



# **ANALYSIS OF BANK PERFORMANCE USING CAMEL MODEL -WITH SPECIAL REFERENCE TO FEDERAL BANK LTD - AN EMPIRICAL EVIDENCE**

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## **ABSTRACT**

These days, having an account with the top bank in India is a need for everyone with money. People are also less likely to be without a bank account now that the government of India has implemented the Pradhan Mantri Jan Dhan Yojna, a programme to increase access to banking services. But are you familiar with the largest banks in India, or with public sector banks in particular? In that case, you need not be concerned; we will provide you with extensive information on some of the finest banks in India, including the top ten public and private banks in the country, as well as details about the banking products offered by each. Businesses in today's cutthroat global economy need to present themselves as models of social responsibility if they want to succeed. Companies want expansion via globalisation, and they get a competitive edge in achieving this aim when they actively participate in socially beneficial programmes. Companies with a global presence are generally compelled to have a substantial impact on social concerns in each country where they operate. Failing to do so may result in massive financial losses due to government rules, environmental limitations, labour exploitation, and other related issues. An essential tool for evaluating the performance of financial institutions and banks and suggesting improvements where needed is the CAMEL model. Based on their total assets, this research takes into account ten different types of Indian banks: five public and five private. The five-year span from 2017 to 2022 is included in this research. The current research looks at how well the chosen banks have done financially. Creditworthiness, Asset Quality, Management Effectiveness, Earnings Capacity, and Liquidity are the five CAMEL metrics used to evaluate the financial institutions. Kotak Mahindra outperformed all other banks and came out on top, while Punjab National Bank came in last, according to the survey. All things considered, private banks have done better than their public sector counterparts. The purpose of this paper is to use the CAMEL model to recognize the presentation of Federal Bank Ltd.

**KEYWORDS:** Financial Performance, CAMEL Model, Federal Bank Ltd, Profitability.

**JEL CODES:** G1, F21, F43, O43, O47.

## **1. INTRODUCTION**

There are certain rates set by the central bank which every bank has to follow and maintain. The interest rate that commercial banks typically charge their most creditworthy clients is known as the Benchmark Prime Lending Rate (BPLR). As per RBI rates earlier banks were free to fix their BPLR for their credit limits. But due to some circumstances and the consequences faced by the banks and public, to bring the transparency in the lending rates RBI has introduced modified rate called as base rate. The base rate is the floor below which all bank loans must be priced. Banks cannot charge less than the base rate. On July 1, 2010 BPLR has been replaced by base rate. The base rate calculations were more transparent which were not with the case of benchmark prime lending rate.

The Reserve Bank of India mandates that all Indian banks keep a certain amount of money on hand as a reserve. The capacity of the bank to inject more funds into the economy is constrained by the Capital Reserve Ratio. Four percent is the current CRR rate. Some non-cash fluid resources, like valuable metals or other approved protections, must be on hand at all times for banks. Bank solvency is ensured by the employment of Statutory Liquidity, which limits the increase of bank credit. The current rate of SLR is 19.5%. The Reserve Bank of India (RBI) loans money to all banks at a short-term rate called the repo rate, which is also called the benchmark interest rate. The cost of borrowing money from the Reserve Bank of India will rise in tandem with this rate. The Reserve



Bank of India (RBI) may raise the cost of borrowing money for banks by raising the repo rate. The repo rate is now 6.25 percent. For short-term borrowings, the Reserve Bank of India (RBI) utilizes the Converse Repo rate. As opposed to the Converse Repo rate, which demonstrates the rate at which the national bank pulls out assets from banks, the Repo rate shows the rate at which the Hold Bank of India (RBI) injects funds into the banking system.

The nation's monetary authority oversees the flow of money in the country via monetary policy. To keep up with value strength and public confidence in the money, the process of regulating the cost of very short-term borrowing is generally aimed at a certain rate, such as inflation or interest. One way to describe monetary policy is as expansionary or contractionary. A number of factors are taken into account when making monetary policy decisions, including interest rates both short- and long-term, currency exchange rates, credit quality, the velocity of money through the economy, bonds and stocks, public and private sector expenditure and savings, financial derivatives such as contracts, futures, options, and swaps, and large-scale international capital flows.

The proportion of a bank's non-performing assets is a key performance indicator. According to the NPA ratio and other ranking systems, the banks that have a lower proportion of nonperforming assets are doing better. Loans that are not current or have not been paid as agreed upon are categorised as nonperforming assets (NPAs) in the accounts of financial institutions. Most loans have a ninety-day grace period before they are considered non-performing; however, this grace period might be shorter or longer depending on the specifics of each loan.

## 2. REVIEW OF LITERATURE

- ❖ **Mishra Ashwini Kumar (2022):** This article used econometric analysis to calculate and determine numerous elements influencing and defining the two types of Indian banks, 12 of which were public and 12 of which were private, during the course of 11 years, from 2000 to 2011. He has ranked the banks utilizing CAMEL model - found that private area banks are heading towards convergence.
- ❖ **Mukund Sharma (2022):** In his work, this writer states that the goal of the CAMEL system is to identify potential issues before they ever arise. Using the Friedman and Mann-Whitney tests, he determined that private banks were better at making use of resources like flies, and that banks with higher investment ratios in government securities had lower gross and net non-performing assets.
- ❖ **Subendra Dutta (2021):** Using backward multiple regression analysis, this paper identifies the most important determinants affecting the return on assets of public sector banks, which in turn affected the country's economic development. There was no autocorrelation, and he discovered that NPA adversely affected RoA utilizing the Durbin-Watson measurement.
- ❖ **Nandhini (2020):** revealed a measurably massive contrast in the CAMEL proportions of six Indian public area banks after studying the behaviour and consistency of the model's parameters over five years using ratio analysis.
- ❖ **Geeta Sharma (2020):** compared the efficiency of public and confidential banks utilizing the CAMEL framework and found that the latter were more successful. Public sector banks have room to grow in two key areas: asset quality and the effectiveness of their management.
- ❖ **Srinivasan (2020):** This paper used analysis of variance (ANOVA) to look at the locations of 51 different banks (both domestic and international) in India from 2012 to 2014. The results showed that the CAMEL ratios of these different banks were significantly different from one another.
- ❖ **Apoorva Trivedi (2019):** All of the top public and confidential banks in India have capital sufficiency levels that are close to what is needed, according to the article's analysis of their comparative performance. Proper management of a bank's assets and liabilities is crucial to ensuring sufficient capital and loan allowance, which in turn determines the bank's profits potential.
- ❖ **Khatik (2019):** Using a one-way analysis of variance (ANOVA) classification model, this article found that five nationalised banks were significantly different in terms of performance and soundness.
- ❖ **"Ruchi Gupta" (2018):** This study used the CAMEL model to evaluate the field position and execution of India's public area banks, and the results showed that these institutions were performing differently from private ones.
- ❖ **Anju Sharan (2018):** This paper has argued that the banking sector's sustainability, competitiveness, and healthy expansion should be considered alongside profits and the quality of earnings. The research concluded that financial institutions could boost interest and non-interest revenue by making better use of their resources and enhancing their operational efficiency.

## 3. STATEMENT OF THE PROBLEM

This research employs the CAMEL framework in an effort to quantify the fiscal health of Afghanistan's public sector banks during a four-year period (2014–2017). A company's liquidity, resource quality, the executives sufficiency, income quality, and capital ampleness are all parts of the CAMEL acronym. Out of four Afghan public sector banks, I have selected three to carry out the assignment. Next, we use a number of ratios to analyse the chosen banks' financial statements over a four-year period (2014–2017).



The ineffectiveness of the majority of Afghan banks has led to the current crisis of default culture poor the country's banking system. More important than any other factor influencing a bank's success is the management team's capacity to develop and execute effective strategies. Bank management may find this study's conclusions useful in enhancing their financial performance and developing

#### 4. RESEARCH GAP

Receiving deposits and lending those funds to people and companies in need is the fundamental role of every bank, whether it is a public or private sector institution. Most people across the globe associate banks with reliability and security. No matter how little the sum, every Indian citizen can be certain that their money is safer in India's nationalised banks than it would be anyplace else. The best banks in India will assist you in finding a safe haven for your savings, where you may receive interest on your investment. From 2017 to 2022, this research is conducted over a five-year period. For this analysis, we looked at the Total Assets of the main public and confidential banks in the country.

#### 4. RESEARCH QUESTIONS

- ❖ How the public banks are competing with each other?
- ❖ In the research, how did the chosen banks fare?
- ❖ How may banks' performance be enhanced?
- ❖ State-owned financial institutions in India

#### 5. OBJECTIVES OF THE STUDY

- ❖ To analyse how Federal Bank Ltd's financial performance in India has an effect.
- ❖ To evaluate Federal Bank Ltd using the CAMEL Model and place it in a ranking.

#### 6. HYPOTHESES OF THE STUDY

**H0:** There is no Impact of financial performance of Federal Bank Ltd in India.

**H1:** There is an Impact of financial performance of Federal Bank Ltd in India.

#### 7. RESEARCH METHODOLOGY

- ❖ **Sources of Data:** Secondary data came from 10 public sector banks' annual reports. For the sake of further investigation and confirmation, [www.moneycontrol.com](http://www.moneycontrol.com) was consulted. Prior to being used for the research, the data underwent certain basic mathematical processes, such as calculating the ratios.
- ❖ **Period of the Study:** The time frame of the research is five years, from 2017 to 2022. For this reason, PSBs, or public sector banks, have supported the Indian economy throughout its history. Public sector banks have played a pivotal role since their nationalisation in a variety of initiatives, including zero-balance accounts for the country's lower-middle class and government programmes like Jan Dhan etc. The NPCI and PSBs also made digital transactions simpler during the COVID-19 epidemic.

#### 8. LIMITATIONS OF THE STUDY

- ❖ Just five picked public and confidential area banks in India are remembered for this analysis.
- ❖ The banks' financial statements, which may have been manipulated, are the only basis for this analysis.
- ❖ This research will only last for a period of five years.

#### 9. SCOPE OF THE STUDY

The goal of this exploration is to evaluate how well the Indian banking sector is doing. Banks' performance is evaluated and studied via the use of CAMEL model ratios.

SI No	Bank Name	Headquarter	Tag Line
1	Federal Bank Ltd Ltd	Mumbai	Your Perfect Banking Partner

#### 10. RESULT AND DISCUSSION

**Adequacy of Capital (C):** Banks and other financial organisations are required by law to maintain certain minimum capital reserves. The examination of capital trends is used to determine this. A better grade is contingent upon financial institutions' adherence to dividend and interest regulations.

**Asset Quality (A):** The credit risk of an asset is determined by this study or appraisal. One way to verify this is by comparing the investments' book value to their fair market value. A good indicator of this is how well the bank's investing strategies and policies work.



**Management Efficiency (M):** What this means is that the bank can handle its financial stress in the right way. This aspect is shown by the limit of the administration to distinguish, measure, screen, and control the risks associated with the institution's day-to-day operations.

**Earnings Ability (E):** How well an organisation can generate enough profit to grow, stay competitive, and attract new investors is what this term alludes to.

**Liquidity (L):** It measures the ability of the institution to convert assets to cash easily depending on short term financial resources.


**Table 1. Description of CAMEL parameters**

Category	Ratios	Formula	Significance	Evaluation Criteria
Capital Adequacy	CAR	Tier-1 and Tier-2 Capital/Aggregate of Risk Weighted Assets (RWA)	It measures the bank's ability in absorbing the losses arising from the risk assets	Higher the ratio Better is the financial condition of the bank
	Debt/Equity Ratio	(Deposits + Borrowings + Other liabilities)/ (Capital + Reserves)	It indicates the bank's financial leverage	Lower the ratio Better it is
	Coverage Ratio	(Net Worth-Net NPAs)/ Total Assets	It indicates the availability of capital to meet any incidence of loss assets in NPAs	Higher the ratio Better it is
Asset Quality	Net NPA/Net Advances Ratio	NPAs/Net Advances	It indicates the level of NPAs in the net advances	Lower the ratio Better it is
	Govt Securities/Investment Ratio	Government Securities/ Total Investments	It indicates the bank's strategy: High profits=High risk or Low profits=Low risk	Higher the ratio Safer it is
	Standard Advances/Total Advances Ratio	Standard Advances (Net of Total Assets and Gross NPAs)/ Total Advances	It indicates higher earnings if the bank assets are highly performing	Higher the ratio Better it is
Management Quality	Total Advances/Total Deposits Ratio	Total Advances/Total Deposits	It indicates the bank's ability to convert its deposits into higher earning advances	Higher the ratio Better it is
	Business per Employee	Total Advances and Total Deposits/No of Employees	It measures whether the bank is relatively over or under staffed	Higher the ratio Better it is
	Profit per Employee	Profit/No of Employees	It measures the efficiency of the bank's employees in maximizing the profits	Higher the ratio Better it is




Earnings Ability	Return on Assets	Net Profit after tax/Total Assets	If indicates the returns earned from the assets of the bank	Higher the ratio Better it is
	Income Spread/Total Assets Ratio	Interest Income Earned-Interest expended)/ Total Assets	If indicates how much a bank can earn for every rupee of investments made in assets	Higher the ratio Better it is
	Operating Profit/Total Assets Ratio	Operating Profit/Total Assets	If indicates the bank's ability to earn after meeting its operating expenses for the investments made in assets	Higher the ratio Better it is
	Cost/Income Ratio	Operating Expenses/Net Income	If indicates the bank's ability to meet its operating expenses from revenue generated	Lower the ratio Better it is
Liquidity	Cash Asset/Total Assets Ratio	Cash Asset/Total Assets	If measures cash in proportion to total assets	Higher the ratio Better it is
	Govt Securities/Total Assets Ratio	Govt Securities/Total Assets	If measures govt securities in proportion to total assets	Higher the ratio Better it is
	Liquid Assets/ Total Deposits Ratio	Liquid Assets/ Total Deposits	If indicates the bank's ability to meet its deposit obligations with available liquid funds	Higher the ratio Better it is


**Table 2. Ranking under Capital Adequacy Parameter of Your Perfect Banking Partner**



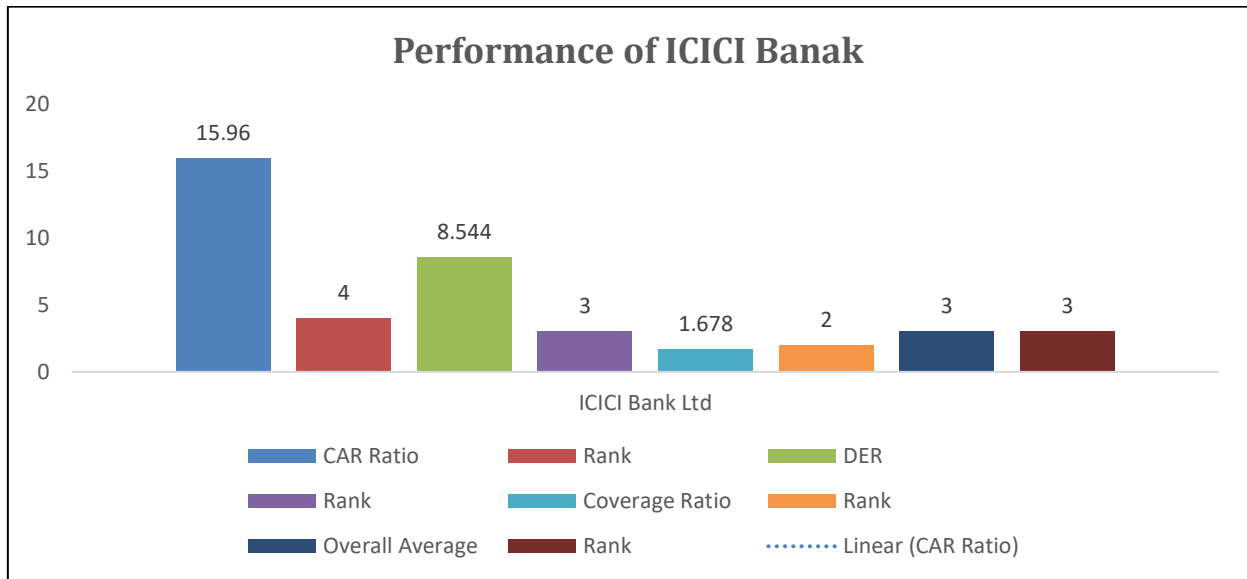
**Capital Adequate Ratio (CAR) Formula**

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$$\frac{(\text{Tier 1 Capital} + \text{Tier 2 Capital})}{\text{Risk Weighted Assets}}$$


Banks	CAR Ratio	Rank	DER	Rank	Coverage Ratio	Rank	Overall Average	Rank
Federal Bank Ltd Ltd	15.96	4	8.544	3	1.678	2	3.00	3



From the above table and graph, it is interpreted that Industrial Credit and Investment Corporation of India Bank (ICICI) shows the Capital Performance is 15.96 and the rank is 3. Overall Performance of the Federal Bank Ltd is good.

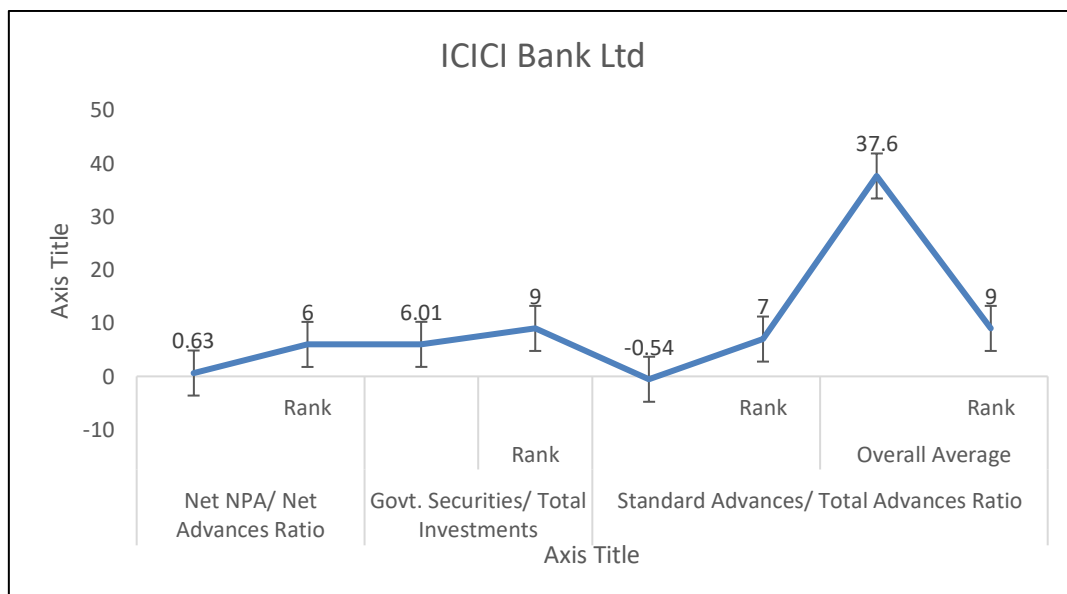
**Table 3. Ranking under Asset Quality Parameter of Your Perfect Banking Partner**

**NNPA Formula**

$$\text{NNPA Ratio} = \frac{\text{Total NNPA}}{\text{Total Advances}}$$

NNPA = NPA minus the provision made by the bank

Name of the Bank	Net NPA/ Net Advances Ratio	Rank	Govt. Securities/ Total Investments	Rank	Standard Advances/ Total Advances Ratio	Rank	Overall Average	Rank
Federal Bank Ltd Ltd	0.63	6	6.01	9	(0.54)	7	37.6	9





From the above table and graph, it is interpreted that Industrial Credit and Investment Corporation of India Bank (ICICI) shows the Capital Performance is 15.96 and the rank is 3. Overall Performance of the Federal Bank Ltd is good.

**Table 4. Composite Ranking (CAMEL)**

Bank Name	Rank (C)	Rank (A)	Rank (M)	Rank (E)	Rank (L)	Overall Average	Rank
Federal Bank Ltd Ltd	3	4	4	3	10	4.80	3

Investment Corporation of India (ICICI) Bank has a Capital Performance of 15.96 and ranks #4 in the composite rankings of the banks shown in the table above, which are based on five criteria. Overall Performance of the Federal Bank Ltd is good.

**Table 5. Ranking under Management Efficiency Parameter**

Banks	Total Advances/ Total Deposit Ratio	Rank	Business per Employee	Rank	Profit per Employee	Rank	Overall Average	Rank
Federal Bank Ltd Ltd	1.0128	1	107,203,933.25	9	1,388,057.46	2	4.00	2

Based on the data in the table, it seems that Federal Bank Ltd. had the best management efficiency of all the banks, both public and private.

**Table 6. Ranking under Earnings Ability Parameter**

Banks	Return on Asset	Rank	Income Spread/ Total Assets Ratio	Rank	Operating Profit/ Total Assets Ratio	Rank	Cost/ Income Ratio	Rank	Over-all Average	Rank
Federal Bank Ltd Ltd	1.636	3	7.12	5	(0.45)	4	34.95	4	4.00	4

From the above table, it is deciphered that among every one of the banks was performing well having highest earnings ability ratio, followed by were comparatively better than other the least at earnings ability.

**Table 7. Ranking under Liquidity Parameter**

Banks	Cash Asset/ Total Asset Ratio	Rank	Government Securities/ Total Asset Ratio	Rank	Liquid Asset/ Total Deposit Ratio	Rank	Overall Average	Rank
Federal Bank Ltd	0.0784	5	0.0022	10	0.136	3	6.00	8

From the above table, it is interpreted that among all the banks stood first in maintaining absolute liquidity every bank required to maintain to better respond immediately to the critical conditions at the time of huge withdrawals by the customers.

**Table: 8.CAMEL RATIONS.**

Year	2017-18	2018-19	2019-20	2020-21	2021-22	Average
<b>CAR Ratio</b>	18.74	17.70	17.02	16.64	17.39	17.498
<b>Debt/ Equity Ratio</b>	6.57	6.65	6.64	6.86	6.58	6.66
<b>Coverage Ratio</b>	1.52	1.62	1.68	1.78	1.84	1.688
<b>Net NPA/ Net Advances Ratio</b>	0.77	0.97	1.61	2.67	4.89	2.182
<b>Government Securities/ Total Investments Ratio</b>	0.004	0.004	0.009	0.014	0.013	0.0088
<b>Standard Advances/ Total Advances Ratio</b>	3.22	3.03	3.78	5.21	7.89	4.626
<b>Total Advances/ Total Deposit Ratio</b>	0.992	1.02	1.072	1.033	0.947	1.0128
<b>Business per Employee (in Cr.)</b>	93,911,715.27	92,849,708.72	112,938,140.26	118,696,176.03	117,623,925.97	107,203,933.25
<b>Profit per Employee (in Cr.)</b>	1,341,411.86	1,358,302.69	1,684,887.74	1,347,597.82	1,208,087.19	1,388,057.46
<b>Return on Asset</b>	1.70	1.78	1.86	1.49	1.35	1.636
<b>Income Spread/ Total Assets Ratio</b>	7.82	7.35	7.04	6.83	6.58	7.12
<b>Operating Profit/Total Assets Ratio</b>	0.00	(0.10)	(0.15)	(0.77)	(1.25)	(0.45)
<b>Cost/Income Ratio</b>	28.67	31.3	32.70	39.40	42.68	34.95
<b>Cash Asset/ Total Asset Ratio</b>	0.077	0.069	0.065	0.083	0.098	0.0784
<b>Government Securities/ Total Asset Ratio</b>	0.001	0.001	0.003	0.003	0.003	0.0022
<b>Liquid Asset/ Total Deposit Ratio</b>	0.142	0.125	0.117	0.142	0.154	0.136

**11. FINDINGS OF THE STUDY**

- ❖ Of all the banks surveyed, Yes Bank and Federal Bank Ltd. had the lowest net nonperforming asset ratio, according to the research. Among the financial institutions surveyed, Punjab National Bank has the most elevated net nonperforming asset ratio. (Table 4)
- ❖ After Canara Bank, the survey indicated that Kotak Mahindra has made the most use of government securities. There was no more money that Federal Bank Ltd. could put into government bonds. (Table 4)
- ❖ Out of all the banks that were chosen for the research, Punjab National Bank had the highest ratio of standard advances to total advances. In this respect, Yes Bank ranks lower than its competitors. (Table 4)
- ❖ Compared to other public sector banks, Federal Bank Ltd. performed better in the survey, both overall and among private sector banks. When it comes to managerial effectiveness, Canara Bank and Punjab National Bank rank worst. (Table 8)
- ❖ According to the research, out of all the banks surveyed, Federal Bank Ltd has the most noteworthy absolute advances to add up to store proportion, while Bank of Baroda has the lowest. (Table 5)
- ❖ When compared to other banks, the analysis indicated that Bank of Baroda had the second-highest business per representative, after Bank of India. In comparison to other banks, Kotak Mahindra is at the bottom. (Table 5)
- ❖ The study found that Yes bank is better among all banks in having highest profit per employee followed by ICICI.

**12. SUGGESTIONS OF THE STUDY**

The CAMELS model is a useful instrument for assessing the relative health of a banking system and for proposing appropriate solutions to address any weaknesses. One way to evaluate a bank's efficiency is via the CAMELS model, which uses ratios. Global central banks have enhanced the quality and methods of supervision in response to significant developments in the banking industry in the last few years. Many industrialised nations currently use CAMEL RATING and other established protocols and approaches to evaluate the performance of their banks.





### 13. CONCLUSION OF THE STUDY

A sincere attempt was made in the aforementioned research to outline the several ratios that aid in evaluating the financial performance of the banking industry. The current study's ratios are utilised by other researchers to evaluate the performance of banks in their own investigations. The rankings of the various financial institutions are based on their scores on these five criteria. Capital adequacy, asset quality, managerial efficiency, earnings quality, and liquidity were the five critical performance indicators used to evaluate the financial health of a subset of India's private sector banks for this research. Also, it figured out what the main things are that impact the Indian banking sector's bottom line.

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