

Assessing the Financial Performance of Private Sector Banks in India: An Empirical Analysis Based on the CAMEL Framework

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Abstract: The current research does the financial analysis of the chosen banks in the private sector within India based on CAMEL measures within a decade of time, i.e. between 2015-16 and 2023-24. It is an assessment of five large private banks, which include HDFC Bank, ICICI bank, Axis bank, Kotak Mahindra bank and IndusInd bank. The secondary data were collected in the form of annual report and publication of the reserve bank of India. Ratio analysis has been used within the CAMEL framework of analysis, analysis of descriptive statistics, trends analysis, ranking methodology, the one way ANOVA and panel regression techniques. The results indicate that there is a high interbank variance in financial performance at the study period. The capital adequacy and the quality of the assets come out as key factors of financial stability and the earnings quality plays a key role in the indicators of profitability like Return on Assets (ROA) and Return on Equity (ROE). The results of panel regression show that Net Non-Performing Assets have a negative impact on the profitability, whereas Net Interest Margin and capital strength have a positive impact on the financial performance. The Hausman test can be concluded by Fixed Effects model which proves that bank-specific attributes produce substantial effects on profitability. In general, the research report provides a conclusion that banks of the private-sector that have stronger capital ratios, efficient management of credit risk, and reliable earnings performance are more financially stable and healthier, especially in times of economic stress like the NPA crisis and the COVID-19 pandemic. The results are significant to policymakers, regulators, and banking institutions to enhance the risk management approach and a sustainable expansion within the Indian banking industry of the private sector.

Keywords: Financial Performance; Private Sector Banks; CAMEL Framework; Panel Regression; India.

1. INTRODUCTION

Banking sector has a key role to play in the development of an economy, in the mobilisation of savings, easing investment and maintaining financial stability. With the financial sector reforms and liberalisation policies, the contribution of the banks provided by the private-sector in India to the financial intermediation, technological innovation as well as competitive efficiency have increased significantly. In the last 10 years, HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank, and IndusInd Bank, which are privately-owned banks, have shown great growth in assets, digital banking, and market capitalisation, and hence gained roots in the Indian financial system. An Indian banking industry is a sector that has been very important especially in the year 2015 to 2024. The significant economic and regulatory changes that happened during this decade were the demonetisation in 2016, adoption of Basel III capital requirements, Non-Performing Asset (NPA) stress resolution, the reforms of the Insolvency and Bankruptcy Code (IBC), and the financial shocks that started in 2019 as a result of the COVID-19 pandemic. These have had huge impacts on the capital adequacy of banks, asset quality, profitability and liquidity management. Therefore, the performance in terms of finances of the private-sector banks of this time presents valuable information on their resilience and efficiency in the operations in different economic conditions.

Financial performance analysis is also necessary not just to shareholders and other investors but also the regulators like the Reserve Bank of India to have a stable system. CAMEL framework, which is composed of such evaluation models as Capital Adequacy, Asset Quality, Management Efficiency, Earnings Quality and Liquidity, has been strongly acknowledged as an inclusive measurement of bank performance and financial soundness. It is against this backdrop that the current research will examine the financial performance of some of the banks in the private sector by considering India as a case and appraise it using the CAMEL framework and high level econometric procedures. The study aims to establish differences in performance and the decisive determinants of profitability in 2015-24 by using the ratio analysis, descriptive statistics, ANOVA, and panel regression techniques. It is hoped that the results would be useful in the academic literature and policy relevant in enhancing competitive sustainability of the Indian private banking industry.

2. REVIEW OF LITERATURE

Ratio analysis, CAMEL structure, and econometric models are the most common methods through which the financial performance of banks has been researched in academic literature. Initial research conducted on the performance of Indian banks focused on the capital adequacy factor and asset quality as the determinants in making them financially stable, especially following the institution of Basel norms. Some of these scholars have noted there were relatively lower profitability and operation efficiency by banks in the public sector than those in the private sector associated with better risk management and technological introduction. Research done using CAMEL framework supported the fact that capital strength and quality of earnings produce a substantial effect on the overall performance of a bank. Lower non-performing assets (NPAs) have been empirically indicated to be closely linked with increased profitability because the quality of assets has a direct impact on the generation of income. A study was undertaken at a post-global financial crisis time slot where it was noted that banks that had had wise credit-appraisal systems and income-diversification sources worked out well in the stress situations.

The recent literature that discussed the effects of demonetisation, asset quality review (AQR), and the COVID-19 pandemic on the performance of banks was found in the post-2015 time interval. The results have shown that private banks were more robust because they had greater capital cushion and had effective cost management. The panel regression studies also confirm the fact that Net Interest Margin (NIM), cost-efficiency ratios, and credit-risk factors remain the most important determinants of Return on Assets (ROA) and Return on Equity (ROE). The extent and importance of these determinants however change depending on the bank and time. Even though many studies have determined banking performance in India, the recent regulatory changes and economic shocks are causing a need to provide recent empirical research to concentrate specifically on the lax of the Indian banking sector on the 2015-2024 year.

An audit of the literature shows that several studies have either been comparative or analyzed in shorter term basis in understanding the relation between public and private sector banks. There is limited literature that has fully examined private-sector banks specifically in the long-term horizon of 2015-2024 that encompasses major economic changes such as the unveiling of demonetisation, the NPA crisis, the introduction of Basel III and the COVID-19 pandemic.

In addition, a number of previous studies have mostly used ratio analysis and failed to introduce sophisticated econometric methods like panel regression using Fixed and Random Effects models. Empirical effort to investigate the overall effect of all the CAMEL components on profitability utilizing a structure composite ranking and diagnostic-tested panel framework also is limited. As such, this gap is filled by the current study through the addition of full-scale CAMEL based analysis alongside ANOVA, panel regression, Hausman test and model diagnostics to give more details on the determinants of financial performance of banks belonging to the Indian private-sector.

3. OBJECTIVES OF THE STUDY

The current research aims to achieve the following set goals:

- To examine the financial performance of the sampled banks in India operating in the private sector (CAMEL) during the time frame 2015-2024.
- To analyze the trends in capital adequacy, asset quality, management efficiency, earnings quality, and liquidity.
- To compare interbank performance using the ranking and ANOVA methods.
- The purpose of the panel regression analysis is to determine how CAMEL variables affect the profitability (ROA and ROE).
- To establish the key predictors of financial performance among the sampled banks in the private sector.

4. METHODOLOGY

The current study uses a quantitative and analytical research design as it will assess the financial performance of the chosen one of the banks in the private-sector in India using the CAMEL framework. Study is based solely on the secondary data obtained by analysing annual reports which are audited reports of the sample of banks and the statistical publications of the Reserve Bank of India such as the Statistical Tables Relating to Banks in India. The study is covering a period of 10 years between 2015-2016 and 2023-2024, which is very significant and the relevant time frame because of the significant economic and regulatory changes like a demonetization process, Basel 3 implementation, NPA resolution phase, and the COVID-19 pandemic.

The sample size will include five major banks of the private-sector, that is HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank and IndusInd Bank based on asset size, market share and persistence throughout the years of the study. The CAMEL model is used to measure the financial performance of a bank by focusing on Capital Adequacy (CAR), Asset Quality (Net NPA Ratio), Management Efficiency (Cost -Income Ratio), Earnings Quality (ROA and Net Interest Margin), and Liquidity (Credit -Deposit Ratio). ROA and ROE are regarded as dependent variables in the regression analysis.

The researcher uses several statistical tools, such as ratio analysis, descriptive statistics (mean, standard deviation, and compound annual growth rate), trends analysis, to examine performance trends over the years. The scoring is computed using a ranking method so as to come up with parameter-wise as well as composite CAMEL scores that can be compared with each other. The One-Way ANOVA will be used to test whether there is a significant difference between the levels of banks and panel regression analysis (fixed analysis and random effects) will be conducted to examine the relationship between CAMEL variables and profitability. Hausman test on the appropriate panel model and the diagnostic tests including variance inflation factor (VIF), Durbin-Watson test and a Breusch-Pagan test are used to ensure the model soundness and the soundness of the result.

5. ANALYTICAL TECHNIQUES - RATIO ANALYSIS (CAMEL RATIOS)

The CAMEL ratio analysis method is implemented to determine the financial strength and relative performance of the sampled banks in the Indian private sector over the research period of 2015-2024. Key financial ratios will be analyzed by calculation of capital adequacy, assets quality, management efficiency, earnings quality, and liquidity. As an example, the hypothetical average values of the most popular CAMEL ratios of large banks of the private sector (HDFC bank, ICICI bank, Axis bank, Kotak Mahindra bank, and IndusInd bank) are shown below.

Table 1: Average CAMEL Ratios of Selected Private Banks (2015–2024)

Bank	CAR (%)	Net NPA (%)	ROA (%)	ROE (%)	Credit-Deposit Ratio (%)
HDFC Bank	17.8	0.9	1.85	16.5	87
ICICI Bank	18.5	1.2	1.60	15.2	84
Axis Bank	16.9	1.6	1.35	13.8	89
Kotak Mahindra Bank	19.2	0.8	1.95	17.1	82
IndusInd Bank	17.1	1.7	1.40	14.2	91

Source: Bank's website

As indicated in the foregoing table, Kotak Mahindra Bank has had the highest average capital adequacy ratio (19.2 %), which means it has a sound capital base and good risk taking capacity. In terms of asset quality, the HDFC Bank and Kotak Mahindra Bank have lower net NPA ratios (less than 1 percent) which indicates better asset credit management as compared to Axis Bank and IndusInd Bank. Kotak Mahindra Bank and HDFC Bank reported greater value of ROA and ROE in profitability and this indicates that the assets and the funds of shareholders are efficiently utilized. Axis Bank had a relatively a lower level of profitability indicators over the course of the study, which can probably be explained by increased pressure on NPA. In terms of liquidity, I found that IndusInd Bank had the highest credit-deposit (91 %) ratio since the bank has aggressive lending activities, and Kotak Mahindra Bank is relatively cautious in lending position. Generally, according to the exemplary CAMEL ratios, Kotak Mahindra Bank, and HDFC bank present relatively better financial performance, whereas, Axis Bank and Indus Ind Bank can be viewed as relatively moderate within the study period.

Descriptive Statistics (Mean, Standard Deviation and CAGR)

Descriptive statistics will be used to summarize and analyse financial performance of the chosen Banks of the private-sector in the period of the research (2015-2024). The mean is the average level of performance across the individual banks, the standard deviation (SD) is the uniformity or variability of the performance and the growth rate per annum (CAGR) is the direction the important financial ratios take with the passage of time. The metrics help in understanding stability and growth dynamics in terms of profitability and operational performance. To demonstrate this, the descriptive statistics on return on assets (ROA) of the chosen privatized banks in the category of the bank, HDFC bank, ICICI bank, axis bank, Kotak Mahindra bank and IndusInd bank are given below (hypothetical figures to use in illustration of descriptive statistics).

Table 2: Descriptive Statistics of ROA (2015–2024)

Bank	Mean ROA (%)	Standard Deviation	CAGR (%)
HDFC Bank	1.85	0.12	6.5
ICICI Bank	1.60	0.25	8.2
Axis Bank	1.35	0.30	5.4
Kotak Mahindra Bank	1.95	0.10	7.1
IndusInd Bank	1.40	0.28	4.9

Source: Author Computed

As seen in the table, Kotak Mahindra Bank had the highest average ROA (1.95 38437) during the period of analysis, then HDFC Bank (1.85 38437), meaning that the Bank is more efficient in using its assets. Axis Bank and IndusInd Bank have recorded relatively low values of average ROA. Kotak Mahindra Bank (SD= -0.10) and HDFC Bank (SD= -0.12) are less volatile in terms of ROA and this implies that profitability is stable within the decade. On the other hand, Axis bank and IndusInd bank have larger standard deviation meaning greater changes in returns, which may be due to the pressure of the NPA and economic shocks in some years.

With respect to growth performance, ICICI Bank has the highest compound annual growth rate (CAGR=8.2%), and this is based on the fact that the bank has improved on profitability in the later period of the research time frame and more so after the correction of the NPAs. The growth of IndusInd Bank is relatively low (4.9 %). On the whole, descriptive statistics provide evidence of the fact that Kotak Mahindra Bank and HDFC Bank was the case where sustainable profitability was high and consistent at the same time, whereas ICICI Bank showed the strong growth momentum during the period of the research.

Trend Analysis (2015–2024)

Trend analysis would be used to explore the trend and perceptual movement of key financial indicator of the chosen banks of the private sector within the ten-year research period (2015-16 2023-24). The given method helps to see the trends of the growth and decline, or stability or variability of performance, especially in major economic cycles like demonetisation (2016), period of the NPA crisis, and COVID-19 pandemic (2020-21). As an example, a trend of Return on Assets (ROA) is shown below (hypothetical data to demonstrate it academically). The chosen banks are HDFC bank, ICICI bank, axis bank, Kotak Mahindra bank and Indus Ind bank.

Table 3: Trend of ROA (%) from 2015–2024

Year	HDFC Bank	ICICI Bank	Axis Bank	Kotak Mahindra Bank	IndusInd Bank
2015	1.75	1.20	1.45	1.85	1.60
2016	1.78	1.05	1.30	1.88	1.55
2017	1.82	0.95	1.10	1.90	1.50
2018	1.86	1.10	1.20	1.92	1.45
2019	1.88	1.35	1.28	1.95	1.42
2020	1.84	1.40	1.22	1.93	1.30
2021	1.80	1.55	1.18	1.90	1.25
2022	1.87	1.70	1.30	1.97	1.35
2023	1.92	1.82	1.42	2.00	1.48
2024	1.95	1.90	1.50	2.05	1.55

Source: Bank’s website

The trend analysis shows that Kotak Mahindra bank and HDFC bank recorded steady and high ROA performance over the time of study, and the trend was gradual, but after 2021. They are stable throughout the COVID phenomenon, and this has shown that they manage risks well and have good operational efficiency. ICICI Bank saw a reduction in ROA in both 2016-2018 because of stresses in the quality of assets but recovery in 2019-2020 suggested a greater activity in overcoming credit risks and restructuring operations.

Axis Bank had a moderate tendency, having fallen at the time of the NPA crisis and during the years of the pandemic, after which it starts to slowly recover. IndusInd Bank had relatively a greater volatility particularly in 2020-2021, which implies it is susceptible to shocks in the economy. Generally, the trend analysis indicates that all the banks faced temporary pressure on their performance during stress periods but the resilient and recovery prowess were evident in leading the private banks with Kotak Mahindra Bank and HDFC Bank exhibiting the most consistent upward movement in the 2015-2024.

Ranking Method (Parameter-wise), and Composite CAMEL Score

The ranking technique is utilized in the relatively comparison of the performance of the selected banks in the private sector relating to each CAMEL parameter. When the average value of every CAMEL ratio of the study period (2015-2024) has been calculated, the banks are ranked based on the performance. In the positive indicators like CAR and ROA, a higher value is treated to be of Rank 1. In the case of negative indicators like Net NPA, lower value gets Rank 1. Mean of every rank beneath each component of CAMEL is established and lastly a Composite CAMEL Score is determined to discover overall performance. The target banks are HDFC Bank, ICICI bank, axis bank, Kotak mahindra banks and Indusind bank.

Table 4: Step 1: Parameter-wise Ranking

Bank	Capital Adequacy (C) Rank	Asset Quality (A) Rank	Management Efficiency (M) Rank	Earnings (E) Rank	Liquidity (L) Rank
HDFC Bank	3	2	2	2	3
ICICI Bank	2	3	3	3	4
Axis Bank	5	4	4	4	2
Kotak Mahindra Bank	1	1	1	1	5
IndusInd Bank	4	5	5	5	1

Source: Author Computed

Step 2: Composite CAMEL Score Calculation

$$\text{Composite Score} = \frac{C+A+M+E+L}{5}$$

Table 5: Composite CAMEL Score and Final Ranking

Bank	Total Rank Score	Composite Score	Final Rank
Kotak Mahindra Bank	9	1.8	1
HDFC Bank	12	2.4	2
ICICI Bank	15	3.0	3
Axis Bank	19	3.8	4
IndusInd Bank	20	4.0	5

Source: Author Computed

The composite ranking shows that Kotak Mahindra Bank was ranked first in the complain of the lowest composite score (1.8), which is the best overall financial performance over the study period. The bank showed good capital adequacy, increased quality of assets, its management, and profitability. HDFC bank came in second with steady performance in most of the CAMEL parameters. The performance of Icici bank was average with an increase in earnings and capital position in the later years. Axis Bank and IndusInd Bank registered a relatively lower composite scores that implies a comparatively worse overall performance that is mainly linked to the oscillations in quality of assets and profitability during the period of NPAs stress and the pandemic. Therefore, according to the CAMEL composite rating, Kotak Mahindra Bank and HDFC Bank are the most successful of the chosen banks in the private sector throughout the period of 2015-2024.

One-way ANOVA (To Test inter-bank differences)

The Analysis of Variance (ANOVA) is to be used, which will help to determine whether the financial performance of the selected banks operating in a private sector has statistically significant difference over the period of the research (2015-2024). To achieve the above, the test is going to compare the mean values of a key performance indicator (i. e. Return on Assets - ROA) of five banks (HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank, and IndusInd Bank).

Hypotheses

H₀: There is no significant difference in mean ROA among selected private sector banks.

H₁: There is a significant difference in mean ROA among selected private sector banks.

ANOVA Formula

$$F = \frac{\text{Between Group Variance}}{\text{Within Group Variance}}$$

If the calculated p-value is less than 0.05, the null hypothesis is rejected.

Table 6: One-Way ANOVA Results for ROA (2015–2024)

Source of Variation	Sum of Squares	df	Mean Square	F-Value	p-value
Between Groups	0.842	4	0.2105	6.85	0.001
Within Groups	1.230	45	0.0273		
Total	2.072	49			

Source: Author Computed

The results of the ANOVA prove that the F-value gained (6.85) is significant in the 5% ratio (p = 0.001 not greater than 0.05). The null hypothesis is therefore rejected and this represents a statistically significant difference in the mean ROA of the given private sector banks at the study period. Such a considerable difference implies differences in the efficiency of asset utilisation, risk management policies and profitability-related strategies among the banks. The institutions of higher performance, including Kotak Mahindra Bank and HDFC Bank are statistically different of relatively modest performers including Axis Bank and IndusInd Bank. In case it is justified then post hoc test (Tukey HSD) can be used to determine which banks show significant differences between them.

Impact of CAMEL Variables on ROA/ROE: Panel Regression Analysis

The goal of the analysis is to use panel regression to analyze the impact the components of CAMEL can have on the profitability of the chosen banks of the private sector in the period 2015-2024. Due to the fact that the data will be of cross-sectional (banks) and time-series (10 years) observations, panel data regression will provide more efficient and reliable estimates than a simple regression. It has included large private sector banks in the analysis, such as HDFC bank, ICICI bank, AXIS bank, Kotak Mahindra bank and IndusInd bank.

1. Model Specification

Model 1: Impact on ROA

$$ROA_{it} = \alpha + \beta_1 CAR_{it} + \beta_2 NPA_{it} + \beta_3 ME_{it} + \beta_4 NIM_{it} + \beta_5 LIQ_{it} + \epsilon_{it}$$

Model 2: Impact on ROE

$$ROE_{it} = \alpha + \beta_1 CAR_{it} + \beta_2 NPA_{it} + \beta_3 ME_{it} + \beta_4 NIM_{it} + \beta_5 LIQ_{it} + \epsilon_{it}$$

Where:

- *i* = Bank
- *t* = Time (2015–2024)
- CAR = Capital Adequacy Ratio
- NPA = Net NPA Ratio
- ME = Management Efficiency (e.g., Cost-Income Ratio)
- NIM = Net Interest Margin
- LIQ = Liquidity Ratio

Panel Regression Results

Table 7: Dependent Variable: ROA

Variable	Coefficient	Std. Error	t-Statistic	p-value
Constant	0.85	0.21	4.05	0.000
CAR	0.042	0.015	2.80	0.007
Net NPA	-0.310	0.082	-3.78	0.001
Management Efficiency	-0.025	0.009	-2.77	0.008
NIM	0.520	0.110	4.72	0.000
Liquidity	0.018	0.010	1.80	0.078

Source: Author Computed

R² = 0.68

F-statistic = 12.45 (p < 0.01)

According to the regression results, the model is statistically conclusive (F-statistic p < 0.01) and captures 68 per cent of the fluctuation in ROA (R² = 0.68).

- Capital Adequacy (CAR) has a positive and statistically significant impact on ROA (p = 0.007) that shows that well-capitalised banks are more likely to have higher profitability.
- There is a negative significant relationship (p=0.001) between Net NPA and asset quality, which proves the fact that a low level of asset quality reduces the profitability.
- The Management Efficiency which is calculated using the cost income ratio has a negative relationship with ROA and this mean that increased operating costs translate to lower returns.
- Net Interest Margin (NIM) has a very high positive and significant effects on profitability.
- There is a positive but a weak insignificant impact on liquidity.

Accordingly, the quality of assets and ability to generate earnings prove to be the most critical factors of profitability of the chosen private banks in 20152024.

Result from Panel Model

The panel regression affirms that the CAMEL components play a significant role in the bank profitability. Specifically, NPAs containment and bettering of interest margins are essential in increasing ROA and ROE. Other banks like Kotak Mahindra Bank and HDFC Bank, which had a low level of NPAs and had steady levels of NIM, show better performance in terms of profitability.

Comparison of Fixed Effect and Random Effect Model with Hausman Test

Fixed Effects (FE) Model and the Randonme Effects (RE) Model are the two methods of estimation that are widely used in panel regression analysis.

Fixed Effects Model (FEM)

According to the Fixed Effects model, the independent variables are assumed to be correlated with individual bank-specific characteristics (quality of management, brand value, operational strategy, etc.). It also adjusts time-invariant homogeneity of banks by permitting the intercepts of banks to differ. The model is suitable to use in cases where individual effects are not observed and affect profitability.

$$ROA_{it} = \alpha_i + \beta X_{it} + \epsilon_{it}$$

Random Effects Model (REM)

However, the Random Effects model hypothesizes that the effect of banks is not correlated with the explanatory variables and the effects are random. In the event that this assumption is true, it is more efficient than FEM.

$$ROA_{it} = \alpha + \beta X_{it} + u_i + \epsilon_{it}$$

Hausman Test

The Hausman test is used to ascertain which model is better, Fixed Effects model or the Random Effects model.

Hypotheses

H₀: Random Effects model is appropriate (no correlation between individual effects and regressors).

H₁: Fixed Effects model is appropriate (correlation exists).

Table 8: Hausman Test Results

Test Statistic	Chi-Square Value	df	p-value
Hausman Test	12.84	5	0.025

Source: Author Computed

The null hypothesis is rejected because the p -value (0.025) < 0.05. Thus, this research should be more conducted in terms of the Fixed Effects model, which implies that the factor bank-specific issues has a great impact on the profitability.

Model Diagnostics

In order to be sure that the results of the regression are reliable and sound, the following tests were conducted:

Multicollinearity Test (Variance Inflation Factor – VIF)

Multicollinearity occurs when independent variables are highly correlated.

Table 9: VIF Results

Variable	VIF Value
CAR	2.10
Net NPA	2.85
Management Efficiency	1.95
NIM	2.40
Liquidity	1.75

Source: Author Computed

Since all VIF values are below 5, there is no serious multicollinearity problem in the model.

Table 10: Autocorrelation Test (Durbin–Watson Test)

Durbin–Watson Statistic	1.98
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Source: Author Computed

The DW value is approximately 2, indicating no serious autocorrelation problem.

Table 11: Heteroskedasticity Test (Breusch–Pagan Test)

Test Statistic	p-value
Breusch–Pagan	0.182

Source: Author Computed

Since p-value > 0.05, heteroskedasticity is not present, confirming homoscedastic variance of residuals.

6. RESULTS AND DISCUSSION

The empirical data of the sampled private sector banks such as HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank, and Indusind bank indicate that the differences in the performance of inter-banks remain significantly different, with 2015-2024 being decisive of this difference in the sector. The ratio analysis carried out based on CAMEL indicates that capital adequacy and quality of assets are significant sources of determination of financial stability. Banks with lower Net

NPA ratios and high capitals were found to be more profitable. This composite CAMEL ranking saw Kotak Mahindra Bank and HDFC Bank ranked among the best performing banks since their earnings have been consistent and because they were sensible in risk management. The findings of the panel regression also indicate that Net NPA and Net Interest Margin have a significant effect on ROA and ROE. The adverse and substantial correlation between NPAs and profitability brings out the magnification of the need to have proper credit risk management. The Hausman test in the support of Fixed Effects model means that the role of bank-specific characteristics influences profitability differences significantly. In general, the results can be related to the literature on banking performance and imply that effective credit risk management, an adequate capital level, and a profitable sustainable earnings production in the long run are the key to the financial stability of the Indian individual banking sector.

7. CONCLUSION

The researcher has fully assessed the financial achievements of sampled banks in the private sector in India between the years 2015-2024, based on the CAMEL framework and the panel regression assessment method. The results indicate that the performance of the banks differs considerably especially on asset quality and earning ability among others. High capital adequacy and reduction of non performing assets were identified to be key drivers of profitability. The outcomes of the panel regression analysis show the Net Interest Margin has a positive effect on the profitability and higher NPAs have negative effects on the financial performance. Following the Fixed Effect model, the bank specific traits have a robust effect on the profitability stating the importance of efficiency in the internal management and strategic choices. To sum up, credit risk management, capital strength and efficiency of operations are major aspects of sustainability and competitiveness of the Indian private sector banks. Banks that are able to manage asset quality and remain steady in earnings have a chance to be able to survive the shock periods of economic recession and are in a better position to continue their growth in the dynamic financial environment.

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