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An Evaluation of Assets Quality of Selected Public and Private Sector Banks in India

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Abstract:

The banks performance within a nation needs to be thoroughly assessed, as it plays a crucial role in influencing the country's economic health. This study aims to analyse and evaluate the asset quality of sample Indian public and private sector banks over a ten-year period, from the year 2013-14 to 2023. Banks were chosen based on their market capitalization and net profit, including major public sector banks such as SBI, BOB, and PNB, alongside leading private sector banks like HDFC, ICICI, and KOTAK Bank. The financial performance analysis employs the CAMEL rating model, focusing on the acronym "E." The CAMEL model parameters include Capital Adequacy Ratios (C), Asset Quality Ratios (A), Management Efficiency Ratios (M), Earnings Quality Ratios (E), and Liquidity Ratios (L). The results are analyzed using descriptive statistics. Data for this study were gathered from bank websites, and the CAMEL Model Asset Quality Ratios were applied after processing and organizing this information. Hypothesis testing involved calculations using simple averages and One-way ANOVA. The analysis of the data indicated that private banks excelled in all the ratios of the Asset Quality Parameter than the public banks. Hypothesis testing showed that there is no significant difference between the performance of public and private sector banks when it comes to the asset quality parameter.

Keywords: CAMEL rating system, Asset Quality, Ratio analysis, Gross NPAs, Gross Advances, Net NPAs and Net Advances.

I. INTRODUCTION

The banking sector plays a vital role in driving economic growth, facilitating financial transactions, managing risks, implementing monetary policies, and supporting overall economic stability and development. Regulatory bodies regularly assess banks' financial performance to ensure the integrity and stability of the financial system. This oversight ensures compliance with regulations, safeguards depositor funds, helps identify risks early, and promotes economic stability. To monitor and compare the financial health of banks, regulatory authorities and financial institutions use the CAMEL model, which helps identify potential weaknesses and take necessary actions to maintain stability and minimize risks within the banking system.

The Asset Quality parameter in the CAMEL model is an essential measure that evaluates the quality and risk profile of a bank's assets, primarily focusing on its loan portfolio. It assesses the level of non-

performing assets (NPAs), the potential for loan defaults, and the overall credit risk associated with the bank's lending activities. By analyzing asset quality, regulatory authorities and financial institutions can determine the likelihood of financial losses and the impact on the bank's profitability, capital adequacy, and long-term sustainability.

A higher level of non-performing assets indicates increased risk, which could threaten the bank's stability and affect its ability to generate earnings. Asset quality assessment helps in identifying problem areas early, enabling banks to implement corrective measures, improve risk management practices, and ensure a more resilient and secure financial position. This parameter plays a key role in maintaining confidence in the banking system and safeguarding the interests of depositors and investors.

II. REVIEW OF LITERATURE

Numerous scholars, researchers, and policymakers have analysed the banking sector at different periods. Some of the studies that highlight the relevance of this current research are mentioned below.

Nimalathasan (2008) analysed financial performance of 48 Bangladeshi banks (1999-2006) using the CAMEL model. Found a required 9% Capital Adequacy Ratio and ranked banks by Non-Performing Loans (NPLs).

Sharad and Sreeramulu (2009**)** compared employee productivity and costs in Indian traditional vs. modern banks (1997-2008). Concluded modern banks were more efficient, with a narrowing performance gap over time.

Meraj Banu and Sudha Vepa (2021) assessed financial performance of HDFC, ICICI (private) and SBI, Syndicate Bank (public) using the CAMELS rating system over a 10-year period (2010-2019) as per the Padmanabhan Committee recommendations.

Sangmi and Tabassum Nazir (2010) evaluated the financial performance of five Indian banks (2007-2010) using the CAMEL model, ranking them based on market capitalization. HDFC ranked 1st, followed by SBI, Kotak Mahindra, ICICI, and AXIS Bank.

Agarwal Pankaj K et al. (2011 compared Public Sector Banks (PSBs) with Private Sector Banks (PBs) using the CAMEL model. Found PSBs had lower Capital Adequacy but better Asset Quality, while PBs outperformed in liquidity. No significant difference in management efficiency and earnings performance was observed.

III. RESEARCH METHODOLOGY:

OBJECTIVES:

1. To evaluate the financial stability of sample banks by utilizing the Asset Quality Parameter of the CAMEL Model.
2. To assess and rank the selected banks based on their Asset Quality Ratios.

HYPOTHESIS:

H0 1: There is no significant difference in Asset Quality of select Indian Public and Private Sector Banks.

STUDY PERIOD: The present study covers the period from March 2014 to March 2023.

STATISTICAL TOOLS EMPLOYED: Data analysis and hypothesis testing employ a range of financial and statistical methods, including Ratio Analysis, Descriptive Statistics, and One-way ANOVA.

SAMPLE SIZE: The study includes a sample of six banks: three public sector banks (SBI, BOB, and PNB) and three private sector banks (HDFC, ICICI, and Kotak). The selection criteria for these banks are based on their market capitalization and net profits.

LIMITATIONS OF THE STUDY: Given that the study spans a ten-year period, its findings cannot be generalized. Assessing the financial performance of banks solely based on the asset quality parameter is insufficient.

DATA COLLECTION:

The study is based on secondary data, primarily drawn from the annual reports of SBI, BOB, PNB, HDFC, ICICI Bank, and Kotak Bank. Additional references include magazines, websites, banking bulletins, newspapers, and other relevant journals. To evaluate the financial performance of the banks using Asset Quality under the CAMEL model, the following ratios were examined.

1. **GNPA to GA**: Gross NPAs to Gross Advances
2. **GNPA to TA**: Gross NPAs to Total Assets
3. **NNPA to NA**: Net NPAs to Net Advances
4. **NNPA to TA**: Net NPAs to Total Assets
5. TI to TA: Total Investments to Total Assets

IV. DATA ANALYSIS & DISCUSSION:

1. GROSS NPAs AS PERCENTAGE OF GROSS ADVANCES RATIO: Gross NPA (GNPA) represents the total value of loan assets for which borrowers have failed to make payments within a 90-day timeframe. In 2017-18, public sector banks experienced a high volume of non-performing assets, which did not generate income. Both sectors have been working to reduce credit defaults that impact profitability. Over a 10-year average, SBI has the lowest ratio at 5.77% and ranks 1st among public sector banks. BOB and PNB follow in 2nd and 3rd with averages of 7.76% and 12.00%, respectively. Among private banks, HDFC ranks 1st for consistency, while ICICI and Kotak hold the 2nd and 3rd positions. Compared to public sector banks, private banks have stronger credit portfolios and are more effective at reducing credit defaults and non-performing assets.

2. GROSS NPAs AS PERCENTGE OF ASSETS RATIO: A high number of non-performing assets (NPAs) indicates greater loan default risks, negatively impacting bank profitability and net worth. Reduced asset revenue and increased provisions are key contributors to NPA growth, which in turn lowers overall profitability and shareholder value. A lower NPA ratio is preferable, and in 2017-18, the gross NPA-to-total assets ratio was excessively high, which is undesirable. Among public sector banks, SBI ranks 1st with the lowest NPA risk, while Kotak leads among private sector banks. Overall, private sector banks show fewer credit defaults. Public sector banks should securitize their credits to mitigate risk.

3. NET NPAs AS PERCENTAGE OF NET ADVANCES RATIO: Net NPA (NNPA) is the amount left over after the GNPA is reduced by doubtful and unpaid obligations. It's the real loss the bank sustained. Non-performing assets (NPAs) serve as an indicator of a bank's financial health. A high percentage of NPAs signals a greater likelihood of loan defaults, which can negatively impact the bank's profitability, net worth, and overall asset value. Net NPAs as percentage of net advances ratio shows that the public sector banks SBI ranked 1st with low ratio and BOB and PNB secured 2nd and 3rd ranks. From private sector banks, HDFC ranked 1st with more consistency. Comparatively Private sector banks are concentrated more on reducing the level of NPAs by applying a good credit portfolio.

TABLE NO. 1

Ratio	Ranking Criteria	Sector	Public Banks			Private Banks		
		Bank /Rank	SBI	BOB	PNB	HDFC	ICICI	KOTAK
(1) Gross NPAs as Percentage of Gross Advances Ratio	For a bank, high NPAs might not be ideal.	Average	5.77%	7.76%	12.00%	1.14%	6.33%	2.28%
		Rank (Overall)	3	5	6	1	4	2
		Average (SW)	8.51%			3.25%		
		Rank (SW)	2			1		
(2) Gross NPAs as Percentage of Assets Ratio		Average	3.62%	4.34%	7.46%	1.86%	5.23%	1.44%
		Rank (Overall)	3	4	6	2	5	1
		AVG(SW)	5.14%			2.84%		
		Rank (SW)	2			1		
(3) Net NPAs as Percentage of Net Advances Ratio		Average	2.64%	3.08%	6.02%	0.33%	2.11%	0.90%
		Rank (Overall)	4	5	6	1	3	2
		AVG(SW)	3.91%			1.11%		
		Rank (SW)	2			1		
(4) Net NPAs as Percentage of Assets Ratio		Average	1.57%	1.53%	3.78%	0.21%	1.36%	0.74%
		Rank (Overall)	5	4	6	1	3	2
		AVG(SW)	2.29%			0.77%		
		Rank (SW)	2			1		
(5) Total Investments to Total Assets Ratio	High ratio may not be favourable.	Average	27.06%	21.32%	26.85%	24.42%	23.69%	24.74%
		Rank (Overall)	6	1	5	3	2	4
		AVG(SW)	25.08%			24.28%		
		Rank (SW)	2			1		

AVG(SW)-Average (Sector-wise), Rank(SW)- Rank (Sector-wise),

Source: Calculated and Compiled from Annual Reports of the Sample Banks

4. NET NPAs AS PERCENTGE OF ASSETS RATIO: The high ratio denotes higher risk of credit defaults. The low ratio indicates that the bank is concentrating more to reduce its non-performing assets from which cannot result any income to the business. From the public sector, BOB and HDFC from private sector secured 1st rank by creating adequate provisions for NPAs. Comparatively private sector bank' NPAs to total assets ratio is less (0.77%) and are dealing efficiently in reducing its NPAs and maintaining provisions. From the view point of Variability, the proportion of Net NPAs to Total Assets of chosen banks, it has been noted that highest CV of ICICI Bank i.e. 79% is showing less consistency and lowest in HDFC bank i.e. 19% denoting more consistency.

5. TOTAL INVESTMENTS TO TOTAL ASSETS RATIO: An indication of the amount of money devoted to investments compared to advances is the proportion of total assets to total investments. This parameter calculates the percentage of total assets that are invested and do not contribute to the bank's core revenue. A higher ratio speaks to the bank's cautious management of its significant investment buffer against non-performing assets (NPAs). Its profitability is thus negatively impacted by this. Among the chosen banks, State Bank of India (SBI) has the greatest average ratio of Total Investments to Total Assets (27.06%), while Bank of Baroda (BOB) has the lowest ratio (21.32%). Both Bank of Baroda (BOB) and State Bank of India (SBI) of public sector banks are ranked first and sixth, respectively. In contrast, private sector banks achieved the top spot with a low percentage of 24.28%.

COMPOSITE ASSET QUALITY RATIOS

Table No. 2

COMPOSITE ASSET QUALITY RATIOS & RANKING (A)																									
SECTOR / RATIO		'GROSS NPAs TO GROSS ADVANCES RATIO'					'GROSS NPAs TO ASSETS RATIO'					'NET NPAs TO NET ADVANCES RATIO'					'NET NPAs TO ASSETS RATIO'					TOTAL INVESTMENTS TO TOTAL ASSETS RATIO				
RANKING CRIETERIA		For a bank, high NPAs might not be ideal.										A high ratio indicates a significant likelihood of many loan defaults.					High NPAs may not be favourable for a bank					High ratio may not be favourable and it negatively impacts the profitability.				
AVERAGE & RANKING		AVERAGE	RANK (WG)	RANK (BG)	AVERAGE (SW)	RANK (SW)	AVERAGE	RANK (WG)	RANK (BG)	AVERAGE (SW)	RANK (SW)	AVERAGE	RANK (WG)	RANK (BG)	AVERAGE (SW)	RANK (SW)	AVERAGE	RANK (WG)	RANK (BG)	AVERAGE (SW)	RANK (SW)	AVERAGE	RANK (WG)	RANK (BG)	AVERAGE (SW)	RANK (SW)
PUBLIC SECTOR BANKS	SBI	5.77 %	1	3	8.51%	2	3.62 %	1	3	5.14%	2	2.64 %	1	4	3.91%	2	1.57 %	2	5	2.29%	2	27.06 %	3	6	25.08 %	2
	BOB	7.76 %	2	5			4.34 %	2	4			3.08 %	2	5			1.53 %	1	4			21.32 %	1	1		
	PNB	12.00%	3	6			7.46 %	3	6			6.02 %	3	6			3.78 %	3	6			26.85 %	2	5		
PRIVATE SECTOR BANKS	HDFC	1.14 %	1	1	**3.25%**	**1**	1.86 %	2	2	**2.28%**	**1**	0.33 %	1	1	**1.11%**	**1**	0.21 %	1	1	**0.77%**	**1**	24.42 %	2	3	**24.28 %**	**1**
	ICICI	6.33 %	3	4			3.54 %	3	5			2.11 %	3	3			1.36 %	3	3			23.69 %	1	2		
	KOTAK	2.28 %	2	2			1.44 %	1	1			0.90 %	2	2			0.74 %	2	2			24.74 %	3	4		

RANK(WG)-Rank within the group, RANK (BG)-Rank between the groups, AVERAGE (SW)-Average sector-wise, RANK(SW)-Rank sector-wise

Source: Compiled from various ratios calculated of selected banks

ANALYSIS & DISCUSSION:

The asset quality parameter is evaluated by taking the average of Gross NPAs to Gross Advances Ratio, Gross NPAs to Assets Ratio, Net NPAs to Net Advances Ratio, Net NPAs to Assets Ratio and Total Investments to Total Assets Ratio. A high ratio is not favourable for all these ratios. From the public sector banks, the Bank of Baroda (SBI) scored 1st rank in terms of maintaining qualitative assets. From private sector banks, HDFC bank ranked 1st. Overall, private sector banks ranked 1st with regard to Asset quality parameter. The private sector banks focused more to reduce its Non-Performing Assets which cannot produce any income to the business. Comparatively private sector banks may have good provisioning policy and doing their best to recover NPAs.

TESTING OF HYPOTHESIS-COMPOSITE ASSET MANAGEMENT RATIOS

Table No. 3

TESTING OF HYPOTHESIS - COMPOSITE ASSET MANAGEMENT RATIOS (A)

SECTOR/RATIO	PUBLIC SECTOR BANKS (SBI, BOB and PNB)	PRIVATE SECTOR BANKS (HDFC, ICICI and KOTAK)
GNPAs to GA	8.51%	3.25%
GNPAs to TA	5.14%	2.84%
NNPAs to NA	3.91%	1.11%
NNPAs to TA	2.29%	0.77%
TI to TA	25.08%	24.28%

ANALYSIS & DISCUSSION

2) H0 2: There is no significant difference in Asset Quality Trends among the select Public and Private sector banks.

ACCEPT / REJECT NULL HYPOTHESIS:

P-value (0.0872) > Level of Significance (0.05)

&

F-value (4.1680) is < F-crit-value (5.9873)

RESULT: ACCEPT THE H0.

Anova: Single Factor

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
PUBLIC SECTOR BANKS (SBI, BOB and PNB)	4	0.198537421	0.049634355	0.000694245
PRIVATE SECTOR BANKS (HDFC, ICICI and KOTAK)	4	0.079733281	0.01993332	0.000152347

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.001764303	1	0.001764303	4.168012953	0.087254363	5.987377607
Within Groups	0.002539776	6	0.000423296			
Total	0.004304079	7				

Source: Compiled from various ratios calculated of selected banks

Analysis & Discussion:

The calculated F-critical value (5.9874) is more than the F-value (4.1680), and the p-value (0.0873) is higher than the significance level of 0.05. Therefore, we fail to reject the null hypothesis (H0). Based on these results, it can be concluded that "There is no significant difference in Asset Quality Trends among the selected public and private sector banks."

CONCLUSION

Quick and prudent preventive and corrective actions are essential for managing non-performing assets (NPAs) (Michael et al., 2006). To enhance India's banking credibility, further governance reforms need to be considered. Reducing NPAs is vital for the financial health and profitability of banks, as NPAs represent loans or advances for which the bank is no longer receiving interest or principal repayments due to the borrower's inability to repay. An increase in NPAs necessitates higher provisioning, which negatively affects bank profitability. Effective credit risk management begins with assessing the borrower's profile and extends throughout the recovery process. Banks should implement streamlined lending processes that incorporate a comprehensive rating system to assess creditworthiness and adjust interest rates accordingly. This approach can help mitigate potential loan defaults. Furthermore, banks should allocate sufficient capital reserves to absorb substantial loan losses while maintaining financial stability. Such measures are necessary to lower default rates and enhance the quality of loan portfolios. Banks should conduct a SWOT analysis of borrowing companies, assessing their ability to navigate environmental challenges, seize opportunities, and demonstrate future financial and operational growth potential. Every banking institution should have an independent accreditation agency to evaluate the borrower's financial standing before approving any lending facility. Regular assessments of clients' financial health by the credit rating agency are also crucial. LeadSquared's "Digital Lending Solution" offers banks a tool to identify creditworthy clients during the on boarding process, providing an additional layer of security in managing credit risks.

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