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PERFORMANCE ANALYSIS OF TOP INDIAN BANKS THROUGH CAMEL APPROACH

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Abstract: *The global financial crisis during 2007-2009 has resulted in failures of banking and financial institutions and freezing up of capital markets, with considerable effects on the real economy all over the world. The growth and stability of the financial condition of a country depend on the soundness of its banking sector. This paper analyzes the various aspects of performance and soundness in the country Banking sector, by CAMEL approach. The study of the top 8 market capitalized banks and computes many factors determining these by use of econometric analysis of the Secondary Data collected from various authentic sources for a period of 6 years, financial year 2007-08 to 2012-13.*

Key words: *CAMEL Approach, Bank, Market Capital, Econometric.*

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1. INTRODUCTION

The global financial crisis during 2007-2009 has resulted in failures of banking and financial institutions and freezing up of capital markets, with considerable effects on the real economy all over the world. The financial recovery is still underway. The crisis has demonstrated the interconnection of Banking Financial systems and markets, both in and across countries, a shock to one financial organization is scattering rapidly to others, thereby threatening the constancy of the whole system. This crisis therefore understands the relevance of stability risk , and urged a need for evaluating performance and putting a uniform Macro prudential policy to minimize such risk in financial markets.

The growth and stability of the financial condition of a country depend on the soundness of its banking sector. The firmness of the banking system is an important concern for regulatory authorities, bank customer and stockholders. To prevent the financial crisis, the banking activity is heavily regulated all over the world. This involves controlling of bank risk-taking and ensuring compliance with set prudential regulation set by the central bank such as liquidity requirements, capital adequacy rules, and risk management tools.

The Indian banking system has been the backbone of the Indian economy, helping it in coping up with various worldwide and national economic meltdowns and shocks . It is one of the healthiest growing in the world banking industry seeing wonderful efficiency, profitability competitiveness, soundness, profitability and growth especially in the last few years.

The recent study is highlighting the various aspects of the Indian banking sector , with the study of the top 8 market capitalized banks , on recent stock price.

Table 1: Top 8 Banks on Market Capital Basis

S.No.	Company Name	Market Capital (Rs. Cr)
1	HDFC Bank	157,882.74
2	ICICI Bank	124,994.85
3	SBI	124,719.91
4	Kotak Mahindra	56,522.01
5	Axis Bank	53,346.73
6	Bank of Baroda	27,041.29
7	PNB	19,400.39
8	Bank of India	14,041.92

Source : bseindia.com, Moneycontrol.com.

Banks are the most leveraged industry of any economy, so stability and soundness is an important parameter in the banking system. The main goal of banks in today's financial condition is to maintain stability and make sure that they are resistant to outer shocks while at the same time being sensible and sound from inside. Hence, it is significant to calculate soundness across top banks in the country, spot the weaker sections of this sector, formulate appropriate policies and strategies to raise these sections and finally create an environment that leads this banking industry to converge in soundness and produce a consistently stable structure. There has been a lot of research literature highlighting these aspects and, to a great extent, showing different associations between these key macroeconomic and financial variables.

This paper analyzes the various aspects of performance and soundness of the banking Industry in the country , by CAMEL approach, computes many determining factors by use of econometric analysis of the Secondary Data collected from various authentic sources for a period of 6 years, financial year 2007-08 to 2012-13, and provides a simplistic approach to decision makers and shareholders in the judgement of the soundness and stability of banks for long periods.

2. REVIEW OF LITERATURE

In the process of assessment of the bank's financial stability, the administrators, researcher, scholars and academicians have done numerous studies on the CAMEL model but in different periods and perspectives.

Cole, Rebel A. & Gunther, Jeffery, (1995)**"A CAMEL Rating's Shelf Life"**- their result suggests that, off-site monitoring frequently provides a more correct sign of survivability than its CAMEL rating, if a bank has not inspected for minimum two quarters. CAMEL is better Rating for regular practice.

Godlewski, C. (2003)**"Bank's Default Modelisation: An Application to Banks from Emerging Market Economies."** - the author focused on using a logical rating model applied to a folder of defaulted banks in developing economy markets.

Said & Saucier (2003) **"Liquidity, solvency, and efficiency: An empirical analysis of the Japanese banks' distress"** –the authors examined the solvency, efficiency and liquidity of Banks in Japan are using the CAMEL rating methodology, for a period of 1993-1999, on the basis of financial ratio.

Prasuna D G (2003) **"Performance Snapshot 2003-04"-** the author studied the performance of 65 Banks in India for the period of 2003-04 by using the CAMEL Model. The author concluded that the consumers are benefited from innovative products, better services quality bargains in this competitive environment

Dervish, A., & Podpiera, J. (2008) **"Predicting Bank CAMEL and S&P Ratings: The Case of the Czech Republic. Emerging Markets"**- the authors investigated the S&P and CAMEL bank ratings determinants movements in the Czech Republic during the period 1998-2001 on a long term basis in the top 3 banks, representing approximately 60% banking business of the country.

Bhayani, S. (2006) **"Performance of the New Indian Private Sector Banks: A Comparative Study"-** the author studied the performance of Four leading new private sector banks-ICICI,IBDI, HDFC And UTI, with the help of the CAMEL model.

Gupta, R. & Kaur (2008) **"A CAMEL Model Analysis of Private Sector Banks in India"**-authors conducted the study on financial data for a period of 5 years, 2003-07, to get the performance of Private Sector Banks in India through CAMEL Model and a rating has been given to top and bottom five banks among all 30 Indian Private banks.

Ghosh Saibal(2010) **"How did state-owned banks respond to privatization? Evidence from the Indian experiment"** the author analyzed the working of state-owned banks after the fractional privatization. Government holding has been empirically demonstrated to be unfavorable for growth.

Chaudhry, S & Singh.S (2012) **"Impact of Reforms on the Asset Quality in Indian Banking"**-authors studied the impact of 1991 financial reforms on the soundness of Banking Sector through its effect on the asset quality. The key factors to guarantee this soundness are effective cost management, risk management, financial inclusion and Bank NPA levels.

3. RESEARCH METHODOLOGY

To judge the financial soundness of the top 8 commercial banks operating in India, an internationally accepted simplified approach CAMEL rating parameters has been used for th study purpose.

The data for the study has been collected from the regular publication of RBI, Indian Bankers' Association, Bank's Annual report, Money control and BSE portal for a period of 6 years, 2007 to 2012. The banks selected for the study are ranked on Market Capitalization as on 31 September 2013, freely traded on BSE and are part of BANKEX , BANKEX is an index cumulative of the most liquid and largest capitalized Banking stocks .It provides benchmark for Indian banking stock performance for market intermediaries and investors.

The banks selected for the purpose of the study are HDFC Bank Ltd (HDFC), ICICI Bank Ltd (ICICI) , State Bank of India (SBI), KOTAK Mahindra Bank Ltd (KMB) and AXIS Bank Ltd (AXIS BANK) , Bank of Baroda (BOB), Bank of India (BOI) and Punjab National Bank (PNB). Once soundness across banks is determined using the CAMEL model, inferences can be drawn regarding convergence across these banks based on the model.

4. DATA & ANALYSIS

CAMEL is a standardized Financial rating system and short form for five measures (Capital adequacy, Asset quality, Management effectiveness, Earnings and Liquidity to market risk), was adopted by the Financial Institution Examination Council on 13 November 1979. These five indicators of framework showing the soundness of the financial institution are considered, according to approach of American International Assurance.

4.1 Capital Adequacy

It is a duty of a bank to have the confidence of depositors and shareholder. It shows by and large financial condition of banks and also the capability of management to assemble the want for additional capital. The following ratios calculate capital adequacy:

Capital Adequacy Ratio (CAR): The capital adequacy ratio is used to guarantee that banks can absorb a rational level of losses happened in operation i.e. bank capacity in meeting losses. The banks should have a CAR of 10 per cent. As per the latest RBI norms, CAR is set 9% for Existing Bank , 10% for Private Sector and banks having Insurance Underwriting business and 15% for Rural bank.

Table 2: Represents Capital Adequacy position of sample banks

CAR = (Tier 1 Capital + Tier 2 Capital) / Risk weighted Assets

		HDFC Bank	ICICI Bank	SBI	Kotak Mahindra	Axis Bank	Bank of Baroda	PNB	Bank of India
CAR (Capital Adequacy Ratio)	Mar-08	13,60	13.97	13.47	18.65	13.73	12.91	13.46	12.04
	Mar-09	15.69	15.53	14.25	20.01	13.69	14.05	14.03	13.01
	Mar-10	17.44	19.41	13.39	18.35	15.8	14.36	14.16	12.94
	Mar-11	16.22	19.54	11.98	19.92	12.65	14.52	12.42	12.17
	Mar-12	16.52	18.52	13.86	17.52	13.66	14.67	12.63	11.95
	Mar-13	16.80	18.74	12.92	16.05	17	13.3	12.72	11.02
Average		***13.78***	***17.62***	***13.31***	***18.42***	***14.42***	***13.97***	***13.24***	***12.19***
Rank		***5***	***2***	***6***	***1***	***3***	***4***	***7***	***8***

Source: RBI, Moneycontrol.com, SBI, ICICI, HDFC, AXIS, PNB, BOI

All banks in the sample having a higher CAR than the benchmark level prescribed set by RBI. It is found that Kotak Mahindra bank secured the highest position with CAR of 18.42 followed by ICICI bank and Bank of India stood at last. An adequate capital is required to run the banking business and any shortcoming of funds for operation but very high level of CAR badly affect the investment capacity of the bank.

4.2 Asset Quality:

The quality of assets is an important parameter to gauge the strength of a bank. The logic behind calculating the asset quality is to determine the factor of non-performing assets (NPA) as a fraction of the bank total assets. The ratios required to review the asset quality are

- Percentage of Net NPAs: This ratio calculates the competence of bank in credit risk and debt recovery.
- Return on total asset (ROA): It calculates employment of assets in investment.

Table 3: Represents Asset Quality position of sample banks

		HDFC Bank	ICICI Bank	SBI	Kotak Mahindra	Axis Bank	Bank of Baroda	PNB	Bank of India
Percentage of Net NPAs	Mar-08	0.20	1.49	1.78	0.30	0.36	0.47	0.69	0.52
	Mar-09	0.20	1.96	1.76	1.20	0.35	0.31	0.17	0.44
	Mar-10	0.19	1.87	1.72	1.10	0.36	0.11	0.53	0.70
	Mar-11	0.20	1.50	1.63	0.72	0.26	0.35	0.65	0.91
	Mar-12	0.20	0.89	1.82	0.61	0.25	0.54	1.52	1.47
	Mar-13	0.20	0.76	2.10	0.64	0.32	1.28	2.35	2.06
Average		***0.20***	***1.41***	***1.80***	***0.76***	***0.32***	***0.51***	***0.99***	***1.02***
Return on total asset(ROA)	Mar-08	1.50	1.00	1.01	1.10	1.24	1.02	1.15	1.25
	Mar-09	1.50	1.00	1.04	1.00	1.44	0.89	1.39	1.49
	Mar-10	1.60	1.10	0.88	1.70	1.67	1.09	1.44	1.31
	Mar-11	1.60	1.35	0.71	1.77	1.68	1.21	1.34	0.82
	Mar-12	1.80	1.49	0.88	1.83	1.68	1.24	1.19	0.72
	Mar-13	1.90	1.69	0.91	1.81	1.70	0.90	1.00	0.65
Average		***1.65***	***1.27***	***0.91***	***1.54***	***1.57***	***1.06***	***1.25***	***1.04***
Combined Average		***0.92***	***1.34***	***1.35***	***1.15***	***0.94***	***0.78***	***1.12***	***1.03***
Rank		***7***	***2***	***1***	***3***	***6***	***8***	***4***	***5***

Source: RBI, Moneycontrol.com, SBI, ICICI, HDFC, AXIS,PNB,BOI

SBI bank has highest NPA level followed by ICICI bank among their peer groups; While HDFC bank has highest ROA. This implies the poor asset quality of SBI bank .

4.3 Management Efficiency

Management efficiency is key to judge the decision making capacity of managing board, as ingredients of the CAMEL Model. The ratio is to capture the possible subjective dynamics of the effectiveness of management. The ratios to assess the management efficiency are:

- Return on the Net worth (RON): This shows the percentage of return on the total net worth of the bank.
- Total Asset Turn Over ratio (TATO): The ratio is calculated as **Net Sales/Total Assets** and computes the turnover of assets.
- Net Profit to total fund ratio (NPTF): NPTF shows the output of management decision in selection of asset & investment quality of the bank. It is a tool to compute the Net Profit gain by utilization of the total fund.

Table 4: Represents Management Efficiency position of sample banks

		HDFC Bank	ICICI Bank	SBI	Kotak Mahindra	Axis Bank	Bank of Baroda	PNB	Bank of India
Return on Net Worth (RON)	Mar-08	13.82	7.59	13.72	9.86	12.10	13.63	19.09	22.00
	Mar-09	15.31	7.64	15.74	14.09	17.78	17.95	22.76	25.84
	Mar-10	13.89	9.10	13.89	11.65	15.49	20.23	23.08	13.73
	Mar-11	15.60	11.01	12.71	32.30	17.67	20.36	21.64	15.58
	Mar-12	17.36	12.47	13.94	16.50	18.60	18.40	18.11	13.50
	Mar-13	18.74	13.96	14.26	17.01	15.78	14.43	14.37	11.52
Average		***15.79***	***10.30***	***14.04***	***16.90***	***16.24***	***17.50***	***19.84***	***17.03***
Total Asset Turn Over ratio (TATO)	Mar-08	0.11	0.10	0.09	0.12	0.10	0.08	0.09	0.09
	Mar-09	0.13	0.09	0.09	0.06	0.11	0.08	0.10	0.09
	Mar-10	0.10	0.08	0.09	0.12	0.09	0.08	0.09	0.08
	Mar-11	0.10	0.07	0.07	0.16	0.09	0.08	0.09	0.08
	Mar-12	0.11	0.08	0.08	0.14	0.10	0.08	0.10	0.08
	Mar-13	0.10	0.07	0.08	0.17	0.09	0.07	0.09	0.08
Average		***0.11***	***0.08***	***0.08***	***0.13***	***0.10***	***0.08***	***0.09***	***0.08***
ratio(NPTF)	Mar-08	1.42	0.71	1.04	1.76	1.16	0.92	1.16	1.23
	Mar-09	1.42	0.70	1.08	2.11	1.41	1.12	1.38	1.50

	Mar-10	1.49	1.00	0.91	1.93	1.51	1.22	1.41	0.70
	Mar-11	1.60	1.24	0.65	3.89	1.58	1.36	1.32	0.79
	Mar-12	1.70	1.40	0.91	2.41	1.60	1.27	1.17	0.72
	Mar-13	1.84	1.59	0.97	2.97	1.67	0.93	1.02	0.65
Average		***1.58***	***1.11***	***0.93***	***2.51***	***1.49***	***1.14***	***1.24***	***0.93***
Combined Average		***5.82***	***3.83***	***5.02***	***6.51***	***5.94***	***6.24***	***7.06***	***6.01***
Rank		***6***	***8***	***7***	***2***	***5***	***3***	***1***	***4***

Source: RBI, Moneycontrol.com, SBI, ICICI, HDFC, AXIS,PNB,BOI

PNB is highly efficiently managed bank with RON closer to 20 % far ahead than privately managed bank HDFC and ICICI. Combined average data show PNB management team is good in the Asset rotation cycle followed by Kotak Mahindra Bank.

4.4 Earning Quality

The excellence of earnings determines the capability of a bank to earn consistently. It mainly determines the profitability and productivity of the bank, explains the growth and sustainability in future earnings capacity. The ratios to explain the capacity of income creation are:

- Operating Profit per share (OP): This calculates bank earnings from operations for each rupee spent as working fund per share.
- Net Profit Margin (NPM): NPM studies the absolute value of a profit level as a percentage of net income to sales revenues , a comprehensive measure of a company's profitability

Table 5: Represents Earning Quality of sample banks

		HDFC Bank	ICICI Bank	SBI	Kotak Mahindra	Axis Bank	Bank of Baroda	PNB	Bank of India
Operating Profit per share (OP)	Mar-08	113.59	51.29	173.61	16.32	56.88	57.48	109.81	44.53
	Mar-09	130.78	48.58	230.04	13.08	83.56	82.98	151.48	73.29
	Mar-10	151.81	49.80	229.63	25.88	97.29	106.39	191.63	43.27
	Mar-11	163.65	25.03	165.38	8.72	50.50	112.77	179.88	68.14
	Mar-12	38.00	25.38	271.65	10.73	56.94	132.20	197.65	59.02
	Mar-13	22.18	42.36	236.63	15.11	66.33	134.58	198.32	65.05
Average		***103.34***	***40.41***	***217.82***	***14.97***	***68.58***	***104.40***	***171.46***	***58.88***
n (NPM)	Mar-08	12.76	10.51	11.75	10.37	12.22	10.38	12.68	13.96
	Mar-09	11.30	9.74	12.03	8.35	13.31	12.86	13.76	15.89

	Mar-10	14.82	12.17	10.54	15.23	16.10	15.37	15.64	8.59
	Mar-11	16.12	15.79	8.50	16.46	17.12	17.17	14.48	10.25
	Mar-12	15.86	15.75	9.68	15.15	15.47	15.12	12.02	8.53
	Mar-13	15.97	17.19	10.39	14.78	15.35	11.54	10.29	7.70
Average		***14.47***	***13.53***	***10.48***	***13.39***	***14.93***	***13.74***	***13.15***	***10.82***
Combined Average		***58.90***	***26.97***	***114.15***	***14.18***	***41.76***	***59.07***	***92.30***	***34.85***
Rank		***4***	***7***	***1***	***8***	***5***	***3***	***2***	***6***

Source: RBI, Moneycontrol.com, SBI, ICICI, HDFC, AXIS,PNB,BOI

SBI has highest operating profit per shares and average NPM of 10.48, which is least in its peer groups. This indicates after making a higher operating profit the net profit margin of the bank is not good due to high cost.

4.5 Liquidity

Managing Liquidity in banks is an important task due to competitive stress .The proper liquidity management can be used to hedge Risk of liquidity and ensuring superior percentage of return on invested funds. The Liquidity position can be gauged by following ratios:

- Cash Deposit Ratio (CD): This ratio shows cash in hand and deposit with RBI with proportion of total deposit in a Bank.
- Investment to Deposit (ITD): This ratio calculates the Total investment in security (approved/non-approved) with respect to Total deposit.
- Liquid Ratio (LR): This ratio calculation of Current Liability and Current Asset, that measures a bank's ability to pay immediate and short-term obligations.

Table 6: Represents Liquidity position of sample banks

		HDFC Bank	ICICI Bank	SBI	Kotak Mahindra	Axis Bank	Bank of Baroda	PNB	Bank of India
Cash Deposit Ratio (CD)	Mar-08	10.44	10.12	8.29	8.98	8.17	5.70	9.02	7.02
	Mar-09	10.72	10.14	8.37	8.44	8.16	5.80	8.59	6.08
	Mar-10	9.36	10.72	7.56	7.79	7.30	5.57	7.71	5.85
	Mar-11	10.81	11.32	8.96	7.89	7.07	6.11	7.49	7.07
	Mar-12	8.81	8.60	7.51	6.08	6.01	6.01	6.10	5.96
	Mar-13	5.46	7.21	5.34	4.72	5.39	4.09	4.72	5.28
Average		***9.27***	***9.69***	***7.67***	***7.32***	***7.02***	***5.55***	***7.27***	***6.21***
ent to Deposit (ITD)	Mar-08	47.28	42.68	34.81	58.36	41.39	28.46	32.38	28.64
	Mar-09	44.40	46.35	36.38	56.92	39.04	27.96	31.20	27.79
	Mar-10	37.82	53.28	36.33	54.70	39.55	26.22	30.74	28.53

	Mar-11	34.29	59.77	33.45	55.76	38.71	24.26	30.75	28.93
	Mar-12	36.73	61.16	30.73	57.06	40.35	22.40	31.45	27.97
	Mar-13	38.29	60.38	29.52	56.32	43.77	23.83	32.75	25.91
Average		***39.80***	***53.94***	***33.54***	***56.52***	***40.47***	***25.52***	***31.55***	***27.96***
Liquid Ratio (LR)	Mar-08	0.04	0.11	0.07	0.06	0.03	0.03	0.02	0.02
	Mar-09	0.04	0.13	0.04	0.09	0.03	0.02	0.02	0.03
	Mar-10	0.03	0.14	0.04	0.05	0.03	0.02	0.02	0.02
	Mar-11	0.06	0.96	0.77	0.95	0.74	0.75	0.77	0.04
	Mar-12	0.08	1.00	0.82	1.00	0.77	0.75	0.77	0.03
	Mar-13	0.80	0.98	0.84	0.94	0.77	0.69	0.78	0.76
Average		***0.18***	***0.55***	***0.43***	***0.52***	***0.40***	***0.38***	***0.40***	***0.15***
Combined Average		***16.41***	***21.39***	***13.88***	***21.45***	***15.96***	***10.48***	***13.07***	***11.44***
Rank		***3***	***2***	***5***	***1***	***4***	***7***	***6***	***8***

Source: RBI, Moneycontrol.com, SBI, ICICI, HDFC, AXIS,PNB,BOI

Kotak Mahindra bank is top in Liquid position with 56.52 ITD ratio followed by ICICI bank Ltd this implies that these banks are in a better position to meet immediate and long term financial needs with a quality investment asset.

4.6 Overall Ranking

As stated in the initial part of this paper, CAMEL model is used to rate the banks according to their Performance**.**

Table 7: Composite ranking: Overall Performance of sample banks

Average	HDFC Bank	ICICI Bank	SBI	Kotak Mahindra	Axis Bank	Bank of Baroda	PNB	Bank of India
C	*13.78*	*17.62*	*13.31*	*18.42*	*14.42*	*13.97*	*13.24*	*12.19*
A	*1.65*	*1.27*	*0.91*	*1.54*	*1.57*	*1.06*	*1.25*	*1.04*
M	*5.82*	*3.83*	*5.02*	*6.51*	*5.94*	*6.24*	*7.06*	*6.01*
E	*58.90*	*26.97*	*114.15*	*14.18*	*41.76*	*59.07*	*92.30*	*34.85*
L	*16.41*	*21.39*	*13.88*	*21.45*	*15.96*	*10.48*	*13.07*	*11.44*
Combined Avg.	**19.31**	**14.22**	**29.45**	**12.42**	**15.93**	**18.16**	**25.38**	**13.11**
Rank	***3***	***6***	***1***	***8***	***5***	***4***	***2***	***7***

Inference from Table 7, SBI bank is ranked in top with composite average 29.45, followed by Punjab National Bank (25.38), while KOTAK Mahindra Bank stood at the bottom with a composite average of 12.42 on the CAMEL Parameter analysis for the period of Mar-2008 to Mar-2013.

5. CONCLUSION

The sample banks have been ranked on CAMEL parameters. Ranking these profitable banks is complicated to the level, that any type of such ranking is question of ambiguity as the ratios selected for the computation of ranking can be interpreted in the way one likes. The opted method provides a simplistic way of presenting difficult data concerning performance of the top players of the industry.

The Growth of Banking industry is one of the most important factors of Economic development of a country. The current study has been done to find the economic soundness of a Highest Market Capitalized banks in India using CAMEL model during the period 2006-10. The main findings of this study areas fllows:

- Kotak Mahindra Bank is on Top position in terms of capital adequacy followed by ICICI bank .
- SBI has highest NPA level among their peer group followed by ICICI bank .
- PNB is highly management efficient with the highest grading in this parameter.
- Earning quality of SBI and PNB are on top.
- Kotak Mahindra and ICICI are the most efficient in managing their Liquidity.
- The overall combined performance table shows that, SBI is ranked first followed by PNB and HDFC bank.

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