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     REVIEW OF LITERATURE

     NEED/IMPORTANCE OF THE STUDY

     STATEMENT OF THE PROBLEM

     OBJECTIVES

     HYPOTHESES

     RESEARCH METHODOLOGY

     RESULTS & DISCUSSION

     FINDINGS

     RECOMMENDATIONS/SUGGESTIONS

     CONCLUSIONS

     SCOPE FOR FURTHER RESEARCH

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     APPENDIX/ANNEXURE

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PERFORMANCE EVALUATION OF PUBLIC SECTOR BANKS IN INDIA – A CAMEL APPROACH

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ABSTRACT

To facilitate the transition and uplift the Indian banking system to an international standard, various measures have been introduced by the Reserve bank of India. One of such measures to assess the financial viability is the CAMEL (Capital adequacy, Asset quality, Management, Earnings and Liquidity) model. For the purpose of the study each constituent is considered as a module and an attempt has been made evaluate and rank the public sector banks on each module and subsequently on the aggregate of all the modules. A minimum of three and a maximum of six parameters were used within each module. The results reveal that Indian Overseas Bank occupied the top rank in Capital Adequacy Module, Andhra Bank occupied first rank in the Asset Quality Module, Corporation Bank stood at first position in the Management Efficiency Module. Punjab National Bank occupied the top rank in Earning Efficiency Module while State Bank of Bikaner and Jaipur occupied the top rank in the Liquidity Assessment Module. Aggregate of all the modules reveals that Andhra Bank secured the top position followed by Indian Bank, Oriental Bank of Commerce, Punjab National Bank and Bank of Baroda in the top five banks, whereas Central bank of India, United bank of India, UCO Bank, Dena bank and Bank of Maharashtra are at the bottom five. State Bank of India, the largest Public sector bank, did not figure in the top five positions in any of the five modules. However, it occupied 21st position based on overall performance.

KEYWORDS

CAMEL model, Module, Performance evaluation, Public sector banks, Rank.

INTRODUCTION

In India, prior to nationalization, banking was restricted mainly to the urban areas and neglected in the rural and semi-urban areas. Large industries and big business houses enjoyed major portion of the credit facilities. Agriculture, small-scale industries and exports did not receive the deserved attention. Therefore, inspired by a larger social purpose, 14 major banks were nationalized in 1969 and six more in 1980. Since then the banking system in India has played a pivotal role in the Indian economy, acting as an instrument of social and economic change. Although on one hand nationalization of banks helped in the spread of banking to the rural and till then uncovered areas, on the other hand it resulted in monopoly and lack of competition which led to overall inefficiency and low productivity of public sector banks. Excessive focus on quantitative achievements had made many of the public sector banks unprofitable and undercapitalized by international standards. Many banks were earning less than reasonable rates of returns, had low capital adequacy and high non- performing assets, and were providing poor quality customer service. By 1991 the Indian financial system was saddled with an inefficient and unsound banking system. Some of the reasons for this were i) High reserve requirements; ii) administered interest rates; iii) directed credit; iv) lack of competition; and v) political interference and corruption. However on the onset of reforms, the main focus has been on strengthening the balance sheet rather than the size so as to make its presence in the international milieu. Several measures have been suggested by the RBI to examine the financial viability of the banks. One such measure is the CAMEL method. Against this background, this paper attempts to examine the performance of public sector banks using the CAMEL model for the period from 2006 to 2011.

REVIEW OF LITERATURE

Several studies have been carried out to examine the productivity and profitability of Indian commercial banks during different intervals of time using CAMEL model. The results of these studies varied according to the parameters used in the study, the period of study, and also the sample of banks. Some of these are reviewed for the present study.

Bhattacharyya, Lovell and Sahay (1997) in their study observed that Indian banks with low risk portfolios, as indicated by a higher capital ratio, are less efficient because they prefer safer and lower earning portfolios over riskier higher earning portfolios. They concluded that capital adequacy does not have a significant impact on the performance of public sector banks in India.

Subba Rao. S.R and Datta.L. (1998), attempted to evaluate performance of 19 nationalized banks for the period 1997-98 using CAMEL rating model and found that 11 out of 19 banks in the nationalized banks group turned out to be better banks based on factors considered for the study. They suggested that a bank could compare its own performance with the peer group to identify its weakness and take immediate steps for rectification.

Cole, Rebel A and Gunther (1998) conducted a study on "A CAMEL Rating Shelf Line", and found that CAMEL rating improved forecast accuracy, but only of the examination which had occurred during the previous two quarters.

Das, A and Ghosh, A (2006) conducted an empirical study of the Indian banks during the post reforms period to examine the association of the capital adequacy, asset quality and profitability with banks efficiency. The study reported that the banks having higher profitability attract more customers, create more deposits and lending and hence efficient in intermediation.

Siva S and Natarajan P,N. (2011), empirically tested the applicability of CAMEL norms and its impact on the performance of SBI groups and found that there is significant difference in the ratio's in CAMEL among the state bank groups.

OBJECTIVES OF THE STUDY

1) To conduct a comparative analysis of public sector banks in India during the period 2006-11 using CAMEL model.
2) To rank the banks based on their performance in each of the modules.
3) To provide a composite ranking based on overall performance.

RESEARCH METHODOLOGY

The study is primarily analytical in nature and uses data retrieved from the relevant reports on 'Performance Highlights of Public Sector Banks', published by Indian Banks' Association, Mumbai. The scope of the study is limited to six years (2006-2011). For the purpose of analysis CAMEL model is used. The Acronym of CAMEL is Capital adequacy, Asset quality, Management efficiency, earnings quality and Liquidity assessment. Each of these constituent is considered as a module. A minimum of three and a maximum of six performance indicators are used to capture the profitability and operational efficiency of the individual banks within each module. An attempt has been made evaluate and rank the public sector banks on each module and subsequently an aggregate ranking has been assigned based on composite average.

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SELECT RATIOS/INDICATORS USED IN EACH MODULE

CAPITAL ADEQUACY MODULE

Capital Adequacy is stipulated by Bank for International Settlement (BIS) to ensure that it can absorb a reasonable amount of losses from assets which turn bad and complies with statutory requirements. The norms are fixed as percentage of risk weighted assets i.e the assets are weighted on the basis of risk involved in their realization. It reflects the overall financial condition of the banks and also the ability of the management to meet the need for additional capital. The following ratios were used in this module.

Capital Adequacy Ratio (CAR) : CAR is a ratio of a bank's capital to its risk which determines the capacity of a bank in terms of meeting the time liabilities and risks like credit risk, operational risk etc. This ratio is used to protect the depositors and promote the stability and efficiency of financial systems .The stipulated a requirement as per RBI is 9 per cent.

Advances to Assets Ratio (Adv/Ast): This ratio shows the total advances as percentage to total assets which can give capital adequacy of the firm. It shows the ability of a firm to meet the capital needs. A higher ratio is preferred to a lower one.

Government Securities to Investments (G.Sec/T.Inv): This ratio indicates the percentage of risk free investments by the banks in its investments portfolio. Since the investment in Government securities are risk free, the higher the G-Sec to investments, the lower the risk involved in bank investments.

ASSET QUALITY MODULE

Asset quality is rated with reference to a) the level of distribution and health of the classified assets; b) the recovery performance. The asset quality is an important parameter to assess the strength of a bank in terms of current position and future viability. It helps to assess the credit risk associated with a particular asset. Higher levels of classified assets can have an adverse impact on the earnings of the bank. The following ratios were used in this module**.**

Return on Assets (ROA): Return on Assets is the ratio of net profit to total average assets. This is the main indicator of profitability used in international comparisons and also given under the RBI guidelines for balance sheet analysis.

Net Non-performing Assets as % to Net Advances (NNPAst/NAdv): NPAs reflect the performance of banks. A high level of NPAs suggests high probability of a large number of credit defaults that affect the profitability and net-worth of banks and also erodes the value of the asset. The NPA growth involves the necessity of provisions, which reduces the overall profits and shareholders' value. Non-performing Asset (NPA) has emerged since over a decade as an alarming threat to the banking industry in our country sending distressing signals on the sustainability and endurance of the affected banks. Lower the ratio, better the soundness of the banks.

Investments as % to Assets (Inv/Ast): This ratio shows the extent of deployment of assets in investment as against advances. This ratio is used as a tool to measure the percentage of total assets locked up in investments, which, by conventional definition, does not form part of the core income of a bank.

MANAGEMENT EFFICIENCY MODULE

Management efficiency is evaluated against the factors of ability to a) improve the productivity; b) reduction in operating expenses; and c) improve the profitability. Management quality is basically the capability of the board of directors and management, to identify, measure, and control the risks of an institution's activities and to ensure the safe, sound, and efficient operation in compliance with applicable laws and regulations. The ratios used under this module are:

Staff Cost as % to Net Income (SC/N.Inc): It is an efficiency measure most commonly used in financial sector. The lower is the better.

Staff Cost as % to Operating Expenses (SC/Op.Exp): Staff Cost occupies a major share of bank's expenses. This ratio explains as to what percentage of operating expenditure is used on staff. The staff cost is subject to increase due to two factors- the increase in number of employees and in the scale of their emoluments.

Business per Employee (BPE): The average business per employee is a proxy of employee's productivity. The input is number of employees and output is the total business. This ratio therefore indicates input-output relationship. The higher the ratio, the greater is the efficiency of employees – the human element.

Staff Cost per Employee: Staff cost is the expenditure incurred on salaries and other allowances paid to the staff. It includes expenses made on salaries, allowances, provident fund and bonus, etc. The higher the expenses per employee, the lower will be the profit, which ultimately reduces the productivity of the employees.

Profit per Employee (PPE): Profit at the employee level is one of the basic indicators to measure the performance of a bank. It is not only a profitability indicator but also an efficiency indicator. A higher ratio indicates more profit per employee, which means greater efficiency of employees.

Operating Cost as % to Net Income: This ratio is used as a benchmark by bank while reviewing its operational efficiency. Lower the ratio, better the performance.

EARNINGS QUALITY MODULE

The quality of earnings is an important indicator that determines the ability of a bank to generate income consistently. It is related to a) ability to recover losses and provide capital; b) quality of composition of net income; and c) ability to improve the spread. The ratios used under this module are:

Spread as % to Total Income (SP/T.Inc): Spread is a key indicator of the resource intermediation of the bank. Higher the ratio, better the performance.

Net profit as % to Total Income (NP/T.Inc): Total income is the sum of interest spread and other income. Higher the ratio greater will be the profitability.

Net profit as % to Average Working Funds: This ratio measures the efficiency of utilization of working funds.

Interest Income as % to Total Income (Int .inc /T. inc): Interest income is obtained from interest earning assets. Interest income is defined as earnings on advances, investments and on deposits with RBI and other accounts. Interest income of banks accounts for a large proportion of total earnings. It constitutes the most important source of the total income. The higher the ratio, the better is the profitability position.

LIQUIDITY ASSESSMENT MODULE

Liquidity assessment basically assess a) the ability of the bank to promptly meet the demands of the depositors at a particular time; b) to readily satisfy the reasonable credit demand ; and c) to take proper care to hedge the liquidity risk. The ratios used in this module are:

Credit-Deposit Ratio (CDR): The higher the CD ratio, the higher is the credit deployment, and results in larger profits. According to RBI, CD ratio of 60 percent is considered as ideal.

Government Securities to Total Assets (Gov.Sec/T.Ast): This ratio primarily measures the Government securities as proportionate to total assets.

Liquid Assets as % to Total Assets (L.Ast/T.Ast): This ratio measures the overall liquidity position of a bank. It shows the Percentage of liquid assets in the asset structure of a bank Liquid assets includes cash in hand, balance with institutions and money at call and short notice.

Liquid Assets as % to Total Deposits (L.Ast/T.Dep): This ratio indicated the extent of liquidity maintained by a bank for meeting the demand made by the depositors and sometimes taken as a measure of bank liquidity.

DATA ANALYSIS AND RESULTS

CAPITAL ADEQUACY MODULE

Annexure I present relative performance in terms capital adequacy of public sector banks during the period of study. It is pertinent to note that all banks have registered CAR higher than the prescribed level by the RBI. Indian Overseas Bank secured the top position by registering highest average of 13.11, followed by Indian Bank (12.92), Bank of Baroda (12.85), Allahabad Bank (12.79) and IDBI Bank Ltd.(12.77), Whereas Central Bank of India (10.85), followed by Dena Bank (11.21), Syndicate Bank(11.22), Bank of Maharashtra(11.33) and UCO Bank (11.35) secured the bottom five ranks by reporting lowest average.

On the basis of Adv/Ast ratio, Indian Overseas Bank occupies the top rank by registering an average of 64.40 , followed by State Bank of Travancore (63.92), Indian Bank (63.40), State Bank of Mysore(63.23) and State Bank of Indore(62.89), While Dena Bank(45.56), followed by Punjab and Sind Bank(50.38), Central bank of India (52.95), United bank of India (53.63) and Corporation Bank (53.85 are positioned at the bottom five ranks.

In terms of G.Sec/T.Inv State bank of Patiala registered the highest rank by reporting an average of 96.26, followed by State bank of Bikaner and Jaipur(4.91), State bank of Indore (92.46) State bank of Mysore (90.91) and State bank of Travancore(89.20), while IDBI Ltd (73.55), followed by Corporation Bank(76.03), United bank of India(76.50), Allahabad Bank(77.56) and Bank of Baroda (78.68) occupied the bottom five ranks.

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In an aggregate basis in the module of Capital adequacy Indian Overseas Bank secured the top position, followed by state bank of Bikaner and Jaipur at the second position and Indian Bank at the third Position while Corporation Bank and Dena bank and secured the last ranks due to poor performance on all the three parameters.

ASSET QUALITY MODULE

The aggregate position of asset quality is depicted in Annexure II. The best bank in terms if ROA is Indian Bank (1.51) followed by Andhra Bank (1.28), Punjab national Bank (1.24), Corporation Bank (1.23) and Allahabad Bank (1.19), while State Bank of Saurashtra (0.35) followed by Central bank of India (0.55), UCO Bank (0.56), United Bank of India (0.58) Bank of Maharashtra and IDBI Bank Ltd.(0.59) secured the bottom five ranks on this ratio.

Evaluation of asset quality based on NPAs as percentage of Net advances, Andhra Bank(0.21) occupied the top rank by registering the least on this ratio, followed by Indian bank (0.38), Corporation Bank(0.41), State bank of Hyderabad(0.42) and Bank of Baroda (0.49) while UCO bank(1.73), followed by State bank of India (1.72), Dena Bank(1.58), United Bank of India (1.54) and Central bank of India (1.3) occupied the bottom five ranks by reporting highest on this ratio.

With regard to T.Inv/T.Ast, Dena Bank is at top position with an average of (21.7), followed by Bank of Baroda (24.13), State bank of Indore (24.78), Bank of India (24.82) and State Bank of Bikaner and Jaipur, while Indian Bank (36.82), followed by United Bank of India (33.83), Indian Overseas Bank (30.71), Vijaya Bank (30.35) and Bank of Maharashtra (30.23) secured the bottom five positions by registering highest on this ratio.

The group average of all the parameters in the module of asset quality, Andhra Bank (3.67) is ranked at the first position followed by Corporation bank (5.62), Bank of Baroda (6.67), Punjab National Bank (7.33) and Oriental bank of Commerce (8.00), While United Bank of India (25.00) occupied the bottom most position due to poor performance on all the sub parameters. This has been followed by UCO Bank (24) and bank of Maharashtra (23.00). SBI the largest Public Sector Bank is positioned at 20th.

MANAGEMENT EFFICIENCY MODULE

Annexure III presents the various ratios under the module of Management efficiency. In terms of SC/N.Inc, IDBI Ltd. (17.10) secured the top rank by registering the least average, followed by Corporation Bank (19.33), Oriental bank of Commerce (23.17), State bank of Indore (24.89) and Union Bank of India (25.01) while State Bank of Saurashtra (38.83) followed by United Bank of India(38.12), Central bank of India(37.97), UCO Bank(37.57) and Punjab and Sind bank (37.39) secured the bottom five positions by reporting highest average on this ratio.

In terms of SC/Op.Exp, again IDBI (40.49) stood at the top position followed by Corporation Bank (48.85), State bank of Indore (53.12), Oriental Bank of Commerce(53.67) and state bank of Mysore(57.23), while Punjab and Sind Bank (74.49), followed by UCO Bank (71.04), Central Bank of India(70.88), Punjab National Bank (69.28) and United bank of India (68.30) occupied the bottom five ranks by reporting highest average on this parameter.

On the basis of BPE, IDBI Bank Ltd. (19.8) is again ranked at number one position, being the best bank on this front, followed by Oriental Bank of Commerce (10.21), Corporation Bank (9.82), Bank of Baroda (8.14)and Bank of India(7.76), while State Bank of Saurashtra (3.47) , followed by State Bank of Bikaner and Jaipur (5.02), Central bank of India (5.08), United bank of India(5.37) and State Bank of Mysore (5.42) secured the bottom five ranks by reporting lowest average on this parameter.

In terms of SC/Emp, State bank of Saurastra (0.0319) secured the highest score by reporting the lowest average, followed by State bank of Indore(0.0365), State Bank of Mysore(0.0391), United Bank of India (0.0418) and Corporation Bank(0.0419), whereas IDBI Bank Ltd.(0.0585) followed by Punjab and Sind bank(0.0570),bank of Baroda(0.0552), Punjab National Bank(0.0519) and Bank of India, Indian Bank (0.0552) secured the bottom five ranks by registering highest average.

IDBI Ltd.(9.603) registered highest profits per employee, followed by Corporation bank(7.070), Oriental Bank of Commerce (6.572), Indian bank (5.657) and Bank of Baroda (5.617) whereas State bank of Saurashtra (0.863), followed by United bank of India(1.928), Central Bank of India(2.0730), Bank of Maharashtra(2.173) and UCO Bank(2.467) occupied the bottom 5 ranks .

In terms of Op.C/N.Inc, Corporation bank(39.60) secured the top rank by registering lowest average, followed by State bank of Hyderabad(42.54), Union bank of India (43.10), Oriental bank of Commerce (43.28) and IDBI Bank Ltd.(44.00), whereas State bank of Saurashtra(58.64), followed by Bank of Maharashtra (56.87), United bank of India(55.65), Central bank of India (53.48) and UCO Bank(52.78) secured the bottom five ranks by reporting the lowest average.

On the basis of group average of different sub- parameters in the management efficiency module, Corporation bank (2.50) is positioned at the top, followed by Oriental bank of Commerce (5.66), IDBI Bank Ltd.(6.0), Union Bank of India (7.00) and State Bank of Patiala(8.50). Central bank of India (23.33) occupied the bottom rank due to poor performance in almost all the parameters in this module. SBI occupied 18th position.

EARNINGS QUALITY MODULE

Annexure IV presents the earnings efficiency of public sector banks during the period of the study. In terms of SP/T. Inc Punjab national bank (36.93) secured the top position by registering highest average, followed by Indian bank(35.72), Punjab and Sind bank(33.14), Indian Overseas bank(32.81) and bank of Baroda(32.72), whereas IDBI bank Ltd.(10.94), followed by UCO Bank (25.68), State Bank of Patiala (25.85), State Bank of Indore(26.82) and Oriental bank of Commerce(27.29) occupied the bottom five ranks by registering lowest average.

In terms of NP/T.Inc, Indian Bank (15.60), followed by Punjab national bank(13.62), Corporation bank(13.52), Andhra bank(13.39), and Allahabad Bank(12.79) secured the top five ranks , while State bank of Saurashtra(4.51), followed by Central bank of India(6.37), United bank of India(6.43), UCO Bank(6.51) and Bank of Maharashtra(6.86) secured the bottom five ranks by registering lowest average.

On the basis of NP/AWF, Indian bank (1.37) occupied the top rank, followed by Punjab national Bank(1.18), Andhra bank(1.10), Allahabad bank(1.049) and Corporation bank(1.047) , while State bank of Saurashtra(0.35), followed by Central bank of India(0.48), UCO Bank (0.49), United Bank of India (0.52) and Bank of Maharashtra (0.53)) secured the bottom five ranks by registering lowest average.

In terms of Int.inc/T.Inc, Central Bank of India(90.69) is ranked at number one position, followed by Bank of Maharashtra(90.65), UCO Bank(90.38), Syndicate Bank(90.30) and Oriental bank of Commerce(90.12) , whereas State Bank of Travancore(73.42), followed by Corporation bank(85.12), State Bank of Mysore(85.83), Dena bank(85.84) and IDBI Bank Ltd.(85.91) secured the bottom five ranks on this parameter.

On the basis of group average on sub- parameters in the module of management efficiency Punjab National Bank (5.25), secured the first position followed by Indian bank (6.25), Indian Overseas bank (6.75), and Andhra Bank (7.0). IDBI Bank Ltd. (24.25) followed by United bank of India (21.5) secured the bottom most ranks in this module. SBI the largest public sector bank is positioned at 14th.

LIQUIDITY ASSESSMENT MODULE

Performance of Public sector banks in the liquidity assessment module is presented at Annexure V. In terms of CDR IDBI bank Ltd. (120.18) secured the first place and is far above the other banks on this parameter, followed by State Bank of Travancore (77.37) , State Bank of India(76.10), State Bank of Mysore(75.95) and Andhra Bank(75.46), while Vijaya bank(53.70), United Bank of India(61.29), Central bank of India(64.60), Indian Bank (65.76), and Bank of Maharashtra(66.39) secured the bottom five positions.

In terms of Gov.Sec/T.Ast, Indian Bank (30.12) secured the top position followed by State Bank of Saurashtra (26.99), Indian Overseas bank (26.46), United Bank of India (26.03) and Bank of Maharashtra (25.69), whereas Dena bank (17.94) followed by Bank of Baroda (18.82), Corporation Bank (19.60), Bank of India (19.82), IDBI Bank Ltd. (20.44) secured the bottom five positions on this parameter.

On the basis of L.Ast/T.Ast, Bank of Baroda (12.39) occupied the first position, followed by Bank of India (10.67), Oriental Bank of Commerce (10.51), Andhra Bank (10.14), and Punjab National Bank (10.09), whereas State bank of Travancore (6.51), IDBI Bank Ltd.(6.77), Dena Bank (6.97), Bank of Maharashtra (7.06) and State Bank of Indore(7.43) are positioned at the bottom five ranks.

Evaluation based on L.Ast/T.Dep, again Bank of Baroda(14.53), secured the top position followed by IDBI Bank Ltd.(13.12), Corporation Bank(12.94), Bank of India(12.67) and Oriental bank of Commerce(12.36) whereas State Bank of Travancore(7.89), followed by State bank of Mysore (8.50), Allahabad Bank(8.66), Bank of Maharashtra(8.89) and State Bank of Indore(8.94) secured the bottom five rank on this parameter.

On the Basis of group average of all the parameters in the Liquidity Assessment module, State Bank of Bikaner and Jaipur is at the first position with group average (8) followed by Andhra Bank (8.5), Bank of India (8.75), Indian Overseas Bank (10.75) and Punjab National Bank (11.00). Dena Bank secured the bottom

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most rank by reported poor performance on almost all the parameters with a group average of (22.75). It is pertinent to note that though State Bank of Bikaner and Jaipur did not figure out in the top five ranks on any of the individual parameters, yet ranked at first position based on group average in the module. State Bank of India is positioned at 9th.

COMPOSITE INDEX

Table VI presents composite ranking of the banks on the CAMEL model. On aggregate basis Andhra Bank is ranked the best bank with a lowest composite index of 7.40. Indian Bank secured the second position with a composite index of 10.68; the third position is secured by Oriental Bank of Commerce with composite index of 10.93, followed by Punjab National Bank (11.08) and Bank of Baroda (11.38) at the fourth and fifth position. Central Bank of India (21.03), followed by United Bank of India (20.89), UCO Bank (19.78),Dena bank(19.48) and Bank of Maharashtra(19.38) occupied the bottom five ranks with lowest composite index. State bank of India the largest public sector bank, secured 21st position, .

CONCLUSION

This study aimed to examine the productivity and profitability of banks in the public sector group during the period 2006-2011 using 20 ratios using CAMEL model. Some of the key findings that emerged from this study are:

1) Indian Overseas Bank occupied the top rank in terms of Capital Adequacy Module
2) Andhra Bank occupied first rank in the Asset Quality Module.
3) Corporation Bank stood at first position in the Management Efficiency Module.
4) Punjab National Bank occupied the top rank in Earning Efficiency Module.
5) State Bank of Bikaner and Jaipur occupied the top rank in the Liquidity Assessment Module.
6) Aggregate of all the modules reveals that Andhra Bank ranked the top position followed by Indian bank, Oriental Bank of Commerce, Punjab National Bank and Bank of Baroda in the top five banks, whereas Central bank of India, United bank of India, UCO Bank, Dena bank and Bank of Maharashtra are at the bottom five.
7) State Bank of India, the largest Public sector bank, did not figure in the top five positions in any of the five modules. However, it occupied 21st position based on overall performance.
8) Out of six parameters used in the study pertaining to Management Efficiency, IDBI bank Ltd. appeared in the top five positions on five of the parameters.

CAMEL is a useful tool to examine the soundness of banks and help lessen the potential risks which may lead to potential failures. It plays a crucial role in banking supervision

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ANNEXURE

ANNEXURE -I CAPITAL ADEQUACY

Bank	CAR (%)		Adv/Ast (%)		G.Sec/T.Inv		Group	
	Average	Rank	Average	Rank	Average	Rank	Average	Rank
Allahabad Bank	12.794	4	59.088	17	77.560	25	15.33	13
Andhra Bank	12.682	6	60.947	11	88.472	7	8.00	4
Bank of Baroda	12.850	3	60.147	15	78.687	24	14.00	11
Bank of India	12.118	15	61.160	9	80.110	21	15.00	12
Bank of Maharashtra	11.335	25	58.084	19	84.946	15	19.67	18
Canara Bank	12.063	17	61.444	8	85.734	12	12.33	7
Central Bank of India	10.858	28	52.952	26	85.581	14	22.67	21
Corporation bank	11.373	23	53.857	24	76.036	27	24.67	22
Dena Bank	11.217	27	45.562	28	82.077	19	24.67	22
Indian Bank	12.920	2	63.403	3	82.292	18	7.67	3
Indian Overseas Bank	13.112	1	64.391	1	86.085	10	4.00	1
Oriental Bank of Commerce	11.953	19	58.637	18	86.022	11	16.00	14
Punjab and Sind Bank	12.372	11	50.381	27	85.606	13	17.00	15
Punjab National Bank	12.130	14	60.073	16	83.136	16	15.33	13
Syndicate Bank	11.222	26	62.193	6	88.255	8	13.33	10
UCO Bank	11.352	24	61.146	10	82.459	17	17.00	15
Union Bank of India	11.814	20	60.943	12	79.613	22	18.00	16
United Bank of India	12.243	13	53.631	25	76.509	26	21.33	20
Vijaya Bank	11.968	18	57.009	22	81.225	20	20.00	19
State bank of India	12.270	12	58.059	20	79.233	23	18.33	17
State Bank of Bikaner and Jaipur	12.485	7	62.165	7	94.911	2	5.33	2
State Bank of Hyderabad	12.430	8	57.364	21	87.817	9	12.67	8
State Bank of Indore	11.674	22	62.893	5	92.460	3	10.00	6
State Bank of Mysore	12.082	16	63.238	4	90.911	4	8.00	4
State Bank of Patiala	12.427	9	60.439	14	96.267	1	8.00	4
State Bank of Saurashtra	12.383	10	55.729	23	89.397	6	13.00	9
State Bank of Travancore	11.725	21	63.922	2	89.602	5	9.33	5
IDBI Bank Ltd.	12.777	5	60.631	13	73.553	28	15.33	13

Source: Performance Highlights of Public Sector Banks , Relevant Issues , Computed using MS-Excel and SPPS

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ANNEXURE II- ASSETS QUALITY

Bank	ROA(%)		NNPAst/N.Adv (%)		T.Inv/T.Ast(%)		Group	
	Average	Rank	Average	Rank	Average	Rank	Average	Rank
Allahabad Bank	1.195	5	0.8133	10	29.821	22	12.33	12
Andhra Bank	1.282	2	0.2150	1	25.765	8	3.67	1
Bank of Baroda	1.018	13	0.4900	5	24.135	2	6.67	3
Bank of India	0.965	14	0.9883	17	24.824	4	11.67	10
Bank of Maharashtra	0.593	22	1.3100	23	30.236	24	23.00	24
Canara Bank	1.115	6	1.0267	19	26.700	12	12.33	12
Central Bank of India	0.557	25	1.3867	24	27.211	16	21.67	23
Corporation bank	1.232	4	0.4150	3	26.082	10	5.67	2
Dena Bank	0.848	18	1.5817	26	21.738	1	15.00	16
Indian Bank	1.513	1	0.3867	2	36.827	28	10.33	7
Indian Overseas Bank	1.065	10	1.1400	22	30.711	26	19.33	18
Oriental Bank of Commerce	1.073	8	0.7450	7	26.072	9	8.00	5
Punjab and Sind Bank	1.058	11	0.7833	9	27.044	14	11.33	9
Punjab National Bank	1.240	3	0.5400	6	26.705	13	7.33	4
Syndicate Bank	0.815	19	0.9000	13	25.386	7	13.00	14
UCO Bank	0.565	24	1.7350	28	28.187	20	24.00	25
Union Bank of India	1.098	7	0.8383	11	27.155	15	11.00	8
United Bank of India	0.580	23	1.5483	25	33.834	27	25.00	26
Vijaya Bank	0.698	21	0.9583	16	30.351	25	20.67	21
State bank of India	0.895	15	1.7200	27	27.725	19	20.33	20
State Bank of Bikaner and Jaipur	0.868	16	0.9267	15	24.995	5	12.00	11
State Bank of Hyderabad	1.072	9	0.4233	4	28.441	21	11.33	9
State Bank of Indore	0.860	17	1.1240	21	24.787	3	13.67	15
State Bank of Mysore	1.073	8	0.7533	8	26.526	11	9.00	6
State Bank of Patiala	0.805	20	0.8783	12	25.167	6	12.67	13
State Bank of Saurashtra	0.350	26	0.9233	14	30.155	23	21.00	22
State Bank of Travancore	1.048	12	0.9933	18	27.224	17	15.67	17
IDBI Bank Ltd.	0.593	22	1.0717	20	27.638	18	20.00	19

Source: Performance Highlights of Public Sector Banks , Relevant Issues , Computed using MS-Excel and SPPS

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ANNEXURE III - MANAGEMENT EFFICIENCY

Bank	SC/N.Inc (%)		SC/Op.Exp %		BPE(crores)		SC/Emp(crores)		PPE (lakhs)		Op.C/N.Inc (%)		Group	
	Average	Rank	Average	Rank	Average	Rank	Average	Rank	Average	Rank	Average	Rank	Average	Rank
Allahabad Bank	27.692	9	61.72	11	6.7483	12	0.0443	10	4.738	11	44.982	9	10.333	9
Andhra Bank	26.586	8	58.76	7	7.3717	8	0.0496	20	5.505	6	45.357	10	9.833	6
Bank of Baroda	30.075	14	63.96	18	8.1483	4	0.0552	25	5.617	5	46.980	15	13.500	11
Bank of India	29.460	12	63.52	17	7.7650	5	0.0509	23	4.565	12	46.355	12	13.500	11
Bank of Maharashtra	35.796	23	62.72	13	5.7500	22	0.0455	13	2.173	25	56.870	27	20.500	20
Canara Bank	29.003	11	63.00	15	7.6500	6	0.0442	9	5.223	8	46.138	11	10.000	7
Central Bank of India	37.978	26	70.88	26	5.0883	26	0.0446	11	2.073	26	53.487	25	23.333	24
Corporation bank	19.338	2	48.85	2	9.8233	3	0.0419	5	7.070	2	39.608	1	2.500	1
Dena Bank	30.730	17	61.38	10	6.6650	13	0.0459	14	3.602	18	50.057	18	15.000	12
Indian Bank	30.345	15	67.98	23	5.7583	21	0.0509	23	5.657	4	44.665	8	15.667	13
Indian Overseas Bank	31.791	18	67.56	22	6.3433	16	0.0494	19	4.010	16	46.953	14	17.500	15
Oriental Bank of Commerce	23.171	3	53.67	4	10.2183	2	0.0473	18	6.572	3	43.280	4	5.667	2
Punjab and Sind Bank	37.398	24	74.49	28	6.4700	15	0.0570	26	4.152	14	50.210	20	21.167	21
Punjab National Bank	30.605	16	69.28	25	6.2067	19	0.0519	24	5.020	9	44.117	6	16.500	14
Syndicate Bank	33.844	22	65.45	20	6.3283	17	0.0463	16	3.133	23	51.607	22	20.000	19
UCO Bank	37.575	25	71.04	27	6.8883	10	0.0437	8	2.467	24	52.788	24	19.667	18
Union Bank of India	25.010	5	57.65	6	7.0567	9	0.0450	12	5.355	7	43.107	3	7.000	4
United Bank of India	38.128	27	68.30	24	5.3767	25	0.0418	4	1.928	27	55.650	26	22.167	22
Vijaya Bank	32.352	21	63.29	16	6.5950	14	0.0504	21	3.425	21	50.955	21	19.000	16
State bank of India	32.317	20	64.35	19	5.4402	23	0.0505	22	4.132	15	50.157	19	19.667	18
State Bank of Bikaner and Jaipur	31.872	19	61.34	9	5.0200	27	0.0461	15	3.175	22	51.843	23	19.167	17
State Bank of Hyderabad	26.478	7	62.30	12	6.8683	11	0.0467	17	4.978	10	42.546	2	9.833	6
State Bank of Indore	24.890	4	53.12	3	5.9520	20	0.0365	2	3.600	19	46.845	13	10.167	8
State Bank of Mysore	28.442	10	57.23	5	5.4200	24	0.0391	3	3.498	20	49.782	17	13.167	10
State Bank of Patiala	26.268	6	58.95	8	7.6233	7	0.0420	6	3.988	17	44.589	7	8.500	5
State Bank of Saurashtra	38.830	28	66.99	21	3.4767	28	0.0319	1	0.863	28	58.645	28	22.333	23
State Bank of Travancore	29.993	13	62.84	14	6.2367	18	0.0436	7	4.343	13	47.705	16	13.500	11
IDBI Bank Ltd.	17.708	1	40.49	1	19.8000	1	0.0580	27	9.603	1	44.005	5	6.000	3

Source: Performance Highlights of Public Sector Banks , Relevant Issues , Computed using MS-Excel and SPPS

ANNEXURE IV - EARNINGS QUALITY

Bank	SP/T.Inc (%)		NP/T.Inc (%)		NP/AWF (%)		Int .inc /T. inc (%)		Group	
	Average	Rank	Average	Rank	Average	Rank	Average	Rank	Average	Rank
Allahabad Bank	29.828	14	12.799	5	1.049	4	87.603	14	9.25	7
Andhra Bank	32.637	6	13.396	4	1.102	3	87.528	15	7	4
Bank of Baroda	32.726	5	12.591	6	0.919	14	86.053	22	11.75	9
Bank of India	30.415	12	11.221	13	0.867	15	86.122	20	15	15
Bank of Maharashtra	30.862	10	6.868	24	0.539	24	90.653	2	15	15
Canara Bank	28.234	20	12.368	7	1.003	6	87.698	13	11.5	8
Central Bank of India	28.748	18	6.376	27	0.481	27	90.692	1	18.25	18
Corporation bank	29.417	17	13.526	3	1.047	5	85.122	27	13	10
Dena Bank	29.666	16	9.288	19	0.744	20	85.847	25	20	22
Indian Bank	35.723	2	15.603	1	1.377	1	86.070	21	6.25	2
Indian Overseas Bank	32.816	4	11.871	9	0.995	7	89.058	7	6.75	3
Oriental Bank of Commerce	27.291	24	11.347	12	0.926	12	90.125	5	13.25	11
Punjab and Sind Bank	33.141	3	11.197	14	0.921	13	89.435	6	9	6
Punjab National Bank	36.938	1	13.628	2	1.118	2	87.303	16	5.25	1
Syndicate Bank	30.195	13	9.404	17	0.737	21	90.300	4	13.75	12
UCO Bank	25.683	27	6.517	25	0.499	26	90.385	3	20.25	23
Union Bank of India	31.675	7	11.967	8	0.953	11	89.047	9	8.75	5
United Bank of India	27.448	23	6.436	26	0.523	25	88.713	12	21.5	25
Vijaya Bank	27.655	22	7.477	23	0.601	22	88.940	10	19.25	20
State bank of India	31.373	8	10.548	16	0.853	16	86.180	19	14.75	14
State Bank of Bikaner and Jaipur	31.060	9	9.192	21	0.794	17	86.043	23	17.5	17
State Bank of Hyderabad	27.774	21	11.789	10	0.969	9	86.577	18	14.5	13
State Bank of Indore	26.829	25	9.362	18	0.792	18	86.662	17	19.5	21
State Bank of Mysore	30.667	11	11.119	15	0.965	10	85.830	26	15.5	16
State Bank of Patiala	25.858	26	9.208	20	0.749	19	88.748	11	19	19
State Bank of Saurashtra	28.643	19	4.516	28	0.357	28	89.053	8	20.75	24
State Bank of Travancore	29.715	15	11.639	11	0.992	8	73.427	28	15.5	16
IDBI Bank Ltd.	10.942	28	7.494	22	0.565	23	85.911	24	24.25	26

Source: Performance Highlights of Public Sector Banks , Relevant Issues , Computed using MS-Excel and SPPS

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ANNEXURE V - LIQUIDITY ASSESSMENT

Bank	CDR (%)		Gov.Sec/T.Ast(%)		L.Ast/T.Ast(%)		L.Ast/T.Dep		Group	
	Average	Rank	Average	Rank	Average	Rank	Average	Rank	Average	Rank
Allahabad Bank	67.76	21	23.138	15	7.557	23	8.667	26	21.25	22
Andhra Bank	75.46	5	22.652	18	10.142	4	11.834	7	8.5	2
Bank of Baroda	70.57	15	18.882	27	12.392	1	14.539	1	11	5
Bank of India	72.66	8	19.820	25	10.673	2	12.677	4	9.75	3
Bank of Maharashtra	66.39	24	25.690	5	7.780	21	8.892	25	18.75	20
Canara Bank	70.86	14	22.880	17	8.925	15	10.299	17	15.75	15
Central Bank of India	64.60	26	23.230	12	8.013	19	9.847	20	19.25	21
Corporation bank	70.40	16	19.600	26	9.752	8	12.949	3	13.25	10
Dena Bank	66.69	23	17.940	28	6.977	26	10.776	14	22.75	23
Indian Bank	65.76	25	30.120	1	9.667	9	9.934	19	13.5	11
Indian Overseas Bank	72.00	10	26.460	3	9.271	12	10.119	18	10.75	4
Oriental Bank of Commerce	69.00	19	22.420	20	10.513	3	12.360	5	11.75	7
Punjab and Sind Bank	67.04	22	23.150	14	7.795	20	10.723	15	17.75	18
Punjab National Bank	71.53	12	22.190	21	10.099	5	12.054	6	11	5
Syndicate Bank	71.23	13	22.430	19	9.652	10	11.031	11	13.25	10
UCO Bank	69.18	18	23.200	13	8.124	18	9.165	23	18	19
Union Bank of India	71.87	11	21.610	23	8.341	17	9.828	21	18	19
United Bank of India	61.29	27	26.030	4	9.341	11	10.675	16	14.5	13
Vijaya Bank	53.70	28	24.670	7	9.776	7	10.849	13	13.75	12
State bank of India	76.10	3	22.020	22	8.800	16	11.510	9	12.5	9
State Bank of Bikaner and Jaipur	74.64	7	23.710	11	9.840	6	11.814	8	8	1
State Bank of Hyderabad	69.32	17	25.070	6	9.043	13	10.933	12	12	8
State Bank of Indore	75.10	6	22.920	16	7.439	24	8.949	24	17.5	17
State Bank of Mysore	75.95	4	24.100	10	7.067	25	8.506	27	16.5	16
State Bank of Patiala	72.35	9	24.140	9	7.776	22	9.319	22	15.5	14
State Bank of Saurashtra	68.94	20	26.990	2	8.986	14	11.134	10	11.5	6
State Bank of Travancore	77.37	2	24.460	8	6.517	28	7.897	28	16.5	16
IDBI Bank Ltd.	120.18	1	20.440	24	6.773	27	13.125	2	13.5	11

Source: Performance Highlights of Public Sector Banks , Relevant Issues , Computed using MS-Excel and SPPS

ANNEXURE VI - COMPOSITE RATING - OVERALL PERFORMANCE

Bank	C	A	M	E	L	Average	Rank
Allahabad Bank	15.33	12.33	10.333	9.25	21.25	13.6986	15
Andhra Bank	8	3.67	9.833	7	8.5	7.4006	1
Bank of Baroda	14	6.67	13.5	11.75	11	11.384	5
Bank of India	15	11.67	13.5	15	9.75	12.984	14
Bank of Maharashtra	19.67	23.00	20.5	15	18.75	19.384	24
Canara Bank	12.33	12.33	10	11.5	15.75	12.382	9
Central Bank of India	22.67	21.67	23.333	18.25	19.25	21.0346	28
Corporation bank	24.67	5.67	2.5	13	13.25	11.818	7
Dena Bank	24.67	15.00	15	20	22.75	19.484	25
Indian Bank	7.67	10.33	15.667	6.25	13.5	10.6834	2
Indian Overseas Bank	4	19.33	17.5	6.75	10.75	11.666	6
Oriental Bank of Commerce	16	8.00	5.667	13.25	11.75	10.9334	3
Punjab and Sind Bank	17	11.33	21.167	9	17.75	15.2494	19
Punjab National Bank	15.33	7.33	16.5	5.25	11	11.082	4
Syndicate Bank	13.33	13.00	20	13.75	13.25	14.666	18
UCO Bank	17	24.00	19.667	20.25	18	19.7834	26
Union Bank of India	18	11.00	7	8.75	18	12.55	12
United Bank of India	21.33	25.00	22.167	21.5	14.5	20.8994	27
Vijaya Bank	20	20.67	19	19.25	13.75	18.534	23
State bank of India	18.33	20.33	19.667	14.75	12.5	17.1154	21
State Bank of Bikaner and Jaipur	5.33	12.00	19.167	17.5	8	12.3994	10
State Bank of Hyderabad	12.67	11.33	9.833	14.5	12	12.0666	8
State Bank of Indore	10	13.67	10.167	19.5	17.5	14.1674	17
State Bank of Mysore	8	9.00	13.167	15.5	16.5	12.4334	11
State Bank of Patiala	8	12.67	8.5	19	15.5	12.734	13
State Bank of Saurashtra	13	21.00	22.333	20.75	11.5	17.7166	22
State Bank of Travancore	9.33	15.67	13.5	15.5	16.5	14.1	16
IDBI Bank Ltd.	15.33	20.00	6	24.25	13.5	15.816	20

Based on Calculations

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