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Basel III Norms And Its Effect On The Profitability Of Indian Commercial Banks

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Abstract

Banks are the financial intermediaries that serve as a bridge between assurances and general public. Banking business is therefore prone to high risk in the changing economic conditions. With the introduction and revision of Basel Norms, banks in India have also started to accept the importance of capital adequacy requirement and maintaining optimum profitability and operational efficiency to remain relevant in the market. This paper is an attempt to analyze the effect of various profitability parameters in the era of Basel Norms III and compare the performance of select public and private sector banks on the basis of NIM, PPE and ROE. 8 banks were taken as sample and data was collected from the banks' annual report and RBI's official website. Through analysis, it could be concluded that ROE and PPE are very much significant as parameters of profitability as compared to NIM. Private sector banks, mainly HDFC and ICICI give very good indicators of efficient resources management over the years as compare to public sector banks. The study indicates that banks are well verged with guidelines given under Basel III as they are exerted with pressure to maintain higher liquidity and profitability for improved financial resilience and stability.

Keywords: profitability, banks, Basel Norms, NIM, PPE, ROE

Introduction

Banks have always been serving as financial intermediaries to bridge the gap between assurance and general public. They facilitate the efficient flow of funds between lenders and borrowers. As banks deal with money of different individuals or organisations, they are prone to high risk, especially with the changing economic conditions. Therefore, financial stability and soundness of banks is very crucial for the economic health of any country. India's banking structure has always been under the supervision of RBI that regularly monitors the liquidity, solvency and operational health of the bank.

The Reserve bank of India (RBI) has progressively aligned the domestic banking regulations with international standards to comply with international policies as given by BCBS (Basel Committee on Banking Supervision) commonly known as the Basel Norms. These norms were framed to address the high number of financial mishaps happening in the world like the breakdown of Herstatt Bank in 1974 which prompted the financial regulators to form BCBS under the aegis of Bank for International Settlements (BIS). Basel Norms were revised three times; the latest reforms being introduced after the fall of Lehman Brothers in 2008 leading to global financial crisis. Basel Norms III were introduced as the earlier reforms were not robust enough to detect flaws in the capital adequacy requirements and risk management of banks. The primary objective of

BASEL III was to help banks keeps sufficient capital buffers to withstand financial shocks and mitigate risks [Shetty, M. D., et. al (2024)]1. These norms focus on making individual banks capable of absorbing financial shocks, and if it is inevitable that one or two banks do fail, the entire banking system as a whole does not crumble and the impact on the economy is minimal [Shakdwipee, P. & Mehta, M. (2017)]2.

Basel III is comprised of three pillars, where Pillar 1 deals with the regulations of minimum capital requirements and liquidity in banks, where banks will have to maintain a minimum CAR (Capital Adequacy Ratio) of 9% with an additional CCB (Capital Conservation Buffer) of 2.5%. The Liquidity Coverage ratio and Net Stable Funding Ratio were also introduced to mandate stricter liquidity compliance. Pillar 2 and 3 are related to enhanced supervisory review for risk management and mandatory public disclosure of capital and risk exposures respectively. This paper focuses to analyse the performance of the profitability parameters of select private and public sector banks after the introduction of Basel III Norms.

Literature Review

Rajput N and Sankaran S (2019) conducted an empirical study on the impact of Basel Norms in the profitability of Indian banks. Return on Assets (ROA) and Return on Equity (ROE) were considered as the parameters to measure profitability in their study. 21 public sector banks were selected for the study and data was collected from annual reports of the banks and the website of Money Control for a period of 11 years. To analyse the impact of Basel Norms on profitability, descriptive statistics, F-test and ANOVA were used to find if there is any significant difference between the performance of public sector banks after the implementation of Basel III Norms. It can be concluded from the study that the ROA and ROE of banks have deteriorated after the implementation of Basel III Norms. [3]

Swamy V. (2018) studied the impact of new capital regulations proposed under Basel III norms on bank profitability in India. Through analysis it was found that, with the increase in the capital adequacy ratio as per new norms, the banks tend to experience a rise in interest income. With regard to scheduled commercial banks in India, if the risk weighted assets are unchanged, interest income would rise by 17 percentage points and would go up to 67 percentage points for a 1 percent point increase in the capital ratio. The study would be helpful to bankers and professionals to understand the scenarios of changes in the risk-weighted assets and capital ratios. [4]

Mohanty S (2026) analyses the connection between bank capital and banking competition in India. Data was collected from 68 banks of India, including public, private and foreign sector from 1999-2000 to 2021-22. Upon analysis, the Panzar-Rosse H Index results indicated that a monopolistic situation is now prevailing in the banks. There is a negative bidirectional relationship between the bank capital and competitiveness and its consequences are consistent with the competitive fragility theory. This is true on the premise that banks cannot collect monopoly rents in a market with fierce competition. As a result, financial institutions will face a downfall in their profitability, capital ratio, and charter value. [5]

Rajdeep, S., & Patra, B. (2023) in their research paper studied the interrelation between Liquidity Coverage Ratio (LCR) and profitability of banks in India. Data was collected from the annual reports of public sector banks for the period from March 2015 to March 2022. Analysis was done to check the interactive effect of LCR through advances and interest rates. Interactive Effect of LCR through advances has a negative influence over banks' profitability, however, findings show that Basel III norms with regard to LCR has a positive impact on profitability in the banks of India, contrary to the general assumption about negative impact. The study recommends that Basel III Norms should be negatively viewed at for determining banks' performances. [6]

Ashwath, R., and Sachindra G. R., (2025) conducted a study to analyze the capital adequacy of Indian public sector banks based on Basel III, Debt-Equity Ratio and Leverage Ratio. The study also evaluated the asset quality of banks by analyzing the gross and net NPA and the trend of financial performance of banks between 2020-21 to 2023-24. With the help of secondary data from the annual reports of banks and websites of RBI and Moneycontrol, the results showed a positive trend in the ratios of Basel III indicating improvement in the CAR of banks during 2020-21 to 2023-24. The DER has shown a declining trend which signifies improved financial leverage with strong capital base. The study suggested that banks should maintain a strong buffer for capital risk management and to deal with sudden financial shocks. [7]

Research Gap

This paper is prepared to analyse the relationship between profitability parameters of Indian commercial banks and to compare the performance of private and public sector banks in terms of those parameters. After conducting literature review of various papers in the concerned area, it could be concluded that many studies were conducted on the selected area of research, but not many papers considered NIM (Net Interest Margin), ROE (Return on Equity) and PPE (Profit per Employee) as a combination of parameters to measure profitability. Also, the paper focused on the carrying out a comparison between the performance of public and private sector banks on the basis of those parameters, which was another gap that could be identified in the selected area of research.

Objectives of the study

- To analyze the relationship between the profitability parameters of select public and private sector banks
- To conduct a comparative analysis of banks' performance in terms of profitability in the era of Basel III norms

Research Methodology

Population of the study: All commercial banks of India

Sample taken for the study: 4 banks each from public and private sector as per market capitalisation ranking is selected as sample. Two banks from top of the table of market capitalisation and two from the middle order are selected for the study. The banks selected as samples are given in the table below:

Table 1: Sample Banks

Public Sector Banks	Year of establishment	Private Sector Banks	Year of establishment
• State Bank of India	1955	• HDFC Bank	1994
• Punjab National Bank	1895	• ICICI Bank	1994
• Canara Bank	1906	• IndusInd Bank	1994
• Indian Bank	1907	• Yes Bank	2003

Source: Banks are selected as per Market Capitalization

Time period of the study: 5 years (2020-21 to 2024-25)

Sources of data: Data for this study is collected from secondary sources- annual reports of the banks taken as sample and RBI Database.

Type of Research: Quantitative and descriptive

Statistical Tools and Techniques: One-way ANOVA and Trend Analysis using MS-Excel

Data Analysis, Interpretation and Discussion

For this study, the following parameters are taken to measure profitability in banks as given in the table below:

Table 2: List of parameters used for measuring operational efficiency

Description	Ratio	Definition
Net Interest Margin	NIM	(Interest earned - Interest paid) / Total Assets
Profit Per Employee	PPE	Net Income /Total No. of Employees
Return on Equity	ROE	Net Profit/Shareholders' Equity

Source: Compiled from RBI' explanatory notes on 'STRBI' and Annual Reports of Banks

Table 3: Year-wise select ratios to measure profitability of Indian Commercial banks

Year	Banks	PPE	ROE	NIM
2024	CANARA BANK	21.00	18.22	2.34
2024	INDIAN BANK	27.00	17.10	3.02
2024	PUNJAB NATIONAL BANK	17.00	7.03	2.53
2024	STATE BANK OF INDIA	29.91	14.22	2.60
2024	HDFC BANK LTD.	32.00	14.30	3.26
2024	ICICI BANK LIMITED	35.34	17.81	4.07
2024	INDUSIND BANK LTD	6.00	4.15	3.56
2024	YES BANK LTD.	8.50	5.41	2.16
Year	**Banks**	**PPE**	**ROE**	**NIM**
2023	CANARA BANK	18.00	18.13	2.58
2023	INDIAN BANK	20.03	15.16	3.10
2023	PUNJAB NATIONAL BANK	9.00	7.99	2.65
2023	STATE BANK OF INDIA	26.20	17.33	2.73
2023	HDFC BANK LTD.	31.00	16.88	3.57
2023	ICICI BANK LIMITED	29.42	18.62	4.30
2023	INDUSIND BANK LTD	21.00	15.24	4.24
2023	YES BANK LTD.	4.50	3.09	2.13
Year	**Banks**	**PPE**	**ROE**	**NIM**
2022	CANARA BANK	12.00	15.18	2.44
2022	INDIAN BANK	12.95	11.52	2.93
2022	PUNJAB NATIONAL BANK	3.00	2.57	2.48
2022	STATE BANK OF INDIA	21.23	16.53	2.76
2022	HDFC BANK LTD.	28.00	16.96	3.83
2022	ICICI BANK LIMITED	27.52	17.18	4.15
2022	INDUSIND BANK LTD	20.60	14.44	4.09
2022	YES BANK LTD.	2.80	1.95	2.35
Year	**Banks**	**PPE**	**ROE**	**NIM**
2021	CANARA BANK	7.00	9.09	2.22
2021	INDIAN BANK	9.91	9.61	2.58
2021	PUNJAB NATIONAL BANK	4.00	3.71	2.23
2021	STATE BANK OF INDIA	12.93	11.86	2.54
2021	HDFC BANK LTD.	28.00	16.66	3.77
2021	ICICI BANK LIMITED	23.03	14.68	3.59
2021	INDUSIND BANK LTD	13.73	10.13	3.92
2021	YES BANK LTD.	4.60	3.19	2.20
Year	**Banks**	**PPE**	**ROE**	**NIM**
2020	CANARA BANK	3.00	4.62	2.19

2020	INDIAN BANK	7.22	8.21	2.63
2020	PUNJAB NATIONAL BANK	2.00	2.29	2.43
2020	STATE BANK OF INDIA	8.28	8.40	2.61
2020	HDFC BANK LTD.	26.00	16.61	3.96
2020	ICICI BANK LIMITED	16.90	12.27	3.35
2020	INDUSIND BANK LTD	9.56	7.33	4.04
2020	YES BANK LTD.	-15.10	-12.61	2.80

Source: Data collected and compiled from RBI's Official Database

To analyse the Banks' performance in terms of profitability, the collected data analysis is performed year wise. To test the null hypothesis H_{01}: there is no significant difference in the banks' performance in terms of profitability in the era of Basel norms, ANOVA (Analysis of Variance) with two-way classification is applied.

By using the Excel, the ANOVA results are shown in Table 4 to Table 8

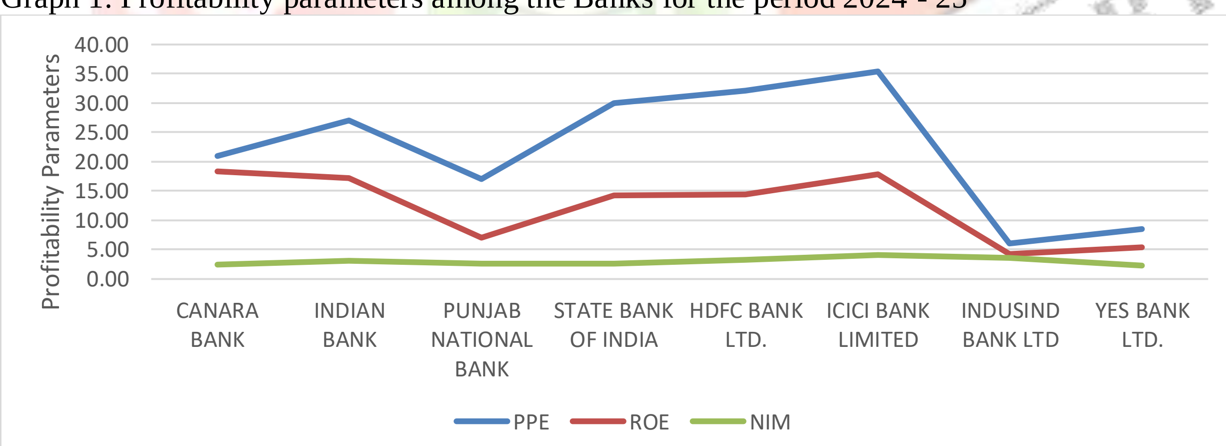
Table: 4 ANOVA for the test of significant difference in terms of profitability parameters for the period 2024-25

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1467.384	2	733.692	14.39253	0.000116	3.4668
Within Groups	1070.523	21	50.97727			
Total	2537.907	23				

Source: Computed using MS-Excel

From Table 4, it is observed that the null hypothesis H_0 may be rejected as the p-value < 0.05. Hence, it may be interpreted that there is significant difference in the banks' performance in terms of profitability for the period of 2024-25. Since, the null hypothesis is rejected, the significance of the profitable parameters among the Banks are analysed by using the Graph1

Graph 1: Profitability parameters among the Banks for the period 2024 - 25



Source: Prepared using MS-Excel

From Graph 1, it is observed that there is no significant difference between the profitable parameters of NIM (Net Interest Margin), but PPE (Profit per employee) and ROE (Return on Equity) are much significant. It is also observed that PPE is maximum in ICICI Bank LTD. followed by HDFC Bank LTD., State Bank of India, Indian Bank, Canara Bank, Punjab National Bank, Yes Bank LTD., and IndusInd Bank LTD.

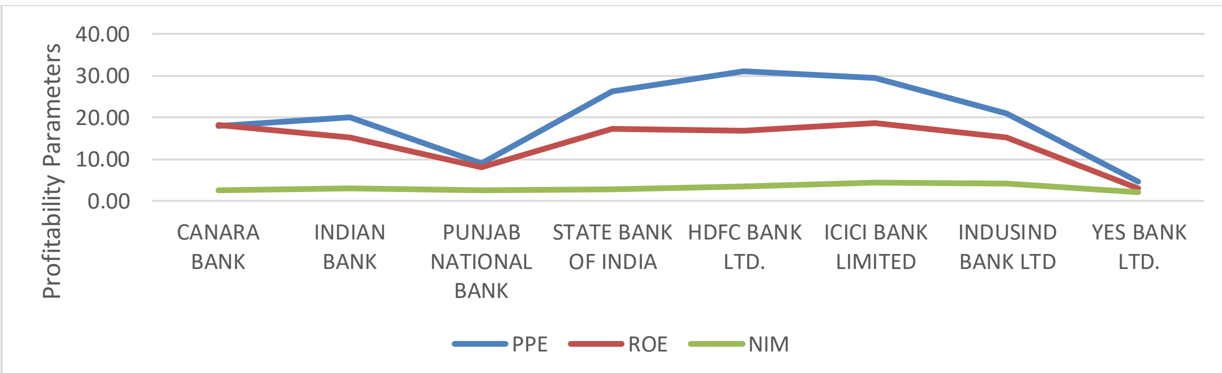
Table 5: ANOVA for the test of significant difference in terms of profitability parameters for the period 2023-24

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	1153.909	2	576.9545	14.51639	0.00011	3.4668
Within Groups	834.646	21	39.74505			
Total	1988.555	23				

Source: Computed using MS-Excel

From Table 5, it is observed that the null hypothesis H_0 may be rejected as the p-value < 0.05. Hence, it may be interpreted that there is significant difference in the banks' performance in terms of profitability for the period of 2023-24. Since, the null hypothesis is rejected, the significance of the profitable parameters among the Banks are analysed by using the Graph 2.

Graph 2: Profitability parameters among the Banks for the period 2023-24



Source: Prepared using MS-Excel

From Graph 2, it is observed that there is no significant difference between the profitable parameters of NIM (Net Interest Margin), but PPE (Profit per employee) and ROE (Return on Equity) are much significant. It is also observed that PPE is maximum in HDFC Bank Ltd. followed by ICICI Bank Ltd., State Bank of India, IndusInd Bank LTD., Indian Bank, Canara Bank, Punjab National Bank and Yes Bank LTD.

Table 6: ANOVA for the test of significant difference in terms of profitability parameters for the period 2022-23

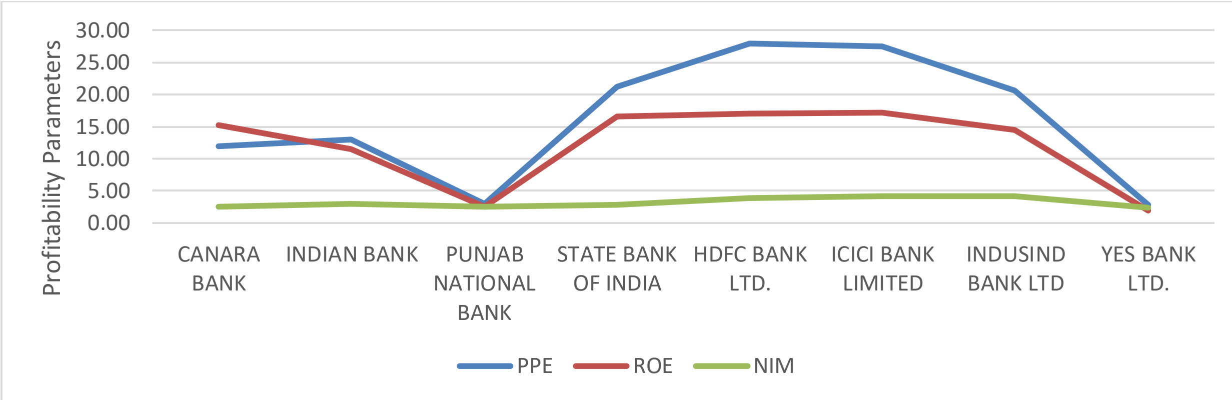
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	696.4649	2	348.2324	7.491797	0.003501	3.4668
Within Groups	976.1184	21	46.48183			
Total	1672.583	23				

Source: Computed using MS-Excel

From Table 6, it is observed that the null hypothesis H_0 may be rejected as the p-value < 0.05. Hence, it may be interpreted that there is significant difference in the banks' performance in terms of profitability for the period of 2022-23

Since, the null hypothesis is rejected, the significance of the profitable parameters among the Banks are analysed by using the Graph 3

Graph 3: Profitability parameters among the Banks for the period 2022-23



Source: Computed using MS-Excel

From Graph 3, it is observed that there is no significant difference between the profitable parameters of NIM (Net Interest Margin), but PPE (Profit per employee) and ROE (Return on Equity) are much significant. It is also observed that PPE is maximum in HDFC Bank LTD followed by ICICI Bank LTD., both State Bank of India and IndusInd Bank LTD., Indian Bank, Canara Bank, Yes Bank LTD and Punjab National Bank.

Table 7: ANOVA for the test of significant difference in terms of profitability parameters for the period 2021-22

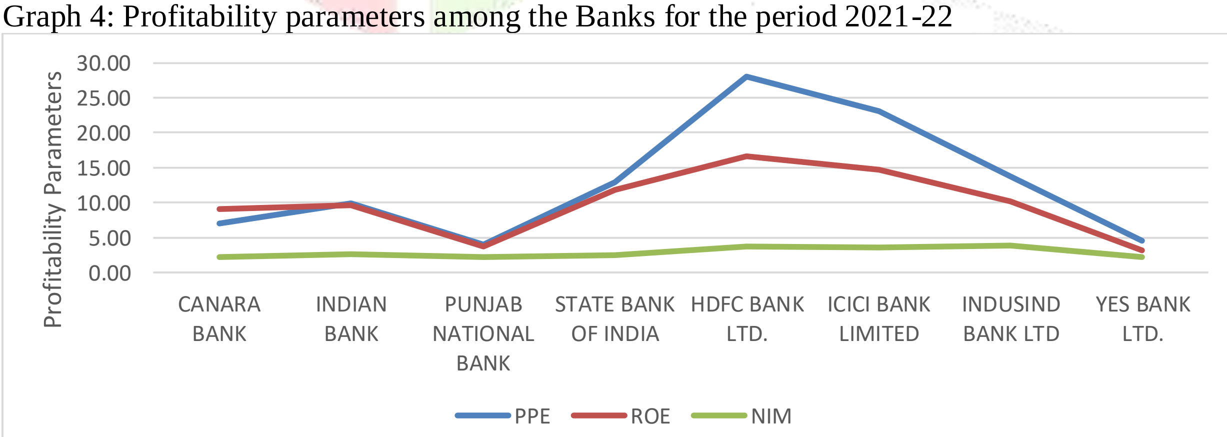
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	422.288	2	211.144	6.485881	0.006406	3.4668
Within Groups	683.6425	21	32.5544			
Total	1105.93	23				

Source: Computed using MS-Excel

From Table 5, it is observed that the null hypothesis H_0 may be rejected as the p-value < 0.05. Hence, it may be interpreted that there is significant difference in the banks' performance in terms of profitability for the period of 2021-22.

Since, the null hypothesis is rejected, the significance of the profitable parameters among the Banks are analysed by using the Graph 4.

Graph 4: Profitability parameters among the Banks for the period 2021-22



Source: Computed using MS-Excel

From Graph 4, it is observed that there is no significant difference between the profitable parameters of NIM (Net Interest Margin), but PPE (Profit per employee) and ROE (Return on Equity) are much significant. It is also observed that PPE is maximum in HDFC Bank LTD followed by ICICI Bank LTD., IndusInd Bank, State Bank of India, Indian Bank, Canara Bank, Yes Bank LTD and Punjab National Bank.

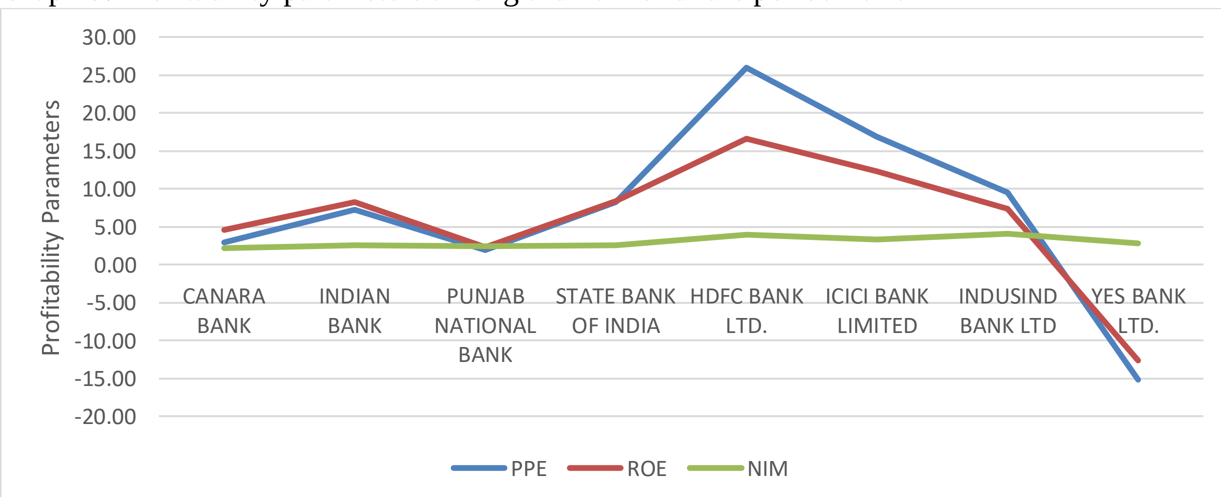
Table 8: ANOVA for the test of significant difference in terms of profitability parameters for the period 2020-21

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	74.86802	2	37.43401	0.515233	0.60472	3.4668
Within Groups	1525.746	21	72.65455			
Total	1600.614	23				

Source: Computed using MS-Excel

From Table 8, it is observed that null hypothesis H_0 may be accepted as the p-value > 0.05. Hence, it may be interpreted that there is no significant difference in the banks' performance in terms of profitability in the era of Basel norms for the period of 2020 – 21.

Graph 5: Profitability parameters among the Banks for the period 2020-21



Source: Computed using MS-Excel

From Graph 5, it is observed that ROE (Return on Equity) is higher than PPE (Profit per Employee) for Canara Bank, and Indian Bank. There is no significant difference between ROE and PPE for State Bank of India. There is no significant difference between ROE, PPE and NIM of Punjab National Bank. It is also observed that PPE (Profit per Employee) of HDFC Bank Ltd. is maximum followed by ICICI Bank Ltd., IndusInd Bank Ltd., State Bank of India, Indian Bank, Canara Bank and Punjab National Bank. PPE of Yes Bank Ltd. is shown negative, which is minimum. The ROE of Yes Bank Ltd. is also negative for the year 2020-21.

Findings and Discussion

- From the analysis of data using ANOVA, it can be seen that for the periods 2021-22 to 2024-25, the p-values are consistently less than 0.05 which enabled the researcher to reject the null hypotheses, indicating an existence of significant difference in the banks' performance in terms of profitability parameters during these periods.
- For the year 2020–21, the p-value (0.6047) exceeds the 5 per cent level of significance. Hence, the null hypothesis is accepted, implying that no significant difference in profitability performance was observed among the selected banks during this period.
- On analysis, it can be seen from the graphical representations that the profitability parameters PPE and ROE are very much significant as compared to NIM. This implies that operational efficiency of employees and shareholders' return are primary drivers of profitability differentiation.

- The PPE and ROE of private sector banks, mainly HDFC Bank Ltd. and ICICI Bank Ltd. have shown better performance over the years that most banks, indicating managerial and operational efficiency, capital utilization and productivity. However, YES Bank Ltd. have been consistently placed in the lower side of the sampled banks' ranking. During 2020-21, the bank showed negative PPE and ROE indicating financial distress during the time period.
- Most of the Public Sector banks have performed moderately well over the years. However, the performance of Punjab National Bank has comparatively been on the lower side of the ranking among the public sector banks.

Conclusion

Basel III Norms are the policies given by BCBS to strengthen the capital adequacy requirements against risk weighted assets. Banks are enabled and managed in a way so that they are able to absorb financial shocks without causing much negative impact to the entire economy. This paper focuses on the area of profitability of the Indian commercial banks. Taking into consideration of parameters like NIM, ROE, and PPE, an attempt was made to see if there is any significant relationship between the profitability parameters of banks. It can be concluded from the study that most of the banks are well verged with guidelines given under Basel III as they are exerted with pressure to maintain higher liquidity and profitability for improved financial resilience and stability. Private sector banks are comparatively stronger in maintaining the ratios which suggests efficient capital management. Public sector banks need to enhance their operational efficiency to keep up with the standards set by Basel III Norms. This line of research can be further extended by increasing the number of banks and time period of the study with additional performance indicators supporting the Basel Accord.

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