



## ANALYSIS OF PROFITABILITY, LIQUIDITY AND FINANCIAL PERFORMANCE OF INDIAN PRIVATE AND PUBLIC SECTOR BANKS

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### **Abstract**

*The broad objective of the banking sector reforms in India has been to increase efficiency and profitability of the banks. The banking sector in India has undergone several changes in the areas of prudential, regulatory, disclosure, and supervisory norms. It has been passing through the liberalization process and deregulation of interest rates regime at the same time, while facing the competition from new generation private and foreign banks. Commercial banks, especially the dominant public sector banks, have been facing competition from the banks in the private sector. The present study is an attempt to examine the financial performance of Indian banks based on the CAMEL variables and to find out whether the average performance of new private sector and public sector banks differ significantly across the two bank groups for the period of study, i.e. from 2019-23. For the purpose of study, five leading private sector banks – ICICI Bank, HDFC Bank, Axis Bank (formerly UTI), Kotak Mahindra Bank and Indusind Bank and five public sector banks – State Bank of India(SBI), Punjab National Bank (PNB), Bank of Baroda, Canara bank and Bank of India have been taken as sample. For evaluating the performance of Indian commercial banks, the world renowned CAMEL Model is adopted. CAMEL stands for Capital Adequacy, Asset Quality, Management Quality, Earnings Quality and Liquidity. The study concludes that new private sector and public sector banks do not differ significantly in terms of capital adequacy and liquidity, however in terms of asset quality, management quality and earning quality new private sector banks have an edge over public sector banks.*

**Key Words:** *CAMEL variables, New Private sector banks, Public sector banks, Liberalisation and deregulation.*

### **Introduction**

The broad objective of the banking sector reforms in India has been to increase efficiency and profitability of the banks. For this purpose, the banking sector has been opened for new private sector banks. As a result, various new private sector banks have started their banking business in India. Commercial banks, especially the dominant public sector banks, have been exposed to competition from the new banks set up in the private sector with the latest technology. There are many new entrants, domestic as well as international, coming into this banking sector. These banks have differentiated their operations by focusing on advanced technology, customer service, innovative products and productivity. This has created a need for improving the business efficiency and increasing the business volume of the public sector banks. The entry of new private players has induced stiff competition in the banking sector and raised some issues relating to the functioning of the domestic banks. The comparison between the private and public enterprises has also been the area of great interest for the researchers. Specifically it becomes more pertinent when we talk about the banking sector, which is the most dominant sector of the financial system in India. The performance analysis of banking sector is also very important to meet the global benchmarks and useful to investors, customers, bankers, policy makers and economy in general. The current study analyzes and



compares the financial performance of new private sector and public sector banks for the period of study. The Indian banking sector consists of the Reserve Bank of India (RBI), commercial banks, and cooperative banks. At the end of March 2007, there are 179 Scheduled Commercial Banks in India and only four non-scheduled commercial banks. Public sector banks comprise SBI and its seven associates, 19 nationalized banks, IDBI Bank Ltd. and 96 Regional rural banks. IDBI and IDBI Bank Ltd. have been merged to form Industrial Development Bank of India (IDBI) Ltd. IDBI is notified as a scheduled bank by the Reserve Bank of India (RBI) under the Reserve Bank of India Act, 1934. RBI has categorized IDBI under a new sub group "other public sector bank" on October 1, 2004. Currently there are 23 private sector banks out of which 15 are old and 8 are new private sector banks. During the last five years, some changes have been occurred in the structure of new private sector banks. Bank of Punjab Ltd. amalgamated with Centurian Bank Ltd. on 24<sup>th</sup> September 2005 and named as Centurian Bank of Punjab Ltd. A new bank YES bank has been entered into the private sector in 2005. UTI Bank has rechristened itself as Axis Bank on July 30, 2007. In India, RBI allowed new private sector banks to enter into Indian Economy a decade back. As a result very few studies are found in this regard after the arrival of new private sector banks. Most of the studies ( Ganesan P, 2001; Rayapati Vijaya Sree, 2002; Das M R, 2002-03 and Gupta V & Jain P K, 2003) compared the performance of public, private and foreign banks by using profitability, productivity, and financial management. They found that public sector banks fared poorly on all measures when compared with the private and foreign banks. Studies by Kantawala Amita S (2004), Ketkar W Kusum et al. (2004) and Reddy A Amarender (2004) analyze the performance of banks using various parameters. These studies mainly reveal the declining trends of public sector banks and increasing prominence of new private sector banks and foreign banks. Sinha, Ram Pratap (2006) makes a comparative assessment of public and private sector bank intermediation cost efficiency during the reform period, taking spread or net interest margin as the output indicator. The study observes that private sector commercial banks have higher mean cost and higher technical and cost efficiencies than the observed public sector commercial banks. Pal Ved and Malik N.S. (2007) investigates the differences in the financial characteristics of public sector banks, private sector banks and foreign banks in India based on factors, such as profitability, liquidity, risk, and efficiency. The findings suggest that foreign banks and private sector banks were better performers, as compared to the public sector banks, in general and in terms of utilization of resources in particular during the period chosen for the study.

### Objectives of Study

The major objective of the present study is to compare the performance of private sector and public sector banks on the basis of CAMEL parameters. However, to be precise the main objectives of the study are:

1. To analyze the financial performance of Indian commercial banks by using CAMEL Model.
2. To compare the performance of new private sector and public sector banks

**Hypotheses:** In order to compare the performance of the new private sector and public sector banks based on the variables under consideration following hypotheses are tested:

1. Public sector banks have higher Capital Adequacy Ratio.
2. Public sector banks have higher Net NPA/ Net Advances.
3. Private sector banks have higher Profit per Employee.
4. Private sector banks have higher Business per Employee.
5. Private sector banks have higher return on assets.
6. Public sector banks have higher current ratio.



Annexure

**Table 1: Year Wise Financial Data of Private Sector Banks**

			NNPA/NA	PPE (Rs.in	BPE(Rs.	ROA	Current
Bank	Year	CAR (%)	(%)	lacs)	In lacs)	(%)	ratio (in times)
HDFC Bank Ltd.	2019	11.66	0.17	9.39	867	1.46	0.59
ICICI Bank Ltd.		10.37	2.22	12	1010	1.32	1.58
Indusind Bank Ltd.		12.75	2.73	14.99	1079.96	1.75	1.49
Kotak Mahindra Bank Ltd.		15.35	0.18	10.26	354.29	2.41	1.51
Axis Bank Ltd.		11.22	1.30	8.08	808	1.43	6.65
HDFC Bank Ltd.	2020	12.15	0.25	8.9	806.00	1.48	0.68
ICICI Bank Ltd.		11.77	1.66	11	880.00	1.49	1.60
Indusind Bank Ltd.		11.63	2.72	10.13	925.78	1.51	2.61
Kotak Mahindra Bank Ltd.		12.81	0.38	5.38	387.28	1.57	0.46
Axis Bank Ltd.		12.66	1.39	8.03	1021.00	1.22	5.42
HDFC Bank Ltd.	2021	11.42	0.45	7.40	758	1.39	1.00
ICICI Bank Ltd.		13.35	0.73	10	905	1.32	1.65
Indusind Bank Ltd.		10.55	2.10	1.57	880.19	0.23	3.99
Kotak Mahindra Bank Ltd.		11.28	0.25	4.16	352	1.39	0.43
Axis Bank Ltd.		11.09	0.99	8.70	1020	1.19	1.69
HDFC Bank Ltd.	2022	13.10	0.44	6.14	607.00	1.34	1.18
ICICI Bank Ltd.		11.70	1.03	9.00	1027.00	1.10	2.48
Indusind Bank Ltd.		12.55	2.48	2.62	1039.78	0.35	4.35
Kotak Mahindra Bank Ltd.		13.47	1.99	3.14	383.92	0.95	0.53
Axis Bank Ltd.		11.59	0.73	7.60	1024.00	1.11	3.14
HDFC Bank Ltd.	2023	13.62	0.48	4.98	506.00	1.33	1.43
ICICI Bank Ltd.		14.93	1.55	10.00	1008.00	1.13	2.59
Indusind Bank Ltd.		11.92	2.28	2.63	1062.68	0.35	3.42
Kotak Mahindra Bank Ltd.		18.66	1.79	3.82	383.85	1.11	0.86
Axis Bank Ltd.		13.74	0.43	8.39	1117.00	1.25	3.98

**Table 2: Year Wise Financial Data of Public Sector Banks**

			NNPA/NA	PPE (Rs.in	BPE (Rs.	ROA	current
Bank	Year	CAR (%)	(%)	lacs)	In lacs)	(%)	ratio (in times)
State Bank of India	2019	13.54	3.49	1.78	212	0.91	1.33
Punjab National Bank		13.2	0.99	1.89	229	1.09	1.99
Bank of Baroda		13.94	2.99	2.45	255	1.15	2.43
Bank of India		13.03	4.6	2.37	268	1.19	3.69



Canara Bank		12.67	2.89	2.98	298	1.29	2.98
State Bank of India	2020	12.47	2.66	2.09	245	0.95	2.00
Punjab National Bank		14.79	0.21	2.46	278	1.13	1.39
Bank of Baroda		12.62	1.46	1.75	311	0.72	2.75
Bank of India		11.53	2.81	0.9	321	0.34	2.30
Canara Bank		12.79	1.89	2.49	352	1.02	2.50
State Bank of India	2021	11.89	1.92	2.18	299	0.89	1.66
Punjab National Bank		11.96	0.32	2.49	332	0.99	3.97
Bank of Baroda		13.67	0.88	2.16	397	0.77	3.62
Bank of India		10.76	1.50	1.69	381	0.63	3.64
Canara Bank		11.23	1.12	3.06	443	1.02	3.06
State Bank of India	2022	12.36	1.57	2.39	358	0.85	1.74
Punjab National Bank		12.30	0.78	2.69	408	1.04	4.11
Bank of Baroda		11.82	0.61	2.75	556	0.8	4.82
Bank of India		11.77	0.96	2.76	499	0.89	3.58
Canara Bank		13.52	0.97	3.26	549	0.98	3.75
State Bank of India	2023	13.49	1.79	3.77	457	1.02	1.60
Punjab National Bank		12.98	0.65	3.68	506	1.16	2.98
Bank of Baroda		12.93	0.48	3.98	711	0.89	4.35
Bank of India		12.97	0.53	4.97	653	1.26	3.38
Canara Bank		13.26	0.87	3.67	609	0.93	2.89

**Table 3: Averages of Key Variables per Bank per Period (2019-2023) For Private Sector Banks**

			Avg	Avg	Avg	Avg	
			NPA/NA	PPE	BPE	ROA	Avg Current
S No.	Banks	Avg CAR (%)	(%)	(lacs)	(lacs)	(%)	Ratio (in times)
1	HDFC Bank Ltd.	12.39	0.36	7.31	708.8	1.4	0.98
2	ICICI Bank Ltd.	12.43	1.44	10.41	966.00	1.27	1.98
3	Indusind Bank Ltd.	11.88	2.46	6.39	997.67	0.83	3.17
	Kotak Mahindra Bank						
4	Ltd.	14.30	0.92	5.35	372.26	1.49	0.76
5	Axis Bank Ltd.	12.06	0.97	8.16	998.00	1.24	4.17
	Grand Avg	12.61	1.23	7.52	808.54	1.25	2.21

**Table 4: Averages of Key Variables per Bank per Period (2019-2023) For Private Sector Banks**  
Where Avg is the average of variables per bank per period

S No	Banks	Avg CAR (%)	Avg NPA/NA (%)	Avg PPE (lacs)	Avg BPE (lacs)	Avg ROA (%)	Avg Current Ratio (in times)
1	State Bank of India	12.74	2.28	2.43	314.20	0.93	1.67
2	Punjab National Bank	13.03	0.59	2.63	350.60	1.08	2.90
3	Bank of Baroda	12.99	1.29	2.60	446	0.86	3.60
4	Bank of India	12.01	2.06	2.50	424.40	0.87	3.33
5	Canara Bank	12.69	1.54	3.08	449.80	1.05	3.04
	Grand Avg.	12.69	1.55	2.65	397	0.96	2.90



**Table 5: Comparison of Private and Public Sector Banks**

	Type of the bank	N	Mean	Std. Deviation	Significance
Capital adequacy	Pvt	5	12.6120	.97112	p= 0.869
Ratio					
	Pub	5	12.6920	.40941	
	Type of the bank	N	Mean	Std. Deviation	
NNPA/NA	Pvt	5	1.2200	.78702	p= 0.505
	Pub	5	1.5420	.66751	
	Type of the bank	N	Mean	Std. Deviation	
Profit Per Employee	Pvt	5	7.5220	1.92196	p= 0.004**
	Pub	5	2.6380	.25430	
	Type of the bank	N	Mean	Std. Deviation	
Business Per	Pvt	5	808.5460	272.39087	p= 0.026*
Employee					
	Pub	5	397.2000	61.33156	
	Type of the bank	N	Mean	Std. Deviation	
Return On Assets	Pvt	5	1.2380	.24934	p= 0.043*
	Pub	5	.9480	.10183	
	Type of the bank	N	Mean	Std. Deviation	
Current Ratio	Pvt	5	2.2020	1.45185	p= 0.369
	Pub	5	2.8960	.74140	

\*significant at p= 0.05 (2-tail)

\*\*significant at p= 0.01 (2-tail)

Where pvt is new private sector banks and pub is public sector banks

### Methodology

The study examines the financial performance of Indian banks based on the CAMEL variables and compares the performance of new private sector and public sector banks for the period of study i.e. 2019-23. Five leading private sector banks – ICICI Bank, HDFC Bank, Axis Bank (formerly UTI), Kotak Mahindra Bank and Indusind bank and five public sector banks – State Bank of India (SBI), Punjab National Bank (PNB), Bank of Baroda, Canara bank and Bank of India have been taken as sample. The samples are selected on the basis of judgment and convenience of the author. For evaluating the performance of Indian commercial banks, the world renowned CAMEL Model is adopted. CAMEL Stands for Capital Adequacy, Asset Quality, Management Quality,





Earnings Quality and Liquidity. It is considered as the best method for evaluating performance and health of a bank since it considers all areas of banking operations. Capital Adequacy reflects the overall financial condition of the banks and also the ability of the management to meet the need for additional capital. For evaluating Capital Adequacy of banks, CAR ratio (Capital Adequacy Ratio) is used. Banks having higher CAR are considered to be stronger as they have adequate capital to absorb losses. Second Component, Asset Quality is assessed by Net NPA to Net Advances (NNPA/NA). Asset quality determines the existing and potential credit risk associated with loan and investment portfolios and other off balance sheet transactions. Higher the ratio, lower is the asset quality of the bank. Third component, Management Quality is evaluated by two variables, Profit Per Employee (PPE) and Business Per Employee (BPE). These variables measure the efficiency of all employees of a bank in generating profit and business for the banks. The higher the ratio, the higher the efficiency of employees. Next component, Earning Quality is examined by the Return on Assets (ROA). Earning reflects the growth capacity and the financial health of the bank. High earnings signify high growth prospects, low risk exposure and smooth operations. Last component Liquidity implies the cash position of the bank and the ability of the bank to meet its customers day to day cash needs and to respond to sudden cash withdrawals. Current ratio is used to assess the liquidity position of the banks. Current ratio is the ratio of current assets to the current liabilities of the bank. Performance of new private sector and public sector banks in various CAMEL parameters are analyzed and compared by calculating the averages of all key variables per bank for the period covered in the study (2019-2023). The statistical significance of the differences in the performance of the new private sector and public sector banks has also been tested. Data are collected from secondary sources like RBI bulletin, The Indian Banker and website of Indian bank's association. Data base of CMIE- prowess has also been used. The data analysis has been done through SPSS software.

## Results & Discussions

There is a large difference in the means of PPE and BPE for both the groups. The public sector banks have surpassed by the new private sector banks in these variables, however the standard deviation is much high for private sector banks. The public sector banks are able to generate only 2.63 lacs PPE as against 7.52 lacs for private sector banks. Similarly average ROA for public sector banks (0.948 %) is lower in comparison to new private sector banks (1.238 %). The results reveal that the difference in the BPE and ROA between the both groups is significant at 5% level of significance while difference in the PPE is significant at 1% level. The possible reason behind this scenario is the adoption of new technology, faster payment and settlement systems, reduction of operating costs, enhancing corporate governance, undertaking organizational restructuring and sharpening the customer centric initiatives by new private sector banks. The competitive advantage of new private sector banks is high operational efficiency which is maintained by giving flexible and good working environment. Public sector banks have higher mean liquidity ratio (2.89) as compared to the new private sector banks (2.20) but liquidity position does not differ significantly across the two groups.

## Conclusions

**The following conclusions can be arrived on the basis of the above results**

1. There is no significant difference in the capital adequacy of new private sector and public sector banks. A bank has to maintain the CAR ratio at 12% according to Basel II norms. It can therefore be concluded that banks of both the sectors have maintained an adequate amount of capital to meet the financial needs. Almost all these banks have complied with capital adequacy requirement and prudential norms.



2. There is no significant difference in the Net NPA to Net Advances of new private sector and public sector banks. It shows that the public sector banks, which were suffering from the high NPA levels a decade back, are able to minimize their Net NPAs and improved the asset quality. The enactment of Securitisation and Reconstruction of financial assets and enforcement of security interest Act, 2002 (SRFAESI Act) can be the one reason to reduce the NPA levels in public sector banks. On the other hand new private sector banks have commenced with a strong financial position, without having to pursue NPAs.
3. There is a significant difference in the management quality of the new private sector and public sector banks. It can be concluded that private sector banks generate more profit per employee and business per employee as compared to the public sector banks. The reason can be the use of advanced technology, processes, core banking and aggressive marketing strategies by these banks. In contrast to their public sector counter parts, operational efficiency is maintained at their highest level because these banks provide a smooth working environment to their employees.
4. There is a significant difference in the earning quality of the new private sector and public sector banks. It can be said that private sector banks earn more return on assets as compared to the public sector banks. Efficient employees and good working conditions enable these banks to reduce the operating cost of the functions and increase return on investments.
5. There is no significant difference in the liquidity position of the new private sector and public sector banks. Both the sectors have maintained the proper liquidity to meet their customers day to day cash needs and to respond to sudden cash withdrawals.

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