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An Analysis of Financial Performance of Public Sector Banks In India Using Camel Rating System

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Abstract:

Indian banking sector is the backbone of Indian economy. Indian banking sector helps in the capital formation, innovation and money supply in the country. In this situation, it is important to carefully evaluate and analyze the performance of the banks to ensure a healthy financial system and an efficient economy. This current research attempts to evaluate the performance of select Public Sector Banks in India using CAMEL Rating System. The research is based on a sample of 18 Public sector banks for five year period from 2015 to 2019. This rating system is one of the most popular methods for measuring banking performance. CAMEL includes the parameter like Capital adequacy, Asset quality, Management quality, Earnings quality and Liquidity. The research shows that overall Bank of Maharashtra has performed best amongst the selected banks and Ranked top position with composite average 14.85 and IDFC First Bank Ltd occupies last position amongst all selected banks with composite average 20.60.

Keywords: *CAMEL, Bank Rating System, Public Sector Banks, Performance Evaluation, Banking Sector*

Introduction:

The Banking sector is one of the essential elements in the financial system. India's financial system comprises open and private division banks. The commercial banks are classified as scheduled and non scheduled banks, Indian and foreign banks, public sectors and private banks. The banking sector in India has a long history. Bank of Hindustan, the first bank in India was established in 1770. The year 1969 was important in the history of commercial banking in India. In perspective of the global trends of banking and meeting out the financial needs in India, financial sector reforms were presented in the wake of globalization and economic liberalization in India. Several reforms were taken to improve stability and efficiency of banks. The empowering measures were intended to make an environment where banks could react ideally to market signals on the basis of commercial consideration while the strengthening measures aimed at reducing the vulnerability of banks in the phase of fluctuations in economic environment. An institutional framework needed for conducive development of banks.

There are tremendous changes occurred in banking segment in terms of execution, particularly in Indian banks, even after the 1991 reforms, public sector banks have been playing a very important role in deposit mobilization and lending however, the entry of private sector and foreign banks has created a new environment of banking that required public sector banks to improve the functioning and performance in the competitive environment.

The CAMEL rating system was first developed by the three US banking regulators (Federal Reserve, FDIC and OCC) in the 1970s to feature the controllers' Uniform Financial Institution Rating System to provide a valuable summary of the banks' condition in the season of its on-site examination.

The banks were made a decision on five unique segments as:

- **C = Capital adequacy**
- **A = Assets Quality**
- **M = Management Capability**
- **E = Earnings**
- **L = Liquidity**

Based on this rating, they are rated 1 (excellent) to 5 (poor) in each of the above parameters. The banks received a rating of '1' to '5' for each parameter from CAMEL and a final rating of CAMEL expressive total from the CAMEL component scores as an assessment of the general condition of the banks. The CAMEL system was revised in 1996 and the "S" parameter was added to evaluate the "sensitivity to market risk", so that "CAMELS" is in trend today.

Based on the recommendations of the Padmanabhan Committee, commercial banks based in India are currently rated according to the "CAMELS" model, while foreign bank branches operational in India are rated according to the "CALCS" model (Capital Adequacy, Asset Quality, Liquidity, Compliance and Systems and Control). As mentioned above, the committee initially recommended a CACS model, which was later customized to include Liquidity (L) as an additional parameter.

Further alterations, in the structure containing extra granularities in the rating size of parameters under CAMELS have since been presented by RBI. Presently, each of the segments of CAMELS is rated on a scale of 1-100 in ascending order of performance. The score of every camel component is touched base by totaling (by allotting proportionate weightage) the scores of different sub-parameters that comprise the individual CAMELS parameter. Each parameter is granted a rating A-D (A as Good, B as Satisfactory, C as Unsatisfactory, and D as Poor). Further, to bring granularity in rating, there are modifiers by way of (+) and (-) under each of A, B and C making a total of ten scales A+ through to D. The composite "CAMELS rating" is arrived by aggregating weightage of each of the component. In addition, for components poor performance the overall composite score is adjusted downwards.

This current research attempts to evaluate the performance of select Public Sector Banks in India using CAMEL Rating System. The research is based on a sample of 18 Public sector banks for five year period from 2014 to 2019. This rating system is one of the most popular methods for measuring banking performance.

Objective of the Study:

The objective of the study is to analyze the financial performance and ranking of the selected Public Sector banks in India using CAMEL Rating System during the period covered in the study.

Review of Literature:

S. Rangnathan, In his studies A CAMEL model analysis for the three banks are used and he conclude that CAMEL approach is the significant tool to assess the relative financial strength of a bank and to suggest necessary measures to improve weaknesses of a bank.

M. Rostami, In her study some important ratios are chosen and calculated to evaluate bank's performance. Certainly, the trends of calculations and relevant figures show important points for managers and also, CAMELS rating can be an efficient tool to manage and control and decide in management accounting view. Banks can use this method to calculate and discuss ratios and focus on some crisis and find best solution when there is competitive problem and try to challenge and get a new and better position between the others. In fact, the important aspect of CAMELS is to compare an organization with the others in internal and external industry.

Mahdi Bastan, In this study, the qualitative system dynamics approach was used, a systemic analysis of the structure of this issue is provided. The results show that the factors, Capital Adequacy, Quality Management and Asset Quality are the most important issues of Iranian banks in banking soundness management, and developing these three factors is the way out of the problems.

Swati Goyel, This paper gives the importance of CAMEL Model and reviews many studies related to it. An challenge has been made on the usage of CAMEL Model in an Indian Banking Sector because there is a need for a modern performance evaluation system for Indian bank.

Parvesh Kumar Aspal, This study describes the various financial ratios used in the CAMELS models to measure the financial performance of banking sector. The study examined each parameter of CAMELS system by review of literature and empirical studies.

Mohammad Kamrul Ahsan, He analyze the financial performance of three selected Islamic Banks (Islami Bank Bangladesh Limited, Export Import Bank of Bangladesh Limited, Shahjalal Islami Bank Limited) over a period of eight years (2007-2014) in Bangladeshi banking sectors. For this reason, CAMEL Rating Analysis approach has been conducted and it is found that all the selected Islamic Banks are in strong position on their composite rating system. They are basically sound in every respect i.e., sound in capital adequacy, asset quality, management quality, earning capacity and liquidity conditions.

Methodology:

The research has been conducted to evaluate the financial performance of eighteenpublic sector banks currently working in India. This study is mainly based on secondary data which has been collected from the financial statements and annual reports of respective banks for the period of 2015 to 2019. The CAMEL rating system has been used in this research to rank the selected banks based on their performances. For the purpose of this study, 20sub parameters under CAMEL rating system have been considered which are associated with different dimensions of financial performance analysis. These financial ratios are being used by the Banking Regulation and Supervision Agency for measuring various indicators of bank's financial soundness and vulnerability.

Data Analysis:

The data has been analyzed using the 5 factors and their ratios. The ratios under respective five heads are calculated from the annual reports of respective banks and then ranked. The averages so calculated are then used for computing the group rank. On the basis of group averages composite ranks are given according to CAMEL parameters.

Analysis of Components and Interpretation:

1. Capital Adequacy:

Capital Adequacy is a significant indicator of the monetary strength of a banking entity. This indicates the bank's ability to keep capital comparability with the nature and degree of a wide range of risks, as also the ability of the bank's managers to identify, measure, monitor and control these risks. It reflects the overall financial situation of the bank and the management's ability to meet additional capital needs. For bank leverage, this ratio plays a role as an indicator. Capital base of financial institutions facilitates the depositors in forming their risk perception. A sufficient capital adequacy ratio is very helpful for any bank to maintain and protect the trust of stakeholders and prevent bankruptcy. Capital is seen as a buffer for taxpayers, helping to improve the reliability and efficiency of the global monetary system. It also specifies whether the bank has sufficient capital to grasp unanticipated losses. In order for finance managers to maintain adequate capitalization, this is considered a limit.

The Capital Adequacy assessed through the following ratios:

Capital Adequacy Ratio (CAR):

Capital adequacy ratio is the ratio which safeguards banks against insolvency, protects banks against surplus leverages, insolvency and keeps them out of difficulty. It is defined as the ratio of banks capital in relation to its current liabilities and risk weighted assets. It is the ratio which determines banks capacity to meet the time liabilities and other risks such as credit risk, market risk, operational risk etc. As per RBI norms In India the bank have to maintain CRA of 9% with regard Risk weighted assets.

Debt Equity Ratio (D/E Ratio):

Debt Equity Ratio in banks is a measure the degree of leverage of banks. It is calculated as the proportion of total 'Outside Liabilities' to Net worth. Higher ratio indicates less protection for the creditors and depositors in the banking system.

Total Advances to Total Assets Ratio (Tot ADV / Tot ASS Ratio):

This ratio measure the assertiveness of banks in lending. This ratio indicates a bank's sternness in lending which ultimately results in better profitability. Total advances also include receivables. The value of Total Assets excludes the revaluation of all the assets.

Government Securities to Total Investment Ratio (G-Sec / Tot INV Ratio):

This ratio shows the preserve investments in the total investments of the banks and also measures the risk involved in it. Government Securities are risk-free, a higher investment in Government Securities to investment ratio, the lower the risk involved in a bank's investment. This ratio is calculated by dividing Government Securities by Total Investments of the bank.

Table 1 : Camel Ratings (2015 - 19) : Capital Adequacy.

Sr. No.	Bank	CAR(%)		D/E(times)		Adv/Ast(%)		G-sec/Inv		Group	
		Avg	Rank	Avg	Rank	Avg	Rank	Avg	Rank	Avg Rank	Rank
1	Andhra Bank	11.85	8	18.49	15	64.06	2	91.95	1	46.59	17
2	Bank of India	12.83	3	17.37	12	58.59	12	88.83	4	44.40	15
3	Bank of Baroda	12.71	4	15.88	5	59.09	11	87.37	5	43.76	14
4	Bank of Maharashtra	11.44	11	19.48	16	59.89	8	82.68	9	43.37	13
5	Canara Bank	11.92	7	16.71	10	60.20	7	88.87	3	44.43	16
6	Central Bank of India	10.18	17	17.01	11	50.69	15	78.07	15	38.99	4
7	Indian Bank	13.09	2	12.28	2	63.16	3	84.25	8	43.19	12
8	Indian Overseas Bank	9.95	18	16.55	8	56.41	13	86.24	6	42.28	10
9	IDBI Bank Limited	11.22	13	12.72	3	52.72	14	85.32	7	40.50	5
10	Oriental Bank of	11.61	10	15.98	6	60.89	6	78.67	13	41.79	9

	Commerce									
11	Punjab & Sind Bank	11.28	12	16.58	9	62.00	5	76.39	16	41.56	6
12	Punjab National Bank	10.82	16	16.18	7	59.77	10	79.79	10	41.64	7
13	State Bank of India	12.71	5	14.82	4	59.80	9	79.67	11	41.75	8
14	Syndicate Bank	12.04	6	20.95	18	65.99	1	89.79	2	47.19	18
15	UCO Bank	10.87	15	19.69	17	43.81	17	79.41	12	38.44	3
16	Union Bank of India	11.16	14	17.88	14	63.14	4	78.63	14	42.70	11
17	IDFC First Bank Ltd	14.88	1	5.11	1	39.74	18	48.98	18	27.18	1
18	United Bank of India	11.63	9	17.48	13	48.22	16	74.01	17	37.84	2

(Source: Author's own calculation from Banks Annual report for FY 2015-2019)

Interpretation:

This Table No. 1 is based on the Authors own calculation. Ranks are given on the basis of average of five years ratios and Group ranks are given on the basis of group average of sub parameters. A lower combined group rank indicates the better financial health. From these results IDFC First Bank Ltd in the first position with average of 27.18 and Syndicate Bank has lowest position with average of 47.19 because of lower performance in capital adequacy.

2. Asset Quality:

Asset Quality shows the degree of credit risk existing in the bank due to its structure and quality of loans, advances, investments and off-balance sheet activities. The financial soundness of a bank is resolved with the quality of assets. The quality of the assets defines the financial strength of the banks in view of the depreciation of the assets, as the weakening of the assets endangers the solvency of the financial institutions. This declining value of the bank's assets has a undulating impact, as losses are at last written-off against capital, which in the long run influences the acquiring ability of the bank. With this structure, the asset quality of the dimension and power of nonperforming resources, adequacy of provisions, dispersal of assets is estimated. The main principle for measuring asset quality is to determine the proportion of non-performing assets (NPA) in the total balance sheet. This clearly shows the type of advance payment that the bank pays for interest income, so the quality of assets clearly determines the type of debtor based on the bank's balance sheet.

The following ratios measure Asset Quality:

Net Non-Performing Assets (NPA) to Net Advances Ratio (NNPA's/ ADV Ratio):

This ratio measure the overall quality of banks advances. It shows the actual financial burden on the bank. Higher ratio reflects rising bad quality of loans.

Gross Non-Performing Assets (GNPA) to Net Advances Ratio (GNPA's/ ADV Ratio):

This ratio measures the quality of assets in a situation, where the management has not provided for loss on NPAs. It reflects the quality of advances made by the bank. A low ratio signifies that the bank has granted sound loans and proves the good quality of advances.

Total Investment to Total Assets Ratio (Tot INV / Tot ASS Ratio):

This ratio measures the proportion of total assets of the bank that are locked up in investments which does not form a part of the core income of the bank, as against providing advances to the customers. An aggressive bank would have a low investment to asset ratio as a high ratio signifies that the bank has very conventionally kept a high cover of investment to safeguard against the risk of Non-Performing Assets. This adversely affects the profitability of the banks.

Table No.2 Represents Asset Quality position of sample banks during 2015-19

Sr. No.	Bank	NNPAs/TA (%)		GNPAs/TA (%)		TI/TA (%)		Group	
		Avg	Rank	Avg	Rank	Avg	Rank	Avg	Rank
1	Andhra Bank	5.86	7	12.85	10	26.18	7	14.96	10
2	Bank of India	6.39	10	13.93	13	21.07	2	13.80	8
3	Bank of Baroda	4.10	4	9.80	7	20.00	1	11.30	1
4	Bank of Maharashtra	7.81	13	13.70	12	27.21	10	16.24	13
5	Canara Bank	5.65	6	8.72	5	24.68	5	13.01	6
6	Central Bank of India	8.00	14	15.32	14	31.33	15	18.22	14
7	Indian Bank	3.73	3	6.60	2	26.69	9	12.34	3
8	Indian Overseas Bank	11.54	18	19.07	17	28.14	14	19.59	15
9	IDBI Bank Limited	9.93	16	21.50	18	27.92	12	19.79	16
10	Oriental Bank of Commerce	7.07	11	12.49	9	27.97	13	15.84	12
11	Punjab & Sind Bank	5.97	9	9.28	6	27.25	11	14.16	9
12	Punjab National Bank	7.66	12	13.17	11	25.33	6	15.39	11
13	State Bank of India	3.68	2	8.21	3	26.65	8	12.84	5
14	Syndicate Bank	4.81	5	8.63	4	23.26	3	12.23	2
15	UCO Bank	9.03	15	17.79	16	32.99	16	19.94	17
16	Union Bank of India	5.96	8	10.80	8	24.48	4	13.74	7
17	IDFC First Bank Ltd	1.32	1	3.11	1	33.71	17	12.71	4
18	United Bank of India	10.07	17	16.17	15	36.47	18	20.91	18

(Source: Author's own calculation from Banks Annual report for FY 2015-2019)

Interpretation:

Table No. 2 reveals that components of asset quality position of banks. From these results Bank of Baroda is in first position with group average 11.30 and United Bank of India is in lowest position with group average 20.91.

3. Management Efficiency:

The Management Efficiency parameters indicate the ability of the board of directors and senior managers to identify, measure, monitor and control risks associates with the bank. This parameter is used to evaluate management efficiency as to assign premium to better quality banks and discount poorly managed ones. This qualitative measure has element of subjectivity, uses risk management policies and processes as indicators of sound management practices.

The following ratios quantify Management Efficiency:

Total Expenditure to Total Income Ratio (Tot EXP / Tot INC Ratio):

Every bank keeping a close watch on expenditure would enable it to enhance its return to its equity share holders. It is ideal for banks to have a lower ratio as it will enhance the profits of the bank and subsequently enhance returns to the stakeholders.

The ratio gives investors a clear view of how efficiently the bank is being run – the lower it is, the more profitable the bank will be. If the ratio rises from one period to the next, it means that costs are rising at a higher rate than income.

Total Advance to Total Deposit Ratio (Tot ADV/Tot DEP Ratio):

The ratio measures the efficiency and ability of the bank's management in converting the deposits available with the bank into high earnings advances. It indicates the quantum of advances a bank has as against the deposits it has mobilized. A higher ratio indicates more reliance on deposits for lending, whilst a low ratio signifies less reliance on deposits.

Asset Turnover Ratio (ATR):

Asset Turnover measures how quickly a bank turns over its asset through its income, both interest incomes as well as non-interest income. It measures the ability of a bank to use its assets to efficiently generate income. The higher the ratio indicates that the bank is utilizing all its assets efficiently to generate income.

Diversification Ratio (DIVRSF ratio):

This ratio measures the ability of the bank to generate income other than interest income from regular banking activities. A high ratio indicates increasing proportion of fee-based income.

Profit Per Employee (PPE):

This is an important parameter to measure the efficiency of the banks management as this ratio measures the company's profits in relation to number of employees. The ratio indicates the surplus earned per employee. A high ratio clearly signifies efficient management.

Business Per Employee (BPE):

Business per employee ratio shows the productivity of employees of the bank. It indicates how much business each employee is producing for the bank. Higher the ratio is better for the bank as it automatically reveals efficient bank management.

Table No. 3 Camel Ratings (2015-19): Management Efficiency

Sr No	Bank	Tot EXP / Tot INC Ratio		Tot ADV/Tot DEP Ratio		Asset Turnover Ratio		Diversification Ratio		Profit Per Employee		Business Per Employee		Group	
		Avg	Rank	Avg	Rank	Avg	Rank	Avg	Rank	Avg	Rank	Avg	Rank	Avg	Rank
1	Andhra Bank	1.0456	8	0.7404	13	9.0444	2	0.0986	5	-0.0480	8	17.5620	5	4.7405	2
2	Bank of India	1.0782	13	0.6889	5	7.4075	16	0.1118	9	-0.0705	11	18.9460	2	4.6936	3
3	Bank of Baroda	1.0101	4	0.6911	6	7.1147	17	0.1148	10	-0.8880	16	17.9440	3	4.3311	8
4	Bank of Maharashtra	1.1100	15	0.6947	7	8.4436	6	0.1003	6	-10.5160	18	17.7320	4	2.9274	17
5	Canara Bank	1.0100	3	0.7010	10	8.3081	9	0.1231	13	-0.0095	5	0.8824	18	1.8359	18
6	Central Bank of India	1.1048	14	0.5806	2	8.4377	7	0.0871	3	-0.0763	12	12.1257	17	3.7100	16
7	Indian Bank	0.9500	2	0.7573	15	8.2771	10	0.1024	7	0.0464	3	16.9840	7	4.5195	5
8	Indian Overseas Bank	1.1477	16	0.6572	3	9.0865	1	0.1381	15	-0.1169	14	13.0480	15	3.9934	13
9	IDBI Bank Limited	1.2232	18	0.7332	12	8.5546	5	0.1460	16	-0.3580	15	23.6900	1	5.6648	1
10	Oriental Bank of Commerce	1.0595	10	0.6972	9	8.6604	4	0.1151	11	-0.0567	9	17.3990	6	4.6458	4
11	Punjab & Sind Bank	1.0144	5	0.6950	8	8.6763	3	0.0644	1	-1.2140	17	16.9080	8	4.3574	7
12	Punjab National Bank	1.0756	12	0.7065	11	7.8927	14	0.1332	14	-0.0620	10	14.4960	12	4.0403	12
13	State Bank of India	1.0581	9	0.7809	17	7.9496	13	0.1484	17	0.0334	4	15.6320	11	4.2671	9
14	Syndicate Bank	1.0451	7	0.7781	16	8.0605	12	0.1048	8	-0.0340	7	14.4340	13	4.0648	11
15	UCO Bank	1.1503	17	0.6605	4	7.7543	15	0.0914	4	-0.1022	13	13.4980	14	3.8421	15
16	Union Bank of India	1.0226	6	0.7530	14	8.4079	8	0.1161	12	-0.0231	6	16.6040	10	4.4801	6
17	IDFC First Bank Ltd	0.7687	1	1.8191	18	5.9277	18	0.0779	2	0.1020	2	16.8060	9	4.2502	10
18	United Bank of India	1.0668	11	0.5397	1	8.2511	11	0.1782	18	0.1181	1	13.0200	16	3.8623	14

(Source: Author's own calculation from Banks Annual report for FY 2015-2019)

Interpretation:

Table No. 3 shows that IDBI Bank Limited stood first with group average of 5.6648 and Canara Bank is in the last position with group average 1.8359.

4. Earnings Quality:

Sustainable growth of the bank depends on the quality of earnings and the competency of the bank to maintain this quality and earn progressively. It is an indicator of profitability of banks. To increase its stakeholders profit is an ultimate aim of any bank.

A significant part of a bank's revenue is generated through fee-based activities such as business consulting, treasury, investing, etc. The quality of earnings will also aid the bank in executing activities like dividend payment, maintaining adequate level of capital, taking up growth and diversification strategies and maintaining a competitive attitude.

The following ratios measure the Earnings Quality:

Net Profit Margin (NPR):

Net profit margin is an important criterion to measure the earnings quality in banks. Increasing profits is the best indicator that the bank can pay dividends due to which the share price will trend upward. Stakeholders look at net profit margin thoroughly because it signifies the quality of the bank that is reflected in its ability in converting revenue into profits available for shareholders. It is explained as percentage of revenue that is residual after all operating expenses, interest, taxes and preferred stock dividends other than common stock dividend is deducted from the total income of the bank. A high Net Profit Margin clearly signifies that the bank has stable and steady earnings.

Return on Equity (ROE):

The return on equity (ROE), also known as return on investment (ROI), is a sound measure of return, since it is the product of the operating performance, debt- equity management and asset turnover of the bank. ROE measures how much the shareholders earned for their investment in the bank. The higher the ratio percentage, the more efficient the bank is in earnings and utilizing its equity base to generate better return is to investors.

Net Interest Margin (NIM):

Net Interest margin is an important parameter of the performance of banks. It is the difference between the interest income and the interest expended as a percentage of total assets. NIM, shows the ability of the bank to keep the interest on deposits low and interest on advance high. A higher ratio indicates better earnings as against the total assets.

Interest Spread (IS):

Interest spread is the difference between yield and cost of borrowing, where yield is the interest income earned on interest earning assets and cost of borrowing is interest expense charged on interest bearing liabilities. The larger the spread, the more profitable the bank is likely to be; the lower the spread, the less profitable the bank.

Interest Income to Total Income Ratio (INTINC/ Tot INC Ratio) :

Interest income to total income indicates the capability of the bank in generating interest income from its advances. Interest income is a basic source of revenue for banks.

Table No. 4 Earning Quality

Sr. No.	Bank	Net Profit Margin		Return on Equity		Interest Income to Total Income		Group	
		Avg	Rank	Avg	Rank	Avg	Rank	Avg	Rank
1	Andhra Bank	-4.5623	9	1.7570	3	0.9014	4	-0.6346	7
2	Bank of India	-21.0171	17	-16.5640	17	0.8882	8	-12.2310	17
3	Bank of Baroda	-1.0116	4	-2.0720	15	0.8852	9	-0.7328	8
4	Bank of Maharashtra	-10.7570	14	-53.4540	18	0.8997	5	-21.1038	18
5	Canara Bank	-1.1949	5	-2.1640	16	0.8769	12	-0.8273	9
6	Central Bank of India	-10.6959	13	1.5190	9	0.9129	2	-2.7547	13
7	Indian Bank	5.0929	1	1.2993	12	0.8976	6	2.4300	2
8	Indian Overseas Bank	-14.7722	15	1.5953	4	0.8619	14	-4.1050	14
9	IDBI Bank Limited	-22.4051	18	1.1827	13	0.8540	15	-6.7895	16
10	Oriental Bank of Commerce	-5.9517	10	1.4740	10	0.8849	10	-1.1976	10
11	Punjab & Sind Bank	-1.4446	6	1.5214	8	0.9356	1	0.3375	4
12	Punjab National Bank	-7.5615	12	1.3522	11	0.8668	13	-1.7808	12
13	State Bank of India	3.0966	3	4.5720	1	0.8516	16	2.8401	1
14	Syndicate Bank	-4.5054	8	1.7712	2	0.8952	7	-0.6130	6
15	UCO Bank	-15.0332	16	1.5442	7	0.9086	3	-4.1935	15
16	Union Bank of India	-2.2602	7	1.5863	5	0.8839	11	0.0700	5
17	IDFC First Bank Ltd	3.1339	2	0.4632	14	0.7221	18	1.4397	3
18	United Bank of India	-6.6750	11	1.5511	6	0.8218	17	-1.4340	11

(Source: Author's own calculation from Banks Annual report for FY 2015-2019)

Interpretation:

Table No. 4 reveals that State Bank of India has held the first position with group average 2.8401 and Bank of Maharashtra stood last position with group average -21.1038 because of lower Net profit margin and Return on equity ratio.

5. Liquidity:

Liquidity management in banks has played a key role due to the competitiveness of benchmark banks and the fluid flow of foreign capital in national markets. Timely In order to meet customer requirements; Creditors and depositors need banks to maintain the liquidity of their assets as the impact of the liquidity crisis on banks can negatively affect their financial performance. You need to manage money and therefore maintain the right balance between profitability and liquidity. Banks 'inability to manage their short-term liquidity liabilities and loan commitments can undesirably affect banks' performance by significantly increasing their financing costs.

Liquidity in banks is managed through an effective mechanism called Asset and Liability Management, which reduces the maturity mismatches between assets and liabilities in order to optimize profitability.

The following ratios measure Liquidity:

Cash to Deposit Ratio (CD Ratio):

This is an important parameter to measure liquidity as it evaluates the amount of cash that the bank has from the deposits that it has generated. Cash being liquid of all the assets gives the complete picture of the liquidity of the bank. Banks need to maintain sound cash to deposit ratio so as to ensure that large volume of cash is not maintained, as idle cash does not generate any returns and will subsequently endanger the earnings quality of the bank.

Government Securities to Total Asset Ratio (G-Sec /Tot ASS Ratio):

Investment in government securities, whether within the country or outside India are considered to be the safest investment and therefore the most liquid investment. This ratio measures the total assets of the bank that are held in government securities. Although a high ratio signifies sound liquidity of the bank, it affects the earning quality of the bank since government securities do not give high returns unlike other market investing instruments. Inspite of this, banks invest in government securities primarily to meet their SLR requirements.

Total Investment to Total Deposit Ratio (INV/DEP Ratio):

This ratio measures liquidity available to the depositors of a bank. It measures how liquid the bank is in meeting its obligation towards the depositors of the bank.

Interest Expended to Interest Earned Ratio (INT EXP/ INT EARN Ratio):

This ratio measures interest expense as a percentage of interest income. It measures the ability of the bank to meet the interest expenditure on deposits from the interest income from advances. It also shows the appropriate management of deposits and advances of the bank. If the ratio is less than 1, the bank is generating enough interest from advances to meet its interest obligations of deposits which signifies sound liquidity of the bank.

Table No.5 Liquidity

Sr. No.	Bank	Cash to Deposit Ratio (%)		G-Sec /Tot ASS Ratio		TINV/DEP Ratio		INT EXP/ INT EARN Ratio (%)		Group	
		Avg	Rank	Avg	Rank	Avg	Rank	Avg	Rank	Avg	Rank
1	Andhra Bank	4.8067	7	24.0792	5	30.2425	12	68.1484	6	31.8192	11
2	Bank of India	5.6848	14	18.7203	17	24.8056	17	70.9263	8	30.0342	17

3	Bank of Baroda	3.8432	1	17.5115	18	23.5165	18	67.0841	3	27.9888	18
4	Bank of Maharashtra	7.8939	16	22.2250	8	31.5431	9	69.6821	7	32.8360	8
5	Canara Bank	4.4344	3	21.9206	10	28.7327	15	74.2924	15	32.3450	10
6	Central Bank of India	11.0517	18	24.4395	3	35.6762	5	72.3159	10	35.8708	4
7	Indian Bank	4.5976	5	22.5174	7	31.2729	10	67.8446	5	31.5581	13
8	Indian Overseas Bank	5.3586	13	24.2504	4	32.7816	7	73.5691	13	33.9899	6
9	IDBI Bank Limited	5.2237	12	23.5805	6	38.8297	3	77.1378	17	36.1929	3
10	Oriental Bank of Commerce	5.0322	11	21.9372	9	32.0081	8	72.9155	12	32.9732	7
11	Punjab & Sind Bank	4.9574	9	20.7871	13	30.5594	11	74.8778	16	32.7954	9
12	Punjab National Bank	4.5820	4	20.2020	15	29.9114	13	67.1453	4	30.4601	16
13	State Bank of India	6.5467	15	21.2193	11	34.7388	6	64.6912	2	31.7990	12
14	Syndicate Bank	4.8675	8	20.8948	12	27.4444	16	72.1383	9	31.3362	15
15	UCO Bank	4.1978	2	26.1171	2	38.5030	4	73.8784	14	35.6741	5
16	Union Bank of India	4.7636	6	19.2319	16	29.1938	14	72.4410	11	31.4076	14
17	IDFC First Bank Ltd	8.5792	17	20.5655	14	139.4354	1	61.2451	1	57.4563	1
18	United Bank of India	5.0319	10	26.8673	1	40.8178	2	78.2344	18	37.7378	2

(Source: Author's own calculation from Banks Annual report for FY 2015-2019)

Interpretation:

Table No. 5 reveals that IDFC First Bank Ltd perform outstanding with group average 57.4563 and Bank of Baroda has poor performance with group average 27.9888.

Table No. 6 Composite ranking: Overall performance of Public Sector Banks

Sr. No.	Bank	C	A	M	E	L	AVERAGE	RANK
1	Andhra Bank	46.59	14.96	4.7405	-0.6346	31.8192	**19.4953**	16
2	Bank of India	44.40	13.80	4.6936	-12.2310	30.0342	**16.1391**	2
3	Bank of Baroda	43.76	11.30	4.3311	-0.7328	27.9888	**17.3299**	3
4	Bank of Maharashtra	43.37	16.24	2.9274	-21.1038	32.8360	**14.8539**	1
5	Canara Bank	44.43	13.01	1.8359	-0.8273	32.3450	**18.1587**	5
6	Central Bank of India	38.99	18.22	3.7100	-2.7547	35.8708	**18.8066**	10
7	Indian Bank	43.19	12.34	4.5195	2.4300	31.5581	**18.8083**	11
8	Indian Overseas Bank	42.28	19.59	3.9934	-4.1050	33.9899	**19.1497**	15
9	IDBI Bank Limited	40.50	19.79	5.6648	-6.7895	36.1929	**19.0704**	14
10	Oriental Bank of Commerce	41.79	15.84	4.6458	-1.1976	32.9732	**18.8097**	12

11	Punjab & Sind Bank	41.56	14.16	4.3574	0.3375	32.7954	**18.6434**	7
12	Punjab National Bank	41.64	15.39	4.0403	-1.7808	30.4601	**17.9492**	4
13	State Bank of India	41.75	12.84	4.2671	2.8401	31.7990	**18.6999**	8
14	Syndicate Bank	47.19	12.23	4.0648	-0.6130	31.3362	**18.8415**	13
15	UCO Bank	38.44	19.94	3.8421	-4.1935	35.6741	**18.7406**	9
16	Union Bank of India	42.70	13.74	4.4801	0.0700	31.4076	**18.4807**	6
17	IDFC First Bank Ltd	27.18	12.71	4.2502	1.4397	57.4563	**20.6075**	18
18	United Bank of India	37.84	20.91	3.8623	-1.4340	37.7378	**19.7816**	17

(Source: Author's own calculation)

Interpretation:

Table No. 6 shows that the overall performance under sub parameters CAMEL of the selected public sector banks. All the averages are consolidated in the above table and overall ranks are given. Bank of Maharashtra has performed best amongst the selected banks and Ranked top position with composite average 14.85 and IDFC First Bank Ltd occupies last position amongst all selected banks with composite average 20.60.

Conclusion:

CAMEL Rating system is very important supervisory tool for assessing financial performance and financial health of the banks. This research analyse the financial performance of the selected 18 public sector banks with CAMEL components of 20 ratios for the period of 5 years 2015 -2019.

The study shows that, In the capital adequacy IDFC First Bank Ltd in the first position with average of 27.18 and Syndicate Bank has lowest position with average of 47.19 because of lower performance. Asset quality reflects the financial strength. Bank of Baroda is in first position with group average 11.30 and United Bank of India is in lowest position with group average 20.91 in asset quality. Management efficiency indicate sound management practices, in this component IDBI Bank Limited stood first with group average of 5.6648 and Canara Bank is in the last position with group average 1.8359.Earnings represents the sustainability and growth, in this parameter State Bank of India has held the first position with group average 2.8401 and Bank of Maharashtra stood last position with group average -21.1038 because of lower Net profit margin and Return on equity ratio. Every bank should ensure that it is able to maintain adequate level of liquidity to meet its financial commitments in a timely manner. In this regard IDFC First Bank Ltd performs outstanding with group average 57.4563 and Bank of Baroda has poor performance with group average 27.9888.

In the overall performance Bank of Maharashtra has performed best amongst the selected banks and Ranked top position with composite average 14.85 and IDFC First Bank Ltd occupies last position amongst all selected banks with composite average 20.60.

It can be concluded that the study will help to improve the performance of the banks. The scope of the study is limited to selected banks only but this will helps to all banks in India.

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