financial performance for a period of 4 years from 2011-12 to 2014-15 using CAMEL model. [9] The authors concluded that private sector banks have performed better than public sector banks. In this study ICIC bank had the highest capital adequacy; SBI performed best in terms of total advances and government securities. [9] Private sector banks performed better in asset quality criteria also as public sector banks had high NPAs as compared to private sector banks. Private sector banks performed better in management efficiency criteria also as private sector banks have better profit per employee ratio, total advances ratio and return on net worth ratio. Private sector banks performed better in earning quality criteria also. Public sector banks performed better in liquidity field as compared to private sector banks.

In a study the financial performance of five selected private sector banks (HDFC, ICICI, AXIS bank, KOTAK Mahindra bank, and IDFC bank) for a period of 10 years from financial year 2010- 2011 to financial year 2019-2020, the authors found that ICICI bank and Kotak Mahindra bank maintained good capital adequacy ratio and ICICI Bank had highest debt equity ratio. [10] The author concluded that ICICI bank and AXIS bank are facing troubles to maintain the assets quality as their Net NPA and Gross NPA ratios are showing increasing trends. The overall performance of HDFC bank and Kotak Mahindra bank was better as compared to ICICI bank and AXIS bank. This study shows that CAMEL model is an effective tool to measure the performance of the banks.

In a study, financial performance of leading public & private sector banks (AXIS bank and Kotak Mahindra bank and Bank of Baroda and SBI) were compared for 5 years period from 2014 to 2018. [11] In this paper the authors concluded that public and private banks both did well for capital adequacy, but public banks performed worst for asset management due to higher NPA. In our study also private sector banks performed superior to public sector bank.

A study was conducted to compare the financial performance of AXIS bank and ICICI bank from the year 2013-14 to 2017-18 on the basis of Net Profit, return on equity, capital adequacy, Total income

to capital employed and Total debt to owners fund ratios. [12] The authors concluded that ICICI bank performed better than AXIS bank in terms of Net profit. In our study also ICICI bank performed better than AXIS bank for Capital adequacy, Earnings quality, Liquidity and Sensitivity fields while AXIS bank showed better performance in the Asset quality and Management efficiency criteria.

In summary, CAMELS model is an effective tool to evaluate the financial performance of the banks. In our study, for Capital adequacy and Earning quality criteria comparison ICICI bank secured 1st rank. Asset quality and Management efficiency comparison shows that AXIS bank secured 1st rank. ICICI bank secured 1st rank followed by AXIS bank at 2nd rank, SBI at 3rd position and CBI at 4th position respectively in overall performance evaluation by CAMELS model.

Table 1

Comparison between the Banks for Capital Adequacy, Asset Quality, Management Efficiency, Earnings Quality and Liquidity for the Financial year 2015-16 to 2019-2020

	Bank	2015-16	2016-17	2017-18	2018-19	2019-20	Mean	Rank
CAPITAL ASSETS								
Capital Adequacy Ratio	SBI	13.12	13.11	12.60	12.72	13.06	12.9	3
	CBI	10.41	10.95	9.04	9.61	11.72	10.34	4
	ICICI	16.64	17.39	18.42	16.89	16.11	17.06	1
	AXIS	15.29	14.95	16.57	15.84	17.53	16.03	2
Advances to Asset Ratio	SBI	0.62	0.58	0.56	0.59	0.59	0.58	2
	CBI	0.59	0.42	0.48	0.44	0.42	0.47	1
	ICICI	0.60	0.60	0.58	0.61	0.59	0.59	2
	AXIS	0.63	0.62	0.64	0.62	0.62	0.62	1
Debt Equity Ratio	SBI	0.07	0.06	0.06	0.06	0.05	0.06	2
	CBI	0.05	0.25	0.12	0.07	0.10	0.11	4
	ICICI	0.06	0.06	0.06	0.06	0.04	0.05	1
	AXIS	0.06	0.07	0.08	0.06	0.13	0.08	3
Government Securities to Total Investment Ratio	SBI	0.82	0.76	0.81	0.80	0.78	0.79	1
	CBI	0.75	0.80	0.79	0.77	0,77	0.77	2
	ICICI	0.70	0.70	0.70	0.72	0.77	0.71	4
	AXIS	0.73	0.72	0.68	0.69	0.80	0.72	3
ASSETS QUALITY								
Net NPA to Net Advances Ratio	SBI	3.81	3.71	5.73	3.01	2.23	3.69	3
	CBI	7.36	10.2	11.1	7.73	7.63	8.80	4
	ICICI	2.98	5.43	5.43	2.29	1.54	3.53	2
	AXIS	0.74	2.27	3.64	2.06	1.56	2.05	1
Total Investment to Total Assets Ratio	SBI	0.24	0.28	0.31	0.26	0.26	0.27	3
	CBI	0.29	0.28	0.31	0.38	0.40	0.33	4
	ICICI	0.0	0.21	0.23	0.22	0.23	0.17	1
	AXIS	0.24	0.21	0.22	0.22	0.17	0.21	2

Net NPA to Total Assets Ratio	SBI	0.03	0.03	0.03	0.03	0.02	0.03	3
	CBI	0.04	0.04	0.05	0.03	0.03	0.04	4
	ICICI	0.02	0.03	0.03	0.01	0.01	0.02	2
	AXIS	0.00	0.01	0.02	0.01	0.01	0.01	1
MANAGEMENT EFFECIENCY								
Total Advances to Total Deposits Ratio	SBI	0.85	0.76	0.72	0.75	0.71	0.75	2
	CBI	0.68	0.47	0.53	0.49	0.48	0.53	3
	ICICI	1.03	0.95	0.91	0.90	0.84	0.92	1
	AXIS	0.95	0.90	0.97	0.90	0.89	0.92	1
Business per Employee Ratio	SBI	14.11	16.24	16.70	18.77	21.05	17.37	1
	CBI	11.95	11.81	12.71	12.78	14.06	12.66	3
	ICICI	9.4	9.89	10.78	12.22	12.75	11.01	4
	AXIS	14.84	14.0	14.84	16.53	17.27	15.49	2
Profit per Employee Ratio	SBI	0.047	0.051	-0.024	0.003	0.057	0.02	3
	CBI	-3.76	-6.49	-13.86	-15.55	-3.27	-8.58	4
	ICICI	0.14	0.12	0.08	0.04	0.08	0.09	1
	AXIS	0.18	0.07	0	0.08	0.02	0.07	2
EARNING QUALITY								
Return on Equity Ratio	SBI	7.74	7.25	-3.78	0.48	7.74	3.88	3
	CBI	-9.19	-16.84	-34.66	-36.09	-6.5	-20.6	4
	ICICI	11.3	10.3	6.6	3.2	7.1	7.7	1
	AXIS	17.49	7.22	0.53	8.09	2.34	7.13	2
Return on Assets Ratio	SBI	0.46	0.41	-0.19	0.02	0.38	0.21	3
	CBI	-0.45	-0.76	-1.54	-1.71	-0.33	-0.95	4
	ICICI	1.49	1.35	0.87	0.39	0.81	0.98	1
	AXIS	1.72	0.65	0.04	0.63	0.20	0.64	2
Interest Income to Total Income Ratio	SBI	0.85	0.83	0.83	0.87	0.85	0.84	2
	CBI	0.93	0.90	0.91	0.91	0.87	0.90	1
	ICICI	0.77	0.74	0.76	0.81	0.82	0.78	4
	AXIS	0.81	0.79	0.81	0.78	0.78	0.79	3
Operating Profit to Total Assets Ratio	SBI	1.83	1.88	1.72	1.51	1.72	1.73	1
	CBI	0.01	0.01	0.01	0.01	0.01	0.01	3
	ICICI	0.03	0.02	0.02	0.02	0.02	0.02	3
	AXIS	0.03	0.03	0.02	0.02	0.03	0.02	2
Net Interest Margin to Total Assets Ratio	SBI	2.96	2.84	2.50	2.78	2.97	2.81	3
	CBI	2.78	2.51	2.47	2.54	2.50	2.56	4
	ICICI	3.49	3.25	3.23	3.42	3.73	3.42	1
	AXIS	3.35	3.28	2.94	2.96	3.08	3.12	2
LIQUIDITY								
Liquid Assets to Total Assets Ratio	SBI	0.07	0.06	0.06	0.06	0.06	0.06	4
	CBI	0.05	0.24	0.12	0.09	0.10	0.12	1
	ICICI	0.08	0.10	0.10	0.08	0.11	0.09	2
	AXIS	0.06	0.08	0.06	0.08	0.11	0.07	3

Liquid Assets to Demand Deposits Ratio	SBI	1.20	1.13	1.01	1.08	1.10	1.10	2
	CBI	1.30	5.97	2.67	1.91	2.34	2.83	1
	ICICI	0.99	0.99	0.92	0.83	1.13	0.97	3
	AXIS	0.52	0.58	0.45	0.75	1.12	0.68	4
Liquid Assets to Total Deposits	SBI	0.10	0.08	0.07	0.08	0.08	0.08	4
	CBI	0.06	0.27	0.13	0.10	0.11	0.13	2
	ICICI	0.06	0.27	0.13	0.12	0.15	0.14	1
	AXIS	0.09	0.12	0.10	0.12	0.15	0.11	3
Approved Securities to Total Assets	SBI	0.20	0.22	0.25	0.21	0.21	0.21	2
	CBI	0.22	0.22	0.25	0.29	0.31	0.25	1
	ICICI	0.16	0.15	0.16	0.16	0.17	0.16	3
	AXIS	0.18	0.15	0.15	0.15	0.14	0.14	4

Table 2

Gap value (Rupees in millions) between Interest-Rate Sensitive Assets and Interest-Rate Liabilities of the banks for financial years 2015-16 to 2019-20.:

Bank	2015-16	2016-17	2017-18	2018-19	2019-20	Mean	Rank
SBI	Rs 1527520	Rs 1465940	Rs 1192800	Rs 609850	Rs 760650	Rs 1111352	1st
CBI	Rs 90260	Rs 43070	Rs -21420	Rs -20710	Rs 101070	Rs 38454	4th
ICICI	Rs 638560	Rs 557250	Rs 564360	Rs 801120	Rs 1239900	Rs 760238	2nd
AXIS	Rs 327090	Rs 353430	Rs 357240	Rs 373670	Rs 613900	Rs 405066	3rd

Table3

Overall Performance and Ranking of the Banks after Composite Analysis of CAMELS Model for the financial years 2015-16 to 2019-20:

Bank	Capital Adequacy	Asset Quality	Management Efficiency	Earning Quality	Liquidity	Sensitivity	Final Result Ranking
SBI	2nd	3rd	2nd	3rd	3rd	1st	3rd
CBI	3rd	4th	3rd	4th	1st	4th	4th
ICICI	1st	2nd	2nd	1st	2nd	2nd	1st
AXIS	2nd	1st	1st	2nd	4th	3rd	2nd

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