

Study of performance of Indian banks: A camel model approach

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Abstract

Economic Development has placed the management of Banks under great pressure to set and meet the institution's performance goal or suffer serious financial and reputation loss. Banks have been called upon to continually reevaluate their policies, review their plans for growth and expansion, and assess their returns and risk exposure in light of new competitive environment. This study evaluates the performance of banks applying CAMEL model. Eight public sector bank and seven Private Sector banks are chosen according to the size of their asset. The banks are ranked on each parameter of CAMEL. While the top position is taken by Private sector banks; there is a lot of scope of improvisation in Public Sector banks.

Keywords: CAMEL Model, Indian Banks, Bank Performance

1. Introduction

Indian banking has seen a great shift in the methods of its operations along with its focus. Banks are vital links between the economic policies of government and the various economic factors. Apart from promotional role RBI has to play a regulatory role. The inspection of domestic bank is conducted in more objective manner under the CAMEL (Capital adequacy, Asset Quality, Management, Earning, Liquidity and systems) Methodology and a comprehensive rating system has been put in place.

In this research paper the evaluation of performance of public and private sector banks has been performed applying CAMEL methodology. Eight public sector banks and seven private sector banks are considered for analysis over a period of 2014-2015.

2. Literature Review

The study of Camel model by various academicians, scholars and administrators has been done in different perspectives and in different periods. The continuous evaluation of banks financial performance helps to review performances and the drawbacks of the bank.

Said and Saucier (2003) examined capital adequacy, assets and management quality, earnings ability and liquidity position the liquidity, solvency and efficiency of Japanese Banks using CAMEL rating methodology for the period 1993- 1999.

Prasuna (2003) used CAMEL model to analyze the Performance Of 65 Indian Banks for 2003-04. Due to high tough competition within the banks customers are benefited in terms of innovative products, bargains and better quality of service.

Prasad, and Ravinder, (2012) used CAMEL model for 20 nationalized and analyzed the performance of the banks, giving importance to each parameter. The study concluded Andhra Bank, Bank of Baroda and Punjab & Sindh Bank acquired top

positions while the last position was by Central Bank of India.

3. Objective

- To examine the overall performance of Indian Banks and evaluate their ranks using CAMEL model.

4. Methodology

The present study is descriptive in its nature. Secondary data has been used to conduct the study. The study considers fifteen banks for financial year 2014-15. The selection of banks is based on size of asset. Eight public and seven private banks are chosen to conduct the research. Secondary data has been collected from different websites, annual reports of banks and RBI reports. CAMEL model is carried out to evaluate the performance of bank.

Group average of all banks based on their parameters was considered, after that the computation of composite rankings is done.

5. Analysis

Camel models

In 1979 in USA the CAMEL model was developed and adopted by the banks to evaluate the performances by various Ratios that the banks need to maintain. The tool was adopted across the globe for evaluation and rankings are made.

I) Capital Adequacy:

This is minimum amount which a bank keeps as a reserve for its depositor's and shareholders. Following ratios were considered.

- Capital Adequacy Ratio
- Debt to Equity Ratio
- Advances to Total Assets
- Government Securities to Total Investments

Table 1: Camel rating; capital adequacy

Banks		CAR (%)	Rank	Debt To Equity (Times)	Rank	Advances To Total Assets (Times)	Rank	G-Sec To Total Investments (Times)	Rank	Overall Average	Rank (CA)
Public	SBI	12.00	10	1.516	9	0.62671	6	0.75535	7	8	7
	BOB	12.60	7	0.84491	3	0.59322	11	0.80366	4	6.25	5
	PNB	12.21	8	1.40831	6	0.63617	3	0.81768	3	5	2
	BOI	10.73	13	1.23293	5	0.64672	2	0.86372	1	5.25	3
	CANARA	10.65	14	0.79290	2	0.59133	12	0.82433	2	7.5	6
	UNION	10.22	15	1.76731	10	0.66721	1	0.76936	6	8	7
	IDBI	11.86	11	2.53676	15	0.58544	13	0.69327	11	12.5	15
CENTRAL	10.90	12	1.47158	8	0.60450	9	0.78958	5	8.5	10	
Private	ICICI	17.02	2	2.49420	14	0.53080	15	0.45796	15	11.5	14
	HDFC	16.79	3	0.94179	4	0.63154	4	0.73287	8	4.75	1
	AXIS	15.20	6	1.87751	11	0.60878	8	0.61819	13	9.5	12
	YES	15.60	5	2.24768	13	0.55492	14	0.64421	12	11	13
	KOTAK	17.17	1	1.41806	7	0.59654	10	0.58856	14	8	7
	INDUSIND	12.09	9	1.93952	12	0.63041	5	0.7203	9	8.75	11
FEDRAL	15.76	4	0.31076	1	0.62152	7	0.69765	10	5.5	4	

It is clear that all banks have maintained higher CAR than the prescribed level. It is found that Kotak Mahindra Bank secured the top position with highest average Capital Adequacy Ratio of 17.17% followed by ICICI (17.02%), HDFC Bank (16.79%). While private banks were at high positions; Union Bank of India bank was at the bottom most position with a least average Capital Adequacy Ratio of 10.22%. In terms of Debt equity ratio Federal bank is at the top position with average of 0.370 followed by Canara Bank (0.79) and Bank of Baroda (0.84). In case of Advances to Total Assets, Union Bank of India was at the first position with highest average of 0.66 followed by Bank of India (0.646) and Punjab National Bank (0.636). Its again Bank of India was at the top most position in Government securities to Investments with highest ratio of 86.37%, followed by Canara bank and Punjab National Bank. The highest positions in this ratio were taken by Public Sector banks. While ICICI Bank was at the last position with the least

average of 45%.

On the basis of group averages of four sub-parameters of capital adequacy HDFC Bank was at the top position with group average of 4.75, followed by Punjab National Bank (5.) and Bank of India (5.25). IDBI Bank stood at the last position due to its poor performance in Debt to Equity Ratio and Advances to Total Asset Ratio.

II) Asset quality

The quality of assets is an important measure of the strength of bank with the aim to ascertain the component of non-performing assets as a percentage of the total assets. Following ratios were considered.

- NPA to Net Advances Ratio
- Total Investments to Total
- NPA to Total Assets

Table 2: CAMEL rating, Asset Quality

Banks		NPA To Net Advances (times)	Rank	Total Investments To Total Assets (times)	Rank	NPA To Assets (%)	Rank	Overall Average	Rank (AQ)
Public	SBI	2.12%	9	0.25765	6	1.02185	9	8.00	8
	BOB	1.89%	8	0.17745	1	1.09942	10	6.33	5
	PNB	4.06%	15	0.24648	4	0.05314	1	6.67	6
	BOI	3.36%	13	0.19702	2	2.1619	14	9.67	10
	CANARA	2.65%	10	0.27823	8	1.56474	11	9.67	10
	UNION	2.71%	11	0.24885	5	1.80385	13	9.67	10
	IDBI	2.88%	12	0.33886	13	1.68362	12	12.33	14
CENTRAL	3.61%	14	0.30584	11	2.17639	15	13.33	15	
Private	ICICI	1.61%	7	0.36650	15	0.76567	8	10.00	13
	HDFC	0.25%	2	0.27059	7	0.14763	3	4.00	2
	AXIS	0.46%	4	0.28533	9	0.27544	5	6.00	4
	YES	0.12%	1	0.34207	14	0.06444	2	5.67	3
	KOTAK	0.92%	6	0.31870	12	0.46912	7	8.33	9
	INDUSIND	0.31%	3	0.22783	3	0.19291	4	3.33	1
FEDRAL	0.73%	5	0.29177	10	0.45022	6	7.00	7	

Yes Bank was at the top position with an average Net NPA to Net advances of 0.12%, followed by HDFC Bank (0.25%) and IndusInd Bank (0.31%). The private banks have taken up top positions in showing better quality of asset. Punjab National Bank was at the last position with an average of 4.06%. In case of Total Investment to Total Asset Bank of Baroda was at the

top position with a least ratio of 0.177 times followed by Bank of India (0.19), and IndusInd Bank (0.227). In terms of Net NPA to Total Assets, Punjab National Bank was at the first position with an average of 0.053% followed by Yes Bank (0.064%), and HDFC bank (0.147%). Central Bank of India was at the last position with highest ratio of 2.17%.

On the basis of group averages of sub-parameters of assets quality, IndusInd Bank was at the top position with group average 3.33, followed by HDFC Bank (4.00), and Bank of Baroda (6.33). Central Bank stood at the last position due to its poor performance in Net NPA to Net Advances ratio and Net NPA to Total Asset Ratio.

III) Management efficiency

The most important component of Camel model is

Management Efficiency that helps in growth and sustainable development of bank. It measures the leadership and administrative capability of the bank. Following ratios were considered.

- Total Advances to Total Assets
- Return on Asset
- Return on Equity
- Profit per Employee

Table 3: CAMEL Rating; Management Efficiency

Banks		Total Advances To Total Deposits (times)	Rank	Return On Asset (%)	Rank	Return On Equity (%)	Rank	PPE (in thousands)	Rank	Overall average	Rank (ME)
Public	SBI	0.82428	7	0.68	8	11.17	8	602	11	8.5	7
	BOB	0.69116	15	0.48	12	9.21	11	688	10	12	14
	PNB	0.78528	10	0.53	10	8.12	13	485	14	11.75	13
	BOI	0.75660	11	0.27	14	6.70	15	370	15	13.75	15
	CANARA	0.69723	14	0.55	9	11.06	9	500	13	11.25	12
	UNION	0.80618	8	0.49	11	9.70	10	502	12	10.25	11
	IDBI	0.80292	9	0.29	13	6.72	14	2621	2	9.5	9
CENTRAL	0.73871	12	0.21	15	8.62	12	15300	1	10	10	
Private	ICICI	1.13612	2	1.86	4	15.00	5	1600	5	4	2
	HDFC	0.85148	5	2.02	1	16.40	4	1000	8	4.5	6
	AXIS	0.88271	4	1.83	5	18.57	3	1707	4	4	2
	YES	0.82877	6	1.60	6	19.00	1	2096	3	4	2
	KOTAK	1.21675	1	1.98	2	14.80	6	1100	7	4	2
	INDUSIND	0.92789	3	1.90	3	18.59	2	1238	6	3.5	1
	FEDRAL	0.72758	13	1.32	7	13.77	7	938	9	9	8

Kotak Mahindra Bank was at the top most position with an average Total Advances to Total Deposits of 1.21 times followed by ICICI Bank (1.13), and IndusInd Bank (0.92). Bank of Baroda was at the last position with lowest ratio of 0.69. Again HDFC Bank was at the top position in Return On Asset with the highest percentage 2.02% followed by Kotak Mahindra Bank (1.98%), and IndusInd Bank (1.90%). Highest positions were taken by Private Sector Banks. In terms of Return On Equity Yes Bank stood at top position with the highest return of 19.00% followed by IndusInd Bank (18.59%) and Axis Bank (18.57%). Last position with only 6.70% of return was Bank of India. In terms of profit per employee Central bank of India secured the top position followed by IDBI and Yes Bank.

On the basis of group averages of sub-parameters, IndusInd Bank was at the top most position with group average 3.75, followed by Yes Bank, HDFC Bank and Axis Bank (4.25). Bank of India positioned at last due to its poor performance in all sub parameters of management efficiency.

IV) Earning quality

These ratios show the earning consistency of the banks and help to determine the profitability of banks. Following ratios are considered

- Net Interest Margin to Total Asset
- Interest Income to Total Income
- Net Profit to Total Asset
- Operating Profit to Total Asset

Table 4: CAMEL Rating; Earning Quality

Banks		Net Profit To Total Asset	Rank	Interest Income To Total Income	Rank	Net Interest Margin To Total Asset	Rank	Operating Profit To Total Asset	Rank	Overall Average	Rank (EQ)
Public	SBI	0.007047	8	0.808328	9	0.027701	6	0.014412	10	8.25	8
	BOB	0.005896	10	0.891803	4	0.019576	10	0.013509	11	8.75	10
	PNB	0.006364	9	0.887498	5	0.027306	8	0.018797	8	7.5	7
	BOI	0.003219	14	0.910805	1	0.018335	11	0.011975	13	9.75	12
	CANARA	0.005129	11	0.902497	2	0.017331	12	0.012443	12	9.25	11
	UNION	0.004591	12	0.669235	13	0.001393	14	0.015181	9	12	14
	IDBI	0.004233	13	0.870517	6	0.016231	13	0.004067	15	11.75	13
CENTRAL	0.002847	15	0.690695	12	0.001237	15	0.011379	14	14	15	
Private	ICICI	0.032436	6	0.609247	15	0.027414	7	0.023872	5	8.25	8
	HDFC	0.042656	3	0.841466	8	0.038508	2	0.018884	7	5	3
	AXIS	0.04505	2	0.801683	10	0.03079	4	0.028648	3	4.75	2
	YES	0.038183	5	0.849638	7	0.025625	9	0.023872	4	6.25	6
	KOTAK	0.085913	1	0.620317	14	0.042758	1	0.032009	1	4.25	1
	INDUSIND	0.04048	4	0.801264	11	0.031345	3	0.029556	2	5	3
	FEDRAL	0.021126	7	0.894991	3	0.029327	5	0.019634	6	5.25	5

In Earning Quality top position are by Private sector Banks. Kotak Mahindra Bank rated top in case of Net Profit to Total Asset with an average of 0.085 followed by Axis Bank (0.045), and HDFC Bank (0.042). Central bank of India was at the bottom most position with least average of 0.02. In case of Interest Income to Total Income ratio Bank of India was at the first position with an average of 0.91 times, followed by Canara Bank and Federal Bank. ICICI Bank was at the last place. In case of Net Interest Margin to Total Asset, Kotak Mahindra Bank stood at the top place with an average of 0.042, followed by HDFC Bank (0.038), and IndusInd Bank 0.031. Central Bank of India was at bottom most position. Again Kotak Mahindra Bank stood at the top place for Operating Profit to total Assets followed by Federal Bank and Axis Bank.

On the basis of group an average, Kotak Mahindra Bank was at the top position with group average (4.25) followed by Axis Bank (4.75) and HDFC Bank (5). Central Bank of India failed in all sub-parameters and stood at last place. All top positions were backed by Private Sector Banks.

V) Liquidity

It measures the liquidity position of the bank, so that while earning profits banks can satisfy their depositors. Following ratios are considered.

- Liquid Assets to Total Assets
- Liquid Assets to Total Deposits
- Liquid Assets to Demand Deposits
- Government Securities to Total Assets

Table 5: CAMEL Rating; Liquidity Ratios

Banks		Liquidity To Total Assets (times)	Rank	Liquidity to Total Deposits (times)	Rank	Liquidity to Demand Deposits (times)	Rank	G-Sec to Total Asset (times)	Rank	Overall Average	Rank (L)
Public	SBI	0.077251	7	0.10160	8	1.36272	5	0.19461	8	7	5
	BOB	0.206588	1	0.24069	1	2.82317	2	0.14261	15	4.75	3
	PNB	0.091601	4	0.11307	6	1.68652	4	0.20153	6	5	4
	BOI	0.123046	2	0.14395	3	3.54824	1	0.17017	12	4.5	1
	CANARA	0.087094	5	0.10269	7	2.46636	3	0.22935	3	4.5	1
	UNION	0.058928	9	0.07120	12	1.07094	8	0.19145	9	9.5	12
	IDBI	0.040810	15	0.05597	15	0.47867	15	0.23492	2	11.75	15
	CENTRAL	0.047352	13	0.05786	14	1.12178	7	0.24148	1	8.75	9
Private	ICICI	0.057666	11	0.12342	4	0.94406	9	0.16784	13	9.25	11
	HDFC	0.060165	8	0.08111	11	0.49805	14	0.19830	7	10	13
	AXIS	0.078100	6	0.11324	5	0.65237	12	0.17638	11	8.5	7
	YES	0.055510	12	0.08290	10	0.88930	10	0.22036	4	9	10
	KOTAK	0.046464	14	0.09477	9	0.53056	13	0.18757	10	11.5	14
	INDUSIND	0.098786	3	0.1454	2	0.87237	11	0.16410	14	7.5	6
	FEDRAL	0.057707	10	0.06755	13	1.17942	6	0.20355	5	8.5	7

Bank of Baroda was at the first place in Liquidity to Total Assets with highest average of 0.20 followed by Bank of India (0.12), and IndusInd Bank (0.098). IDBI Bank availed 15th position. In case of Liquidity to Total Deposits, again Bank of Baroda got first position with highest average of 0.024, followed by IndusInd Bank (0.145), and Bank of India (0.143). IDBI Bank was at the bottom most position with least average 0.05. In contest of Liquidity to Demand Deposits, Bank of India was at top with the average 3.54 followed by Bank of Baroda (2.82), and Canara Bank (2.46). IDBI was at the last position. Central Bank of India was at the top position in Government Securities to Total Assets with an average 0.24, followed by IDBI Bank (0.23), and Canara Bank (0.22). Bank

of Baroda was at the bottom most position with least ratio of 0.14.

On the basis of group averages of the sub- parameters, Bank Of India and Canara Bank stood at the top position with group average 4.50 followed by Bank of Baroda (4.75), Punjab National Bank(5). IDBI Bank of India placed at last. For liquidity Public sector banks were better than Private sector banks.

Composite ranking

As stated in data methodology, CAMEL model is used to rating the banks according to their performance. The composite ranking is

Table 6: Composite Rankings

Banks		Rank (CA)	Rank (A)	Rank (M)	Rank (E)	Rank (L)	Overall average	Rank (CAMEL)
Public	SBI	7	8	7	8	5	7	8
	BOB	5	5	14	10	3	7.4	9
	PNB	2	6	13	7	4	6.4	5
	BOI	3	10	15	12	1	8.2	11
	CANARA	6	10	12	11	1	8	10
	UNION	7	10	11	14	12	10.8	13
	IDBI	15	14	9	13	15	13.2	15
	CENTRAL	10	15	10	15	9	11.8	14
Private	ICICI	14	13	2	8	11	9.6	12
	HDFC	1	2	6	3	13	5	2
	AXIS	12	4	2	2	7	5.4	3
	YES	13	3	2	6	10	6.8	7

	KOTAK	7	9	2	1	14	6.6	6
	INDUSIND	11	1	1	3	6	4.4	1
	FEDRAL	4	7	8	5	7	6.2	4

It is clear from table that IndusInd bank is ranked at top position with composite average 4.4, followed by HDFC Bank (5), Axis Bank (5.4), Federal Bank (6.2), Punjab National Bank (6.4). IDBI Bank and Central bank of India was at the bottom most position.

6. Conclusion

Economic development of any country is mainly influenced by the growth of the banking industry in that country. The current study has been conducted to examine the economic sustainability of a sample of fifteen banks in India using CAMEL model during the period 2014-15. The study reveals those private sector banks are at better position and have ranked better than Public sector banks. The bottom position in composite Rankings is taken up by Public Sector Banks, IDBI bank and Central Bank of India Took last and second last position respectively, While, IndusInd Bank was at first position. There is scope of improvisation in Public Sector banks in terms of Asset Quality and Management efficiency.

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