

# A Comparative Study On Kerala's Private Sector Banks

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## ABSTRACT

The research analyzes four private sector banks Federal Bank, South Indian Bank, Dhanlaxmi Bank and Catholic Syrian Bank financially using CAMELS framework. Federal Bank has solid capital and overall financial health, while CSB and South Indian Bank are a mixed bag, with Dhanlaxmi Bank seemingly plagued by severe inefficiencies. The Federal Bank appears very stable and Dhanlaxmi Bank, on the contrary, without showing any trend, has below average liquidity and profitability. Along with that, Dhanlaxmi Bank also underperforms in terms of assets causing it to lag peers in a number of dimensions. Catholic Syrian Bank on the other hand performs reasonably well to average in relation to peers in asset quality. The research makes relative comparisons of banks from 2019 to 2024 using available data for their Capital Adequacy, Asset Quality, Management Efficiency, Earnings, Liquidity, and Sensitivity. The ANOVA and subsequent testing clearly show the differences in evaluation metrics, including both productivity and efficiency. The analysis illustrates the impact of the strategic response each bank chose to employ in dealing with the financial headwinds during and after COVID on performance. The conclusions highlight the value—denoting the gaps that private investors, industry regulators, and other banking stakeholders interested in the operational resilience and effective resource utilization of regional private sector banks would find useful.

**Keywords:** CAMELS Framework, Financial performance, Private sector banks, Anova Analysis, Operational resilience

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## INTRODUCTION

The sector of Banking in India started with the Bank of Hindustan in 1770, later followed by contemporary banking institutions like the State Bank of India and the Bank of Calcutta in 1806. In 1993, private banks were allowed in the country and supervised by the Reserve Bank of India (RBI) through guidelines and legal frameworks. Private profit-oriented banks emerged that actively contributed to industrial and economic growth and advanced the technology used across the banking sector. The transformation of the sector occurred post-independence was during the period of Nationalization, Liberalization, and Privatization as these policies fueled growth in efficiency and productivity. Kerala has been a home to several prominent private banks which extend credit to individual SMEs and rural areas contributing to the state's increased financial inclusion despite stiff competition from the public sector banks and newly formed fintech companies. As a result of the growing demand for online banking, private banks are focusing on the enhancement of asset quality and operational efficiency, increasing their presence in the digital domain. The private sector banks of the Nation are better performers as compared to the Indian public sector banks (1). The leading Kerala-based private sector banks are Federal Bank, founded in 1931 and having its head office in Aluva, Ernakulam, South Indian Bank, founded in 1929, Dhanlaxmi Bank, founded in 1927, and Catholic Syrian Bank founded in 1920, all three with head offices in Thrissur. Due to growing demand and competition, these banks need to enhance their functioning and performance which calls for an intensive study on their financial performance. Vyas and Solanki, mentions the high performance of Indian private sector banks and recommends the requirements of a stable banking sector that contribute to economic growth (2). Analyses have been carried out from time to time to assess their efficiencies. A 2021 study revealed that private banks have performed better in Asset Quality and the Capital

Adequacy, while public banks have performed better in Liquidity and Earnings (3). The CAMELS model, which is introduced by the US bank regulators, is a popular measurement tool for the financial stability and performance of banks. This method can be utilized as a wonderful measure to study the activity of the banks as well as other statistical measures (4). The acronym represents Capital Adequacy, Asset Quality, Management Efficiency, Earning Quality, Liquidity, and Sensitivity, which are utilized to rate each bank or any financial entity. The purpose of this study is to analyze the financial performance of four top Kerala-based private sector banks with headquarters at Kerala: Federal Bank, South Indian Bank, Dhanlaxmi Bank, and Catholic Syrian Bank, using CAMELS rating factors. Federal Bank has been ranked third among all the old private banks as of 2013 showing a financial soundness equal to the National average of all 13 old private sector banks (5). Subsequently in a longitudinal study done in 2017 reported an improvement in the Liquidity and Management Quality of these banks (6). This research will utilize the different financial ratios over the CAMELS parameters based on data gathered from the annual reports and the banks' financial reports between 2019-2020 and 2023-2024. The overall aim will be to determine which bank among those that were under review is the best performer and to offer a comparative in-depth analysis of their performance for the investor and the interested stakeholders. The last few years have witnessed comparative analyses being conducted on the Indian banks with application of the CAMELS model. During 2018, analysed the financial performances of Canara Bank, Indian Overseas Bank and Syndicate Bank's using the CAMELS Model and found that all parameters were good except liquidity and earning quality. The study was attributed poor quality of NPAs earnings in addition to the uncertainties of the global economy suggesting to improve liquidity as well as quality of earnings (7). Empirical research in 2020 in new generation private sector banks, ranks Bandhan bank as the top and disclose performance differences among the selected banks using One-way ANOVA. It may assist stakeholders to make improved decisions with these findings (8). In commercial bank analysis in Jordan, they discovered that Capital Adequacy, Earnings, and Liquidity directly have a positive effect on Profitability whereas Asset Quality, Management Efficiency, and Market Risk Sensitivity have a negative effect on (9). A study, analyzed the financial performance of 18 Public Sector Banks in India during the period of 2015–2019. This study concludes that the CAMEL method is a useful means to assess the financial health of banks and to identify areas requiring improvement. Interestingly, The Bank of Maharashtra was the best performer in terms of performance against the other banks covered in the study, while IDFC First Bank Ltd ranked last (10). Another study on urban cooperative banks reported that three out of the five banks were affected due to Covid-19 pandemic and the other two were not. The inference was that the performance of all the banks under such study was good (11). On evaluating HDFC, ICICI and Axis Banks from 2013 to 2022 by applying CAMEL framework along with ANOVA and ratio analysis and found that HDFC dominated in terms of profitability and capital adequacies (12). The study as of 2023, noted that Catholic Syrian Bank has improved significantly after a dip due to improvement in Asset Quality and relatively stronger Capital Adequacy Ratio (13). The analysis of the CAMELS Model assessment of Indian commercial banks examines four banks based on the average score of the CAMELS parameters ranking every bank which observes the margin of performance gap showing the difference between the private from the public sector banks (14).

## METHODOLOGY

The research is based on the secondary data of the Annual reports of the banks under research. The research is analytical, based on the most recent available secondary data released under the schemes of RBI from the past five years, beginning 2019-2020 to 2023-2024. The data are analysed through the CAMELS Framework. Four Kerala based private sector that are banks, Federal Bank, South Indian Bank, Dhanlaxmi Bank, and Catholic Syrian Bank, were chosen randomly based on market capitalization for the analysis. Null and alternative hypotheses are analysed through One-way ANOVA and Post Hoc tests with the assistance of SPSS software, to verify if there are any disparities in the CAMELS parameters. Therefore, the study wants to assess the following objectives:

- To analyse the Financial Performance of four Kerala based Private sector banks.
- To benchmark the financial stability and efficiency among these four Kerala-based private sector banks
- To determine the significant financial determinants influencing the overall efficiency.

**Research Problem:**

Banks possess the dynamic share that forms the economy of the state. Federal Bank, South Indian Bank, Dhanlaxmi Bank, and Catholic Syrian Bank with registered offices in the state contribute towards its economic development and growth. Hence, any decline in resources would negatively impact their survival as well as create challenges for the state's economy. Therefore, a critical analytical analysis has to be carried out in order to examine the financial performance and assist in identifying the strengths and weaknesses of the state's four largest private banks.

Based on the objective and the aim of the study, the hypotheses are developed:

$H_0$ : The financial ratios derived from CAMELS parameters do not differ significantly among the four Kerala's private sector banks.

$H_1$ : The financial ratios derived from CAMELS parameters differ significantly among the four Kerala's private sector banks.

**RESULTS****Capital Adequacy****Table 1: ANOVA results on Capital Adequacy of the Private Banks in Kerala**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
CRAR	Between Groups	349.622	3	116.541	35.375	.000
	Within Groups	52.712	16	3.294		
	Total	402.334	19			
Equity capital to total asset	Between Groups	54.059	3	18.020	57.129	.000
	Within Groups	5.047	16	.315		
	Total	59.106	19			
Advances to total asset	Between Groups	14915.695	3	4971.898	402.994	.000
	Within Groups	197.398	16	12.337		
	Total	15113.093	19			
Government securities to total investment	Between Groups	680.697	3	226.899	3.641	.036
	Within Groups	997.126	16	62.320		
	Total	1677.823	19			
Debt Equity ratio	Between Groups	155.121	3	51.707	47.313	.000
	Within Groups	17.486	16	1.093		
	Total	172.607	19			

(Source: Compiled from the Annual Reports)

As evident from the ANOVA output in Table 1, all the ratios of Capital Adequacy are less than 0.05 and hence reject the Null Hypothesis for the significant variation in the ratios of Capital Adequacy.

**Table 2: Capital Adequacy Rankings of the Private Sector Banks in Kerala**

Ratios of Capital Adequacy	FB	SIB	DB	CSB
CRAR	3	2	4	1
Equity capital to total assets	2	4	3	1
Advances to Total Asset	1	4	3	2
Govt. Securities to Total Investments	2	1	4	3
Debt Equity Ratio	3	1	2	4
Average of Individual Rankings	2.2	2.4	3.2	2.2

(Source: Compiled data)

**Asset Quality****Table 3: ANOVA results on Asset Quality of the Private Banks in Kerala**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Net NPA to total advances	Between Groups	16.121	3	5.374	3.598	.037
	Within Groups	23.898	16	1.494		
	Total	40.020	19			
Net NPA to total assets	Between Groups	183.497	3	61.166	5.047	.012
	Within Groups	193.899	16	12.119		
	Total	377.396	19			
Gross NPA to gross advances	Between Groups	114.529	3	38.176	19.539	.000
	Within Groups	31.261	16	1.954		
	Total	145.790	19			
Interest income to total asset	Between Groups	30.294	3	10.098	3.187	.052
	Within Groups	50.694	16	3.168		
	Total	80.987	19			
Total investment to total assets	Between Groups	269.950	3	89.983	11.968	.000
	Within Groups	120.297	16	7.519		
	Total	390.247	19			

*(Source: Compiled from the Annual Reports)*

The p-values in the ANOVA Table 3 are below 0.05, which rejects the Null Hypothesis, thus concluding the all ratios differ significantly between the Asset Quality.

**Table 4: Asset Quality Rankings of the Private Sector Banks in Kerala**

Ratios of Asset Quality	FB	SIB	DB	CSB
Net NPA to Total Advances	3	1	2	4
Net NPA to Total Asset	3	4	1	2
Gross NPA to Gross Advances	4	2	1	3
Interest Income to Total Asset	4	3	2	1
Total Investments to Total Assets	4	3	1	2
Average of Individual Rankings	3.6	2.6	1.4	2.4

*(Source: Compiled data)***Management Efficiency****Table 5: ANOVA results on Management Efficiency of the Private Banks in Kerala**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Business Per Employee	Between Groups	546.671	3	182.224	6.078	.006
	Within Groups	479.704	16	29.982		
	Total	1026.375	19			
Profit Per Employee	Between Groups	1178.240	3	392.747	39.610	.000
	Within Groups	158.647	16	9.915		
	Total	1336.886	19			
Return On Equity	Between Groups	362.911	3	120.970	4.433	.019
	Within Groups	436.608	16	27.288		
	Total	799.519	19			
Total Advances to Total Deposits	Between Groups	700.316	3	233.439	10.687	.000
	Within Groups	349.505	16	21.844		
	Total	1049.821	19			
Return On Assets	Between Groups	3.773	3	1.258	5.415	.009
	Within Groups	3.715	16	.232		
	Total	7.488	19			

*(Source: Compiled from the Annual Reports)*

As the p-values of the ANOVA results in Table 5 show less than 0.05, it can be concluded that all ratios of Management Efficiency differ significantly.

**Table 6: Management Efficiency Rankings of the Private Sector Banks in Kerala**

Ratios of Management Efficiency	FB	SIB	DB	CSB
Business per employee	1	2	3	4
Profit per employee	1	3	4	2
Return on equity	2	3	4	1
Total advances to total deposits	1	3	4	2
Return on asset	2	3	3	1
Average of individual rankings	1.4	2.8	3.6	2

(Source: Compiled data)

### Earnings Quality

**Table 7: ANOVA results on Earnings Quality of the Private Banks in Kerala**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Interest Income on Total Income	Between Groups	1722.558	3	574.186	2.793	.074
	Within Groups	3289.095	16	205.568		
	Total	5011.653	19			
Other Income to Total Income	Between Groups	14.051	3	4.684	.963	.434
	Within Groups	77.808	16	4.863		
	Total	91.858	19			
Spread Ratio	Between Groups	.761	3	.254	9.030	.001
	Within Groups	.449	16	.028		
	Total	1.210	19			
Operating Profit on Working Funds	Between Groups	5.802	3	1.934	20.728	.000
	Within Groups	1.493	16	.093		
	Total	7.295	19			
Operating Profit on Total Income	Between Groups	1260.955	3	420.318	31.821	.000
	Within Groups	211.343	16	13.209		
	Total	1472.297	19			

(Source: Compiled from the Annual Reports)

The ANOVA results of Table 7 indicate that only Interest Income to Total Income and Other Income to Total Income ratios differ significantly in the Earnings Quality.

**Table 8: Earnings Quality Rankings of the Private Sector Banks in Kerala**

Ratios of Earnings Quality	FB	SIB	DB	CSB
Interest Income on Total Income	2	4	1	3
Other Income to Total Income	3	2	4	1
Spread	2	4	3	1
Operating Profit on Working Funds	2	3	4	1
Operating Profit on Total Income	2	3	4	1
Average Of Individual Rankings	2.2	3.2	3.2	1.4

(Source: Compiled data)

**Liquidity****Table 9: ANOVA results on Liquidity of the Private Banks in Kerala**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Cash To Deposit Ratio	Between Groups	42.290	3	14.097	11.365	.000
	Within Groups	19.846	16	1.240		
	Total	62.135	19			
Liquid Asset to Total Asset	Between Groups	17.287	3	5.762	1.293	.311
	Within Groups	71.295	16	4.456		
	Total	88.582	19			
Liquid Asset to Demand Deposits	Between Groups	46016.638	3	15338.879	15.260	.000
	Within Groups	16082.399	16	1005.150		
	Total	62099.038	19			
Liquid Asset to Deposits	Between Groups	.905	3	.302	.044	.987
	Within Groups	108.865	16	6.804		
	Total	109.770	19			
CASA Ratio	Between Groups	15.132	3	5.044	.682	.576
	Within Groups	118.406	16	7.400		
	Total	133.539	19			

(Source: Compiled from the Annual Reports)

Table 9 shows that only the ratios of Liquidity except Liquid Asset to Demand Deposits and Cash to Deposit Ratio are significantly different.

**Table 10: Liquidity Rankings of the Private Sector Banks in Kerala**

Ratios of Liquidity	FB	SIB	DB	CSB
Cash to Deposit Ratio	3	1	2	4
Liquid Assets to Total Assets	3	1	2	4
Liquid Assets to Demand Deposits	2	4	1	3
Liquid Assets to Deposits	1	3	2	4
CASA ratio	1	4	2	3
Average of individual rankings	2	2.6	1.8	3.6

(Source: Compiled data)

**Sensitivity****Table 11: ANOVA results on Sensitivity of the Private Banks in Kerala**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Cost Of Funds	Between Groups	1.117	3	.372	.936	.446
	Within Groups	6.368	16	.398		
	Total	7.485	19			
Burden To Interest Income	Between Groups	4056.975	3	1352.325	5.275	.010
	Within Groups	4101.915	16	256.370		
	Total	8158.890	19			
Spread To Working Funds	Between Groups	7.656	3	2.552	19.387	.000
	Within Groups	2.106	16	.132		
	Total	9.762	19			
GAP Analysis	Between Groups	406090760106789000.000	3	135363586702263000.0	1.321	.302
	Within Groups	1639719605965270000.0	16	102482475293728000.0		
	Total	2045810366072060000.000	19			

(Source: Compiled from the Annual Reports)

As the Table 11 ANOVA results show, Burden to Interest Income and Spread to Working Funds differ significantly while others have a p-value greater than 0.05 indicating they do not differ significantly.

**Table 12: Sensitivity Rankings of the Private Sector Banks in Kerala**

Ratios of Sensitivity	FB	SIB	DB	CSB
Cost of Funds	3	1	2	4
Burden to Interest Income	1	2	4	3
Spread to Working Funds	3	4	2	1
GAP Analysis	4	3	2	1
Average of individual rankings	2.75	2.5	2.5	2.25

(Source: Compiled data)

## DISCUSSION

1. In terms of the Capital Adequacy, (Table 2) Catholic Syrian Bank has the highest CRAR and debt equity ratio among the four banks throughout the study years. The Federal bank is the strongest among the Capital Adequacies.
2. Catholic Syrian Bank performs best in the Asset Quality, with the lowest gross NPA and stable Net NPA levels (Table 4). South Indian Bank is in a better position, but Dhanlaxmi Bank and Federal Bank are concerned about bad loans.
3. With excellent profitability and lending efficiency, the Federal Bank tops Management Efficiency (Table 6). While South Indian Bank runs moderately, Catholic Syrian Bank has been strong standing business and lending efficiency, and Dhanlaxmi Bank ranks the weakest in Management Efficiency.
4. In terms of profitability (Table 8), Dhanlaxmi Bank is the most profitable, and Catholic Syrian Bank appears to be the weakest in terms of Earnings capacity.
5. South Indian Bank has the highest Liquidity among the four banks (Table 10). Dhanlaxmi Bank has the weakest Liquidity.
6. In terms of the Sensitivity of the banks (Table 12), the Cost of funds and GAP analysis show no major differences among the banks. Dhanlaxmi Bank is the lowest in the Sensitivity parameter.
7. By increasing the total NPAs and decreasing the interest income, COVID-19 has impacted all four banks but has helped them to accelerate the digital banking implementation.
8. The South Indian Bank and Dhanlaxmi Bank are showing a higher financial stress by lower Spread ratios and higher NPAs and weaker profitability (Table 8).
9. The study depicts that Federal Bank ranks the highest in Financial Stability and the Performance, followed by the South Indian Bank and Catholic Syrian Bank. Meanwhile Dhanlaxmi Bank shows a relatively weaker financial performance, which also possesses challenges.

## Suggestions

1. Catholic Syrian Bank has the highest CRAR and debt-equity ratio. Therefore, efforts should be made to maintain this stability. Federal Bank has the strongest Capital Adequacy and should also focus on sustaining its lead by adapting to evolving regulatory requirements.
2. Catholic Syrian Bank has a strong Asset Quality and, therefore, should be leveraged as a competitive advantage. Dhanlaxmi Bank and Federal Bank must adopt risk management policies to address bad loans. South Indian Bank should maintain its stable approach to Asset Quality improvement.
3. The Federal Bank's Management Efficiency is commendable. As Dhanlaxmi Bank is the weakest, it should focus on improving governance and enhancing profit. South Indian Bank should aim for consistency in operational efficiency.
4. Dhanlaxmi Bank's profitability should be maintained with sustainable growth strategies, whereas Catholic Syrian Bank should improve its Earnings Capacity through better cost management and revenue diversification.
5. South Indian Bank has the highest Liquidity. Therefore, we must ensure optimal utilization of resources. Dhanlaxmi Bank should take immediate steps to enhance Liquidity through improved cash flow management and strategic funding options.

6. The Federal Bank can continue its strong performance by maintaining a balanced cost-to-income ratio. Bank has the lowest Sensitivity; hence, they should focus on reducing interest burden and improving interest income efficiency.

## CONCLUSION

In the CAMELS evaluation scope, Federal Bank is the top performer with the best Capital Adequacy, Management Effectiveness, and financial soundness. It is well-managed and has a coherent financial strategy, leading to a strong market position. Catholic Syrian Bank demonstrates commendable grades in maintaining Asset Quality and operational efficiency, which allows it to survive in the aggressive banking environment. South Indian Bank is average with a moderate position, but certain financial stress indicators are worrisome. There are problems regarding Asset Quality and profitability, indicating a need for some strategic change. Dhanlaxmi Bank seems to be the weakest financially as they are highly challenged in profitability, liquidity position, and operational efficiency, which may curb growth in the long term unless changes are made. The most affected of the four banks during the COVID-19 pandemic were these two, as all non-performing assets peaked, and liquidity faced a tremendous amount of stress. Despite this, there was a positive shift from the pandemic as banks were redirected towards capital reinforcement. As the study sheds light on the current functioning of the most prominent Kerala based private sector banks, the interested parties, public, and the regulatory authorities are benefited to take better information driven financial decisions.

## Abbreviation:

RBI: Reserve Bank of India, SPSS: Statistical Package for Social Science, FB: Federal Bank, SIB: South Indian Bank, DB: Dhanlaxmi Bank, CSB: Catholic Syrian Bank

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## Author contributions:

Arya Satheesh: Conceptualization, Methodology, Writing – Original Writing

Anusree P P: Data Collection and Analysis, Writing – Review and Editing

Dr. Somasekharan T M: Supervision and Administration

## Conflict of interest:

All the authors of this research declare no conflict of interest.

## Data availability:

The data used in this study is obtained from the annual reports of the respective banks, which are available for the public on their official websites.

Federal Bank: <https://www.federalbank.co.in/>

South Indian Bank: <https://www.southindianbank.com/>

Dhanlaxmi Bank: <https://www.dhanbank.com/>

Catholic Syrian Bank: <https://www.csb.co.in/>

## Ethics approval:

NA

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