CAMEL Model for Evaluating Performance of Some Selected Private Sector Banks in India

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Abstract:

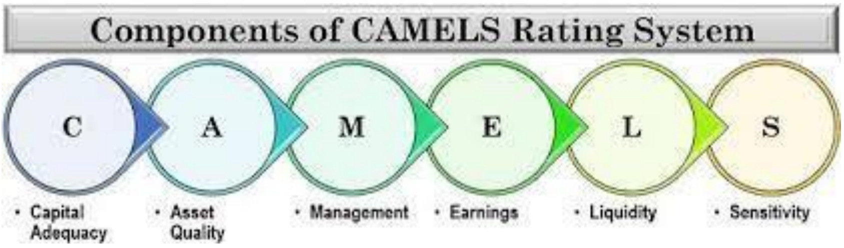
The Indian banking industry are playing crucial role of Indian economy over the past few decades. The process of liberalization, privatization and globalization initiated in 1991 in India paved the way for economic development of the country. As a result, ingress of private sector banks possible and permitted to increase their branches in the banking sector. Banking is one of the fastest growing sectors in India. Banking sector helps in boosting capital formation, innovation and monetization along with facilitation of monetary policy. As a country's financial system depends upon the financial soundness of banking industry, it is very much essential to measure it. The main aim of this research work was to check and compared the five-year financial performance of two private sector banks with the help of CAMEL Model. The present study measures the financial health of top private sector banks operating in India using CAMEL Analysis. In the study, select private sector bank for the study pertains from 2019-20 to 2023-24 and has been collected from the annual reports of respective banks. To study every major variable use of various ratios have been made which helps to analyze the variable in better way.

1. INTRODUCTION:

A strong, sustainable and viable banking system plays an important role in the overall development of an economy. Banking sector has contributed in bringing a revolutionary change in reforming sector on the path of economic growth. In fact, it is the backbone of the economy and one of the key indicators to assess the level of development of any country. This creates the need of effective supervisory system and a tool to ensure safety and security of it. The banks of India generally grappling with the huge stock of stressed assets that has piled up in the system over the ages. This has led to the phenomenal build-up of non-performing assets. The stress on this thing has impacted as a sharp decline in net interest margin of the banks. From such view of things, financial performance analysis of the banks is a matter of serious interest for regulators, managers, customers and investors.

There are various financial tools and techniques to measure the performance of the banks, one of the most important is a CAMEL model which puts weight on all the aspects of the performance measurement. CAMEL model is a ratio-based tool to check financial performance of banks. It was developed in 1970s by US banking regulatory supervisors. Whereas in India, RBI adopted this approach in 1996 succeeding the recommendations of Padmanabham

Working Group Committee. This model is used for to evaluate the financial performance of institutions and banks by examining the final accounts and financial statements on the basis of each component. In this research work financial performance of selected banks is judged based



on five different parameters of CAMEL model, which are as follows:

2. LITERATURE REVIEW:

Purohit and Bothra (2018) compare the performance of SBI and ICICI Bank using CAMEL parameters. They conclude that ICICI bank needs to improve its position with regard to capital adequacy and asset quality while SBI need to improve its position with regard to management efficiency, earning quality and liquidity.

Zahidur Rahman and Shohidul Islam (2018) have found that Jamuna Bank has retained comfortable liquidity position although excessive liquidity may affect profitability.

Kiran Birda, (2019) have done "Camel Research of Selected Private and Public Sector Banks in India". Five banks from private sector viz. HDFC, Axis, YES, ICICI & Kotak Mahindra and five banks from public sector viz. PNB, BOB, UBI, SBI & Canara were selected for the study. The data were collected for a duration of 5 years (2012-2013 to 2016-2017). CAMEL analysis was used to measure the performance. Based on CAMEL rating, the performance of HDFC and Axis were above the average; whereas PNB & Canara were seen as below average. Thus, it could be concluded that from all the aspects of the CAMEL Model, the performance of private sector banks was found better as compared to the public sector.

(Shariqua, 2021) has Studied "Camel Model Analysis of Select Public and Private Sector Banks in India". Two banks were selected as a sample of the work. The duration of work was five years from 2016-2020.

Different ratios under parameters

of CAMEL model were applied to check the financial performance of selected two banks. After considering overall performance of these two banks assessed through CAMEL Model it can be concluded that, even though SBI has shown poor performance in terms of Capital adequacy, Asset quality and Liquidity, it is still ahead of Axis bank because of good Management efficiency and Earnings quality. Thus, the performance of public sector bank was better compared to private sector banks.

Kadam (2023) analyzed five public and five private sector banks. The results showed that private banks had better capital and earnings, but public sector banks provided more value to shareholders.

Kantharaju et al. (2024) examined four banks (SBI, Canara Bank, ICICI Bank and Kotak Mahindra Bank) on a ten-year basis. Kotak Mahindra Bank emerged as the strongest bank, followed by ICICI Bank and SBI, while Canara Bank's position was the worst, they said.

Thomas et al. (2024) studied public sector banks with the privatization context. They discovered that privatization wasn't necessarily the best answer, because public banks serve vital social goals in addition to making profits.

3. STATEMENT OF THE PROBLEM:

The present study is undertaken to highlight the comparative analysis on five-year financial performance of selected top private sector banks in India through CAMEL Analysis Model.

The study aims to analyze the performance of some Indian private sector banks based on the CAMEL model. With an analysis of key financial ratios in each component, the research seeks to pin down strengths and weaknesses and sources of concern as well as shed light for banking institutions, investors, and policy maker.

4. OBJECTIVES OF THE STUDY:

- To understand the financial performance of selected private sector banks through CAMEL Rating System.
- To calculate how Capital adequacy, Asset quality, Management integrity, Earnings capacity and profitability, Liquidity influenced the performances of the Private banks.
- To make suggestions for the better performance of selected banks based on CAMELS and Models.
- To evaluate and rank banks based on the parameters of the CAMEL model.

5. HYPOTHESES:

H_0 (Null Hypothesis): There is no significant difference in the financial performance of the selected private sector banks in India on the basis of CAMEL model parameters.

H_1 (Alternative Hypothesis): One private sector bank is worse than second private sector banks in India based on CAMEL model parameters.

6. SCOPE OF THE STUDY:

The present study is undertaken to analyse the financial performance of **HDFC** and **ICICI Bank** through CAMEL model. This study has used financial ratios to investigate the banking performance namely: **capital adequacy ratios, asset quality ratios, management efficiency ratios, earnings quality ratios and liquidity ratios**. All the required data have been collected through annual reports published by the selected banks and websites.

7. RESEARCH METHODOLOGY:

7.1 Data source: This research work is based on secondary sources data. Financial data is collected from annual reports of selected banks and other information used is collected from various websites, articles, Journals and books.

7.2 Period of the study: The study covers a period of five financial years i.e. from 2019-2024.

7.3 Sampling: For the in-depth analysis of the Profitability, select Private sector Banks were selected on the basis of their total assets for the five years.

7.4 Statistical tools: Various financial ratios under the five parameters of the CAMEL model were used to assess the banks' financial performance. These calculated ratios were ranked individually and then combined to determine an overall composite ranking.

7.5 Limitations of the study: No study can be free from Limitations. The Limitations of the Present study is as under:

- The study is based on secondary data. The data is collected from annual reports, Journals, Magazines and websites. So, Limitations of secondary data remain with it and also apply to this study.
- Due to time limitations, only a select few ratios were considered for the analysis using the CAMEL model, Therefore, data might not lack accuracy and reliability.

7.6 Methodology: The CAMEL framework is used to evaluate the financial stability of the banks under consideration. The parameters were chosen based on the availability of data and their relevance to the study. Table 1 outlines the selected parameters for each component of the CAMEL model.

Table 1: CAMEL Model components

Category	Variable	Significance	Criteria
Capital adequacy	Capital adequacy ratio	It is a measure of a bank's core capital, represented as a percentage of its risk-weighted assets.	The higher the ratio, the stronger the financial position.
	Tier I Capital	It is the amount a bank uses to function on a regular basis.	The minimum Tier 1 capital ratio under Basel III is 10.5% of a bank's risk-weighted assets (RWA).
	Tier II Capital	It is the additional amount, considered less stable than Tier I capital.	The minimum tier 2 capital ratio under Basel III is 2% of a bank's risk-weighted assets.
Asset Quality	The ratio of total advances to loans.	measures the risk associated with a bank's loans, investments, and other assets	A lower ratio indicates a stronger financial position.
	Gross NPAs to Gross Advances ratio	Gross NPAs are the total loans classified as non-performing as per RBI guidelines.	A lower ratio indicates a stronger financial position.
Management Quality	Credit - Deposit Ratio	It assesses how effectively management turns the bank's deposits into loans.	The higher the ratio, the stronger the financial position.
	Return on Equity	It shows how effectively the bank's investments generate income.	The higher the ratio, the stronger the financial position.
Earning Quality	Net Interest Margin	Measures the difference between interest earned on assets and interest paid on liabilities.	The higher the ratio, the stronger the financial position.
	Return on Assets	indicates the amount of profit generated from the bank's assets.	The higher the ratio, the stronger the financial position.
	he ratio of operating profit to total assets	measures the efficiency of a bank in generating profits from its assets.	The higher the ratio, the stronger the financial position.
Liquidity	Cash - Deposit Ratio	To determine the proportion of deposits that are converted into loans.	The higher the ratio, the stronger the financial position.

Quality	Investment - Deposit Ratio	It evaluates how effectively the management utilizes the bank's deposits for investments.	The higher the ratio, the stronger the financial position.
	Government Securities to total assets	It assesses the proportion of government securities compared to the bank's total assets.	The higher the ratio, the stronger the financial position.

8. RESULTS AND ANALYSIS:

8.1 CAPITAL ADEQUACY RATIO:

Table 2(a) reveals that HDFC Bank holds the top rank with the highest average CAR, while ICICI secures the second position.

Table 2(a): CAMEL Rating – CAPITAL ADEQUACY RATIO

Ratios	Bank/ Year	2020	2021	2022	2023	2024	Average	Rank
Capital adequacy ratio	**ICICI**	16.1	19.1	19.2	18.3	16.33	17.81	2
	HDFC	18.5	18.8	18.9	19.26	18.80	18.85	1
Tier I Capital	**ICICI**	14.72	18.06	18.35	17.60	15.60	16.87	2
	HDFC	17.23	17.56	17.87	17.13	16.79	17.32	1
Tier II Capital	**ICICI**	1.39	1.06	0.81	0.74	0.73	0.95	2
	HDFC	1.29	1.23	1.03	2.13	2.01	1.54	1

Based on the group average of three capital adequacy ratios presented in Table 2(b), ICICI Bank ranks first with a composite average of 11.88.

Table 2(b): COMPOSITE CAPITAL ADEQUACY RATIO

Bank/Ratios	Capital adequacy ratio		Tier I Capital		Tier II Capital		Composite	
	%	**Rank**	**%**	**Rank**	**%**	**Rank**	**Average**	**Rank**
ICICI	17.81%	2	16.87	2	0.95	2	11.88	1
HDFC	18.85%	1	17.32	1	1.54	1	12.57	2

8.2 ASSET QUALITY RATIO:

Table 3 reveals that holds the top position with the highest average ratios for term loans to total assets and Total Investment to Total Asset. Meanwhile, Axis Bank ranks highest in net NPA to net advances ratio.

Table 3(a): CAMEL Rating – ASSET QUALITY RATIO

Ratios	Bank/Year	2020	2021	2022	2023	2024	Average	Rank
Term loans	**ICICI**	**73.66**	**74.95**	78.24	82.50	83.47	78.56	2

to total advances	HDFC	**85.21**	**82.01**	85.16	83.49	96.84	86.54	1
Total Investment to Total Asset	**ICICI**	**22.72**	**22.86**	21.98	22.87	24.68	23.02	1
	HDFC	**25.60**	**25.40**	22.02	20.96	19.42	22.68	2
Net NPA to net advances	**ICICI**	**1.54**	**2.10**	0.81	0.51	0.45	1.08	2
	HDFC	**0.36**	**0.40**	0.32	0.27	0.33	0.34	1

Source: www.rbi.org.in

Based on the group average of three asset quality ratios presented in Table 3(b), HDFC Bank ranks first with a composite average of 36.52, while ICICI's lower performance in net NPA to advances contributed to its lower ranking.

Table 3(b): Composite asset quality ratio

Bank/Ratios	Term loans to total advances		Total Investment to Total Asset		Net NPA to net advances		Composite	
	%	Rank	%	Rank	%	Rank	Average	Rank
ICICI	78.56	2	23.02	1	1.08	2	34.22	2
HDFC	86.54	1	22.68	2	0.34	1	36.52	1

8.3 MANAGEMENT EFFICIENCY RATIO:

Table 4 presents the management efficiency ratios, indicating that HDFC Bank ranks first in this parameter with the highest average Credit Deposit ratio of 92.27 and ROE of 15.27.

Table 4(a): CAMEL Rating – Management Efficiency Ratio

Ratios	Bank/ Year	2020	2021	2022	2023	2024	Average	Rank
Credit - Deposit Ratio	**ICICI**	91.30	85.08	83.46	87.05	88.33	87.04	2
	HDFC	92.47	89.88	90.13	89.60	99.26	92.27	1
Return On Equity (ROE)	**ICICI**	6.99	11.21	13.94	16.13	17.37	13.13	2
	HDFC	15.35	15.27	15.39	15.74	14.62	15.27	1

Source: www.rbi.org.in

On the basis of group average of two ratios of management quality as presented in table 4(b) HDFC is ranked first with composite average of 53.77.

Table 4(b): Composite management efficiency ratio

Bank/Ratios	Credit – Deposit Ratio		Return On Equity		Composite	
	%	Rank	%	Rank	Average	Rank
ICICI	87.04	2	13.13	2	50.09	2
HDFC	92.27	1	15.27	1	53.77	1

8.4 EARNING QUALITY RATIO:

Table 5 highlights that HDFC Bank ranks first in earning quality, followed by ICICI. HDFC Bank's average earnings ratios—NIM, operating profits to total assets, and ROA—are 3.84,.36 and 1.76, respectively.

Table 5(a): CAMEL Rating – Earning Quality Ratio

Ratios	Bank/ Year	2020	2021	2022	2023	2024	Average	Rank
Net Interest Margin (NIM)	ICICI	3.24	3.36	3.60	4.16	4.31	3.73	2
	HDFC	4.05	3.96	3.77	3.83	3.57	3.84	1
Operating profits to total assets	ICICI	-0.77	-0.22	0.34	0.76	0.95	0.30	2
	HDFC	0.19	0.33	0.36	0.52	0.41	0.36	1
Return on Assets (ROA)	ICICI	0.72	1.31	1.65	2.01	2.18	1.57	2
	HDFC	1.71	1.78	1.78	1.78	1.77	1.76	1

Source: www.rbi.org.in

Based on the group average of three earnings quality ratios presented in Table 5(b), HDFC ranks first with a composite average of 1.99, as a higher earnings ratio indicates better financial performance for the bank.

Table 5(b): Composite earning quality ratio

Bank/Ratios	Net Interest Margin (NIM)		Operating profits to total assets		Return on Assets (ROA)		Composite	
	%	Rank	%	Rank	%	Rank	Average	Rank
ICICI	3.73	2	0.30	2	1.57	2	1.87	2
HDFC	3.84	1	0.36	1	1.76	1	1.99	1

8.5 LIQUIDITY QUALITY RATIO:

Table 6 reveals that HDFC Bank holds the top position with the highest average cash deposit ratio of 6.91. Meanwhile, ICICI ranks first in investment deposit ratio, with values of 54.78 respectively.

Table 6(a): CAMEL Rating – Liquidity Quality Ratio

Ratios	Bank/ Year	2020	2021	2022	2023	2024	Average	Rank
Cash – Deposit Ratio	ICICI	4.95	4.64	5.19	5.60	5.97	5.27	2
	HDFC	5.75	6.83	7.85	7.18	6.94	6.91	1
Investment – Deposit Ratio	ICICI	56.79	55.66	53.80	52.41	55.26	54.78	1
	HDFC	32.90	33.66	31.07	28.25	28.60	30.90	2

Source: www.rbi.org.in

On the basis of group average of three ratios of liquidity quality as presented in table 6(b) ICICI bank is ranked first with composite average of 30.02 as higher the liquidity ratio, better it is for the bank.

Table 6(B): Composite Liquidity Quality Ratio

Bank/Ratios	Cash – Deposit Ratio		Investment – Deposit Ratio		Composite	
	%	Rank	%	Rank	Average	Rank
ICICI	5.27	2	54.78	1	30.02	1
HDFC	6.91	1	30.90	2	18.91	2

9. OVERALL PERFORMANACE (COMPOSITE RANKING) OF SELECT BANKS :

Table 7: Overall Ranking of Selected Public and Private Sector Banks

Bank/Ratios	C	A	M	E	L	Average	Rank
ICICI	1	2	2	2	1	1.6	1
HDFC	2	1	1	1	2	1.4	2

The above table represents the final evaluation of CAMEL model ranking for selected private banks. The overall composite rank values from each parameter are written. ICICI bank shows better ranking in capital adequacy and liquidity, while near to poor ranking in Asset quality, management efficiency and earning quality. HDFC bank shows average ranking in Asset quality, management efficiency and earning quality, on the other side lower ranking in capital adequacy and liquidity. The overall ranking of CAMEL model for private sector denotes that ICICI bank was good performer.

10.CONCLUSION:

Reserve bank of India adopted CAMEL rating system in 1996 along with other existing techniques and procedures in order to evaluate the performance of the banks. The present study analyse the performance of two private sector banks on the basis of CAMEL model.

The presentation assay of banking institution with the help of CAMEL framework has helped a lot to reveal the credit worthiness of banking sectors. Through Camel approach and Weighted Average of all 5 elements of Camel model, we could conclude that ICICI bank performed well in Ranking as Compared to HDFC bank in ranking.

The Indian banking sector is the pillar of its economy as it is the core part of financial systems. Banks ensures the saving and investing, risk management services, liquidity of nation, credit generation, promoting of entrepreneurship and economic development. For all these roles banks should be needed proper financial functioning, stable and smooth running. All these criteria can be measured with the help of CAMEL model.

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