

FINANCIAL PERFORMANCE ANALYSIS OF SELECTED PRIVATE AND PUBLIC SECTOR BANKS IN INDIA THROUGH CAMEL MODEL APPROACH

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Abstract

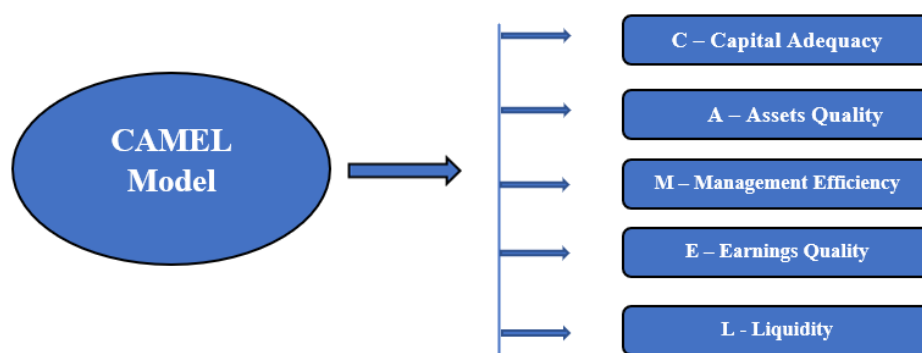
As a country's financial system depends upon the financial soundness of banking industry, it is very much essential to measure it. The main aim of this research work was to check and compared the financial performance of private sector and public sector banks with the help of CAMEL Model. The duration of this work was five financial years from 2018-2019 to 2022-2023. Ten banks from both private sector and public sector were selected as a sample of this research work and these were selected based on higher market capitalization. CAMEL model helped to measure the efficiency of bank from each of the significant parameter, which are Capital Adequacy, Assets Quality, Management Efficiency, Earning Quality & Liquidity. To measure these five parameters, total 17 ratios were used. As per the findings of CAMEL model, private sector banks show best performance in Kotak Mahindra Bank whereas poor performance in ICICI Bank. While in public sector banks the performance was good in BOB and poor in Union Bank. The overall ranking of CAMEL model represents good performance for BOB and Poor ranking for ICICI Bank.

Keywords: CAMEL Model, Efficiency, Financial Position, Indian Banks

INTRODUCTION

The banking sector is the backbone of any country's economy and banks occupy the prime position in financial system by virtue of the substantial role they play in economic growth by undergoing transformations and supporting the critical payment systems. In the wake of recurring bank failures and consequent financial crisis from the last two decades, the authorities across the globe have tried to limit the impact of bank failures and provided safety nets in the form of deposit, insurance and liquidity support by governments/central banks. 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:



LITERATURE REVIEWS

(Rohit Bansal, 2013) have done research work on “A Study on Financial Performance of Commercial Banks in India: Application of Camel Model”. Five commercial banks viz., Kotak Mahindra, ICICI, Axis, HDFC and State Bank of India have been selected as a sample of the work. The study period was from year 2007 to 2012. Various ratios were calculated with the help of CAMEL model. From the results of ratios, the ranking was given to the selected five banks and based on the overall performance HDFC was ranked 1st, SBI as 2nd, Kotak Mahindra as 3rd, ICICI as 4th and Axis as 5th.

(Vijay Hemant Sonaje, 2017) have done “Financial Performance Analysis of Selected Banks using CAMEL Approach”. Twelve banks were taken as a sample of this work and study period was five years from 2013 to 2017 were selected for this research work. Based on the various CAMEL parameter, it was observed that HDFC Bank and Kotak Bank were the top performers whereas Punjab National Bank and State Bank of India were at the bottom.

(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 i.e. State Bank of India from public sector & Axis Bank from private sector. 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.

Although many studies based on the CAMEL model revealed performance of different banks, but it is always necessary to evaluate them continuously, so as to monitor the effectiveness and ensure the true financial position

RESEARCH METHODOLOGY

3.1 Objectives of the Study:

1. To study the financial performance of selected banks by using CAMEL model.
 - To check the **capital adequacy** of selected banks
 - To analyze the **asset quality** of selected banks
 - To evaluate the **management efficiency** of selected banks
 - To determine the **earnings quality** of selected banks
 - To identify the **liquidity position** of selected banks
2. Give rank to selected banks based on performance and efficiency.

3.2 Period of the Study:

This research work is done for the duration of the 5 financial years from 2018-19 to 2022-23.

3.3 Sampling Design:

All the private sector and public sector banks listed on BSE as on 09/11/2023 are considered as population of the research work. Out of the population, 10 banks (05 banks from private sector and 05 banks from public sector) are taken on the basis of higher market capitalization and the purposive sampling technique of non-probability sampling method is used. The selected banks for this research work are as follows:

Table No.:1
Selected Sample Banks

Sr. No.	Selected Banks	Market Capitalization
1.	Private Banks: HDFC Bank	929,752.54 cr.
2.	ICICI Bank	610,762.22 cr.
3.	Kotak Mahindra Bank	349,097.59 cr.
4.	Axis Bank	262,102.80 cr.
5.	IndusInd Bank	84,161.35 cr.
6.	Public Banks: State Bank of India	471,174.88 cr.

7.	Bank of Baroda	86,284.18 cr.
8.	Panjab National Bank	51,971.99 cr.
9.	Canara Bank	45,840.65 cr.
10.	Union Bank	43,286.52 cr.

3.4 Scope of the Study:

Functional scope of this work is to analyse and compare the financial performance of selected banks by using CAMEL model. In this study ten banks are selected which provides banking services in India. So, India is considered as geographical criteria for this research work.

3.5 Data Collection:

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.

3.6 Tool & Technique of Data Analysis:

Different ratios under 05 parameters of CAMEL model are used to check the financial performance of banks. The calculated ratios are then ranked and further they are used for composite ranking.

FINDINGS AND ANALYSIS

Financial conditions of banks are periodically assessed by regulators, analysts and investors. Banks are evaluated on various parameters, founded on financial and non-financial performance. The one of the popular tools to evaluate banks performance is CAMEL model. In CAMEL model rating system both objective and subjective parameters are included. The parameters used in CAMEL model are capital adequacy, asset quality, management efficiency, earning quality and liquidity.

4.1 Capital Adequacy:

Capital Adequacy indicates whether the bank has enough capital to absorb unexpected losses. It is required to maintain depositors' confidence and preventing the bank from going bankrupt. Capital Adequacy indicates whether the bank has enough capital to absorb unexpected losses. It is required to maintain depositors' confidence and preventing the bank from going bankrupt. Capital Adequacy indicates whether the bank has enough capital to absorb unexpected losses. It is required to maintain depositors' confidence and preventing the bank from going bankrupt. Capital Adequacy indicates whether the bank has enough capital to absorb unexpected losses. It is required to maintain depositors' confidence and preventing the bank from going bankrupt. Capital adequacy specifies if the bank has sufficient capital to absorb unanticipated losses or not. It's required to sustain confidence of depositors and preventing the bank from going bankrupt. The following ratios are selected to check capital adequacy:

Name of Ratios	Formula of Ratios
Capital Adequacy	$= \frac{\text{Tier I capital} + \text{Tier II capital}}{\text{Risk weighted assets}} \times 100$
Debts to Equity	$= \frac{\text{Total Debts}}{\text{Total Shareholder's equity}} \times 100$
Advances to Total Assets	$= \frac{\text{Advances}}{\text{Total Assets}} \times 100$

Table No.: 2
Capital Adequacy (C) Ratios of Selected Banks

Ratios	Private Banks					Public Banks				
	HDFC	ICICI	Kotak	Axis	IndusInd	SBI	BOB	PNB	Canara	Union
Capital Adequacy	17.66	17.86	19.66	17.61	16	13.34	13.94	12.59	13.37	12.8
Debts to Equity	0.84	1.18	0.58	1.97	1.46	1.60	1.25	0.82	0.97	1.30
Advances to Total Assets	64.73	59.67	62.49	62.50	63.64	56.62	60.19	56.28	58.14	57.47
Composite C	27.74	26.24	27.58	27.36	27.08	23.85	25.13	23.23	24.16	23.86
Rank	1	5	2	3	4	4	1	5	2	3

(Source: Calculated from Published Annual Reports of Selected Banks)

The above table shows average of the capital adequacy ratios of five private and public sector banks. The average was calculated for five years period 2018-19 to 2022-23. As per capital adequacy ratio Kotak Mahindra Bank was showing 19.66% ratio as maximum average in private sector while Bank of Baroda shows maximum average of 13.94% in public sector. Whereas in debt-to-equity ratio, performance of Axis was healthier in selected private sector banks and performance of SBI was healthier in selected public sector banks. Advances to total assets ratio shows higher rate in HDFC and BOB. As per the overall performance of these ratios HDFC ranked first in private sector and BOB ranked first in public sector. On the other hand, ICICI and PNB shows poor performance.

4.2 Assets Quality:

The assets quality is one of the important parameters to study the degree of financial strength. The key objective to measure the assets quality is to learn the composition of non-performing assets (NPAs) in proportion of total assets. Ratios selected to measure assets quality are as follows:

Name of Ratios	Formula of Ratios
Net NPA to Total Asset	$= \frac{\text{Non Performing Assets}}{\text{Total Assets}} \times 100$
Net NPA to Net Advances	$= \frac{\text{Non Performing Assets}}{\text{Net Advances}} \times 100$
Total Investment to Total Asset	$= \frac{\text{Total Investment}}{\text{Total Assets}} \times 100$

Table No.: 3
Asset Quality (A) Ratios of Selected Banks

Ratios	Private Banks					Public Banks				
	HDFC	ICICI	Kotak	Axis	IndusInd	SBI	BOB	PNB	Canara	Union
Net NPA to Total Asset	0.24	1.34	0.54	1.38	0.51	2.70	3.35	4.45	2.82	3.37
Net NPA to Net Advances	1.01	2.26	0.86	2.21	0.79	7.23	2.01	6.81	4.71	5.81
Total Inv. to Total Asset	23.83	22.44	23.77	21.03	20.06	28.60	23.41	28.13	25.18	27.77
Composite A	8.36	8.68	8.39	8.21	7.12	12.84	9.59	13.13	10.90	12.32
Rank	3	5	4	2	1	4	1	5	2	3

(Source: Calculated from Published Annual Reports of Selected Banks)

The information represented above was representation of average of asset quality ratios for five years 2018-19 to 2022-23. Five private banks and five public banks were considered here. Net NPA to total assets ratio shows poor performance in Axis and PNB. The average result of net NPA to net advances ratio displays better performance in IndusInd bank 0.79% and in BOB 2.01%, as it represents the lower ratios. IndusInd and BOB ranked higher in total investment to total asset ratio. The composite result of asset quality ratios shows higher rank in IndusInd and BOB. The lowest rank was assigned to ICICI and PNB.

4.3 Management Efficiency:

It is capacity of the management to find, analyze and manage the risk. To evaluate the effectiveness and efficiency of management is a subjective matter. The ratios taken to measure management efficiency are as follows:

Name of Ratios	Formula of Ratios
Business per Employee	$= \frac{\text{Total deposits and advances}}{\text{Number of employees}} \times 100$
Profit per Employee	$= \frac{\text{Net profit}}{\text{Number of employees}} \times 100$
Return on Assets	$= \frac{\text{Net Income}}{\text{Total Assets}} \times 100$
Return on Equity	$= \frac{\text{Net income}}{\text{Shareholder's wealth}} \times 100$

Table No.: 4
Management Efficiency (M) Ratios of Selected Banks

Ratios	Private Banks					Public Banks				
	HDFC	ICICI	Kotak	Axis	IndusInd	SBI	BOB	PNB	Canara	Union

Business per Employee	3.70	2.20	3.96	2.05	2.52	1.19	0.58	2.96	0.55	0.45
Profit per Employee	18.31	29.48	31.98	33.59	21.33	22.67	14.79	11.86	8.45	1.05
Return on Assets	1.73	0.86	1.97	0.55	1.25	0.30	0.13	-0.45	-0.016	-0.3
Return on Equity	15.48	8.87	12.31	5.83	11.53	5.78	1.98	-9.15	-0.29	-6.41
Composite M	9.81	10.34	12.56	10.51	9.16	7.49	4.37	1.31	2.17	-1.30
Rank	4	3	1	2	5	1	2	4	3	5

(Source: Calculated from Published Annual Reports of Selected Banks)

Table 4 is representation of management efficiency ratios of selected private and public banks for the duration of 2018-19 to 2022-23. Business per employee ratio shows very high average performance in Kotak Mahindra bank in private sector. This ratio was higher in PNB but in compare to private banks it was low. Profit per employee ratio was higher in Axis bank and SBI. The highest return on assets ratio was shown in Kotak Mahindra bank and SBI. Return on equity ratios' performance was better in HDFC as private bank and in SBI as public bank. The overall management efficiency was good in Kotak Mahindra bank as it ranked first in private sector. In public sector SBI ranked first in management efficiency.

4.4 Earning Quality:

The earning quality is key criterion to determine the capacity of bank to earn constantly. It basically determines the profitability of bank and explains sustainability and growth in earnings with future perspective. The ratios taken to measure earning quality are as below:

Name of Ratios	Formula of Ratios
Operating Profit	$= \frac{\text{Operating profit}}{\text{Total income}} \times 100$
Net Interest	$= \frac{\text{Interest earned} - \text{Interest paid}}{\text{Total income}} \times 100$
Net Profit	$= \frac{\text{Net profit after interest and taxes}}{\text{Total income}} \times 100$

Table No.: 5
Earning Quality (E) Ratios of Selected Banks

Ratios	Private Banks					Public Banks				
	HDFC	ICICI	Kotak	Axis	IndusInd	SBI	BOB	PNB	Canara	Union
Operating Profit Margin	3.29	-62.15	-33.41	-16.34	-9.31	-30.42	-15.10	-23.65	-25.9	-21.47
Net Interest Margin	3.83	2.81	3.92	2.79	3.59	2.47	2.46	2.17	2.06	2.15
Net Profit Margin	23.66	17.12	27.90	8.94	15.37	5.48	2.31	7.49	-0.76	-4.16
Composite E	10.26	-14.07	-0.53	-1.54	3.22	-7.49	-3.44	-4.66	-8.2	-7.83
Rank	1	5	3	4	2	3	1	2	5	4

(Source: Calculated from Published Annual Reports of Selected Banks)

The data shown in above table are ratios of earning quality of selected private and public banks. These ratios are the average of individual ratio for five years period 2018-19 to 2022-23. Operating profit ratio was negative in all selected banks except HDFC. Still the better performance in public sector banks was shown in BOB because of minimum negative margin. Net interest margin was higher in Kotak Mahindra and SBI. Difference of net profit margin between private banks and public banks was very vast. The highest net profit margin for private banks was there in Kotak Mahindra. In public sector banks the highest net profit margin was shown in PNB. The overall earning quality was best in HDFC in compare to all other selected banks. BOB ranked first in public sector banks with the minimum negative earning capacity.

4.5 Liquidity:

Liquidity has substantial impact on financial accuracy and evaluates the operational performance of a bank. It shows the capacity of bank to repay its short-term debts and face unpredicted withdrawals of depositors. Ratios used to measure banks liquidity are as follows:

Name of Ratios	Formula of Ratios
Credit Deposit	$= \frac{\text{Total advances}}{\text{Total deposits}} \times 100$

Current	$= \frac{\text{Current assets}}{\text{Current liabilities}}$
Liquid Assets to Total Assets	$= \frac{\text{Liquid Assets}}{\text{Total Assets}} \times 100$
Liquid Assets to Deposit	$= \frac{\text{Liquid Assets}}{\text{Total deposit}} \times 100$

Table No.: 6
Liquidity (L) Ratios of Selected Banks

Ratios	Private Banks					Public Banks				
	HDFC	ICICI	Kotak	Axis	IndusInd	SBI	BOB	PNB	Canara	Union
Credit Deposit	90.8	90.83	100.98	90.47	92.25	71.61	71.78	67.73	68.54	69.10
Current	0.05	0.10	0.06	0.11	0.084	0.08	0.05	0.05	0.06	0.05
Liquid Assets to Total Assets	7.59	10.29	10.08	7.83	6.01	6.86	10.98	10.05	4.94	4.67
Liquid Assets to Deposit	10.13	14.56	13.86	11.5	8.67	8.31	13.35	11.69	5.8	5.52
Composite L	27.14	28.95	31.24	27.48	26.75	21.67	24.04	22.38	19.84	19.84
Rank	4	2	1	3	5	3	1	2	4.5	4.5

(Source: Calculated from Published Annual Reports of Selected Banks)

Table no 6 shows liquidity ratios of selected private and public banks for five years period 2018-19 to 2021-23. Credit deposit ratio was more than 100% in Kotak Mahindra bank with highest rank. This ratio was very near to each other around 71% in SBI and BOB, but BOB was ranked highest. Liquid assets to total assets ratio was higher in ICICI and BOB. Liquid assets to deposits ratio was also higher in ICICI with 14.56% and in BOB with 13.35%. The overall position in liquidity of selected private banks Kotak Mahindra Bank ranked first. In selected public banks BOB ranked first.

4.6 Camel Model Ranking:

Table No.: 7
CAMEL Model Ranking for Selected Private and Public Banks

Particulars	Private Banks					Public Banks				
	HDFC	ICICI	Kotak	Axis	IndusInd	SBI	BOB	PNB	Canara	Union
Rank for C	1	5	2	3	4	4	1	5	2	3
Rank for A	3	5	4	2	1	4	1	5	2	3
Rank for M	4	3	1	2	5	1	2	4	3	5
Rank for E	1	5	3	4	2	3	1	2	5	4
Rank for L	4	2	1	3	5	3	1	2	4.5	4.5
Composite	2.6	4	2.2	2.8	3.4	3	1.2	3.6	3.3	3.9
Rank	2	5	1	3	4	2	1	4	3	5
Overall Rank	3	10	2	4	7	5	1	8	6	9

The above table represents the final evaluation of CAMEL model ranking for selected private and public banks. The overall composite rank values from each parameter are written. HDFC bank shows better ranking in capital adequacy and earning quality, while near to poor ranking in management efficiency and liquidity. ICICI bank shows average ranking in management efficiency and liquidity, on the other side lower ranking in asset quality, capital adequacy and earning quality. Kotak Mahindra bank shows best performance in management efficiency and liquidity, while in other parameters the performance was average. Axis bank shows average performance in all the parameters of CAMEL model except to earning quality, in which the performance was near to poor. IndusInd bank shows highest rank in asset quality and lowest rank in management efficiency and liquidity.

SBI shows first rank in management efficiency, while in capital adequacy and asset quality the performance was near to poor and average performance was in earning quality and liquidity. BOB shows marvellous performance in all the parameters as it ranked first in capital adequacy, asset quality, earning capacity, liquidity and in management efficiency it was ranked second. PNB shows poor performance in capital adequacy and assets quality also in management efficiency it was near to poor. Canara bank shows poor performance in earning quality and liquidity, while in other parameters the performance was average. Union bank shows poor performance in management efficiency and liquidity also near to poor performance in earning capacity. The performance of Canara bank and Union bank were same in liquidity but it was lowest ranked.

The overall ranking of CAMEL model for private sector denotes that Kotak Mahindra bank was good performer because it ranked first, HDFC and Axis bank were average performer and IndusInd was near to poor performer, while ICICI was poor performer. In the ranking for public sector banks BOB was ranked first, SBI ranked second

and Canara ranked third, PNB ranked fourth and Union ranked fifth. In the combined ranking for private and public sector banks for CAMEL model represents BOB as the highest ranked bank and ICICI as the lowest ranked bank.

CONCLUSION

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. In this study all the parameters of CAMEL model are measured with calculating 17 different ratios for the duration of 2018-19 to 2022-23. On the bases of this ratio average is calculated and ranking to the banks are given separately for private banks and public banks as well as also combined ranking are given. The result of private banks shows best performance in Kotak Mahindra Bank and poor performance in ICICI bank. While in public banks the performance was good in BOB and poor in Union Bank. The overall ranking of CAMEL model represents good performance for BOB and Poor ranking for ICICI bank.

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