

A CAMEL Approach towards Overall Financial Performance of New Private Sector Banks during Pre and Post Financial Crisis

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ABSTRACT

This study examines the overall performance of New Private Sector Banks using Capital Adequacy, Asset Quality, Management Efficiency, Earnings Quality and Liquidity level (CAMEL Framework) for the period 2003-2014. Although profitability indicators (such as Return on Assets, Return on Equity and Net Interest Margin) present the performance of New Private Sector Banks, it would be more appropriate if CAMEL model has been used as tool to evaluate the overall performance. Because, commercial banks' performance not just depends upon either the level of NPA or profitability. It is primarily based on various dimensions. Having considered this point of view, the researchers have adopted CAMEL Model to this study to evaluate the overall performance of New Private Sector Banks.

KEYWORDS: NPA Indicators, Profitability indicators, CAMEL Framework, Return on Assets and Return on Equity.

1. INTRODUCTION

The financial performance of commercial banks both public and private banks have been analysed using CAMEL rating system. CAMEL is a ratio based evaluation tool which consist of five (now six) different critical dimensions of operations and performance of commercial banks. They are called as component factors. It consists of components such as capital adequacy, asset quality, management efficiency, earnings quality and liquidity which are used to reflect financial performance, financial condition, operating soundness and regulatory compliance of the banking institution. In this section, five dimensions of CAMEL model have been used to rank the performance of New Private Sector Banks in India. The details of CAMEL Model computations are given in tabular form in Appendix I

2. REVIEW OF LITERATURE

Angelo Zago and Paola Donglil (2007) Measured the efficiency of a banking system taking into account the role that credit quality may play at a microeconomic level. The results of the statistical tests based on Kernel's distributions showed that the distributions of the traditional model (without bad loans) and the model with bad loans were indeed different for each year and in both traditional and intermediation approaches with a profitability error of 1%. The tests also confirmed that the distributions of the efficiency scores obtained with the two distinct approaches were different and more different than the specifications with and without bad loans.

Manoj P.K (2010) Critically evaluated the determinants of profitability and operational efficiency of Kerala old private sector banks using an econometric methodology. The overall analysis revealed that non-interest income of all the banks under study except Catholic Syrian Banks and also that of both the bank groups (viz., old private banks and new private banks) had strong positive and significant association at 5% with their respective operating profit ratio. The priority sector advances in the total advances portfolio had no significant relationship with net interest margin for any of the sample banks. **Dimitrios P Louris, Angelos T Vouldis and Vasilios L. Metaxes (2010)** Examined the determinants of non-performing loans (NPLs) of the Greek banking sector, separately for each type of loan (consumer, business and mortgage loans) using dynamic panel data techniques. The GMM estimation results of the analysis showed that the co-efficient was statistically significant for business and consumer loans. On the other hand, the co-efficient was statistically insignificant for mortgages. The NPL ratio was negatively affected by slowdown in economic growth for all types of loans. It was further observed that the one-quarter lagged real interest rate co-efficient was statistically significant in the case of business and consumer loans. The results also showed that lagged unemployment rate affected business loans with one lag. **Anita Makkar and Shveta Singh (2013)** Compared the financial performance of select public and private sector banks for the period from 2006-2007 to 2010-2011. The study had chosen a sample of 37 banks comprising 22 public sector banks and 15 private sector banks. The study used CAMELS rating methodology to measure the performance of the banks for analytical purpose. The analysis showed the following inferences: Federal bank (18.25%) and Kotak Mahindra Bank (18.08%) stood at the top position on the basis of capital adequacy ratio. Central Bank of India (11.56%) and State Bank of Travancore (11.84%) reported a lower capital adequacy ratio. Central Bank of India (35.74%) and UCO Bank (32.08%) were the highly levered banks whereas Kotak Mahindra Bank (4.95%), ICICI Bank (5.44%) and SBI (12.85%) stood at the bottom position in terms of low debt-equity ratio. Yes Bank (0.12%), Andhra Bank (0.20%) and KarurVysya Bank shown lowest NPA to Advances ratio. However, Development Credit Bank (3.13%), Kotak Mahindra Bank (32.62%) and State Bank of India (26.30%) showed highest NPA indicating deteriorating asset quality of these banks. Business Per Employee was highest in case of IDBI Bank (20.28%), Yes Bank (12.71%) and SBI stood at the 33rd position. Kotak Mahindra Bank and Development Credit Bank stood at the bottom position.

3. RESEARCH DESIGN

3.1. Statement of the Problem

The performance of Commercial Banks has come under a strict scrutiny of the apex body like RBI after the implementation of Banking Sector Reforms during the year 1991. Commercial Banks are undergoing a stiff competition in the wake of competition from private players and foreign counterparts. Recently, the RBI has given licenses for smart banks and payment banks. Non-Performing Assets are the major crucial issues of the commercial banks. It is the much debated topic in the banking sector. Commercial Banks operate under various risks. Among various risks, credit risk is assumed to be significant one due to its inherent nature of ripple effect on commercial banks' liquidity and solvency position. If mounting NPA is not curbed timely, it will lead bankruptcy conditions in banking sector. NPAs not just erode present profits, but also affect future profits as internally generated funds are diverted to huge amount of provisions. In this backdrop, the researchers have taken a maiden effort to analyze the major NPA and Profitability indicators during pre and post crisis period.

3.2. Objectives of the Study

The study has framed the following objectives.

- 1) To evaluate the performance of new Private Sector Banks using CAMEL Framework for the study period.
- 2) To analyse the major NPA and Profitability indicators of New Private Sector Banks during pre and post financial crisis period.

3.3. Statement of Hypotheses

Based on the above mentioned objectives, the following hypotheses are formulated and tested.

1. **H₀** Performance of New Private Sector Banks in terms of NPA and Profitability indicators do not differ during pre and post financial crisis period.

2. **H₁** Performance of New Private Sector Banks in terms of NPA and Profitability indicators differs during pre and post financial crisis period.

3.4. RESEARCH METHODOLOGY

3.4.1. Nature of the Study

The study is descriptive and analytical in nature. It describes the state major NPA and Profitability indicators of New Private Sector Banks in India during pre and post financial crisis period.

3.4.2. Sources of Data

The study primarily depends on secondary data. It consists of various financial statements like Balance Sheet, Profit & Loss account, Annual Reports and Ratio Analysis. The required data have been taken and combined from "Report on Trends and Progress of Banking in India", published by Reserve Bank of India. The data taken from RBI are further classified and compiled for the suitability of analysis. Ratios and other financial variables are heavily drawn from "Statistical Tables Relating to Banks in India". The scope of the study is limited to twelve years data.

3.4.3. Sampling Framework

Most of the studies on Non-Performing Assets (NPAs) are comparison between Public Sector Banks and Private Sector banks. But this study focuses on Non-Performing Assets of New Private Sector Banks. Comparison between Public Sector Banks and Private Sector Banks does not give unique feature of a particular sector. Therefore all New Private Sector Banks have been taken which may constitute the entire population of the study. Some of the Banks have been excluded due to the lack of consistency and availability of data. Apart from this, some of the Banks were merged, so the merged banks are not taken for the study.

3.4.4. Research Instruments

The study has used both parametric and non-parametric tools such as t-test, Mann-Whitney U Test, Kruskal Wallis Test and Kolmogorov-Smirnov Test to examine the performance of New Private Sector Banks during pre and post crisis period. To assess the overall performance of New Private Sector Banks, CAMEL model has been used with various ratios using different parameters.

3.4.5. Period of the Study

The study is analytical in nature and the present study uses the latest available secondary data published by RBI for the 12 years starting from 2002-2003 to 2013-2014. The dataset has been divided into two groups to analyse the performance of New Private Sector Banks during pre and post financial crisis period.

4. ANALYSIS OF NEW PRIVATE SECTOR BANKS' PERFORMANCE USING CAMEL MODEL

Performance of New Private Sector Banks has been measured using CAMEL framework in order to have a holistic approach to the evaluation metrics. The study has adopted five different parameters under each criterion. The results are consolidated and compiled in the tabular form which is given in the appendix.

4.1. Capital Adequacy:

Capital adequacy is the core aspects of banking institution which has an impact on profitability and bankruptcy. It helps to protect the stakeholders' confidence and serves as a cushion during the crisis period. It is the very important part of any financial institution as it is essential to maintain capitalization. In India, Reserve Bank of India has been regulating commercial banks to maintain a capital to risk weighted assets (CRAR) ratio of 13%. This percentage is fixed with regard to credit risk, market risk and operational risk on an on-going basis. For the purpose of the analysis, the following ratios are used to measure the Capital Adequacy. Advances to Assets (LTA),

Government Securities to Investments (GSECINVST), Capital Adequacy Ratio (CAR), Fixed Assets to Total Assets (FTA) and Cost of Borrowings (COB).

 Insert Table 1 about here

The capital adequacy component of CAMEL model exhibits Development Credit Bank (2.6) and Indusland Bank (3.6) as leading banks among New Private Sector Banks in terms of capitalisation. Axis Bank stood at the last position in capital adequacy with the group average of 3.6 followed by HDFC Bank Ltd (3.2)

4.2. Asset Quality:

Asset quality is one of the factors in determining the financial healthiness of banking institution. It has ripple effect, as losses are eventually written against the capital, which ultimately affect the earning capacity of the commercial banks. It implies that the impairing assets erode capital strength and it leads to solvency problems. In asset quality framework, it is assessed with respect to severity of loss assets and its distribution. The various ratios used under this framework are given here namely, Priority Sector Advances to Total Advances (PSATAD), Non-Performing Assets to Total Assets (NPATA), Return on Advances (ROAD), Net Non-Performing Assets (NNPA) and Secured Advances to Total Advances (SATAD).

 Insert Table 2 about here

Under New Private Sector Bank groups, Indusland Bank (2.4) and HDFC Bank Ltd (2.45) are in the top position with better asset quality whereas ICICI Bank (3.6) and Development Bank (4) are ranked as low performing banks in terms of asset quality.

4.3. Management Efficiency:

Management efficiency is one of the vital components in CAMEL framework. It measures the administrative competence, leadership, innovativeness, capability of the management to cope up with dynamic environment and predominantly adherence to set norms and standards. The various ratios used under this framework are as follows. They are Business Per Employee (BPE), Profit Per Employee (PPE), Cost to Income (CIR) Ratio, Return on Equity (ROE) and Non-Interest Income to Total Assets (NIITA).

 Insert Table 3 about here

For new private sector bank groups, ICICI Bank (5.91) and Axis Bank (6.26) are standing at top position whereas Development Bank (6.41) and HDFC Bank (7.68) are sharing the last position.

4.4. Earnings Quality:

The quality of earnings represents the sustainability and growth of future earnings, value of a banks service and its competency to maintain quality and earn consistently. Earnings and profitability are examined as against interest rate policies and adequacy of provisioning. The single best indicator used to gauge earning is the Return on Assets (ROA), which is net income after taxes to total asset ratio. For the study, the following ratios have been used to measure earnings quality: Interest Income to Total Assets (IITA), Return on Investment (ROI), Net Interest Margin to Total Assets, Operating Assets to Total Assets (OPTA) and Return on Assets (ROA).

 Insert Table 4 about here

HDFC Bank Ltd with the average of 2.49 is in the top position followed by Axis Bank (3.01). Similarly, Development Credit Bank (3.51) and ICICI Bank (3.76) are in the last position among the new private sector bank groups.

4.5. Liquidity:

In case of an adequate liquidity position, the institution can obtain sufficient funds, either by increasing liabilities or by converting its assets to cash quickly at a reasonable cost. The following ratios have been used to assess liquidity: Cash to Deposits (CSD), Liquid Assets to Total Assets (LQTA), Liquid Assets to Deposits (LDT), Liquid Assets to Demand Deposits (LQDS) and Government Securities to Total Assets (GSECTA).

 Insert Table 5 about here

For new private sector banks, Axis Bank (29.20) and HDFC Bank Ltd (35.60) are in the top position in terms of higher liquidity whereas Indusland Bank (45.31) and Development Credit Bank (47.75) are ranked higher due to their lower liquidity level.

4.6. Composite Ranking of Public and Private Sector Commercial Banks:

Table 6 shows the composite rating of CAMEL model of new private sector commercial banks. It is very clear from the above table that HDFC Bank showed the top position among the new private sector banks group with the group average of 2.44, followed by Indusland Bank (2.52). However, ICICI Bank (3.36) and Development Credit Bank (3.64) are in the last position.

 Insert Table 6 about here

4.7. ANALYSIS OF NEW PRIVATE SECTOR BANKS' PERFORMANCE DURING PRE AND POST CRISIS PERIOD

Summary of Parametric and Non-Parametric Tests of New Private Sector Banks

 Insert Table 7 about here

To analyse the difference in the relative performance of the New Private Sector Banks during the pre and post-crisis periods, a series of parametric (t-test) and non-parametric (Mann-Whitney [Wilcoxon], Kruskal-Wallis and Kolmogorov-Smirnov) Tests have been performed. Table IV-96 describes the summary of parametric and non-parametric tests results of New Private Sector Banks. GNPA of New Private Sector Banks has been relatively larger ($4.1217 > 2.7897$) during the pre-crisis period and statistically significant at 5% level under non-parametric tests such as Mann-Whitney [Wilcoxon], Kruskal-Wallis and Kolmogorov smirnov tests. When asset quality of New Private Sector Banks is measured in terms of NPATA, it is lower during the pre-crisis period ($-2.1877 < 0.4653$). However, the results are not statistically significant under both parametric t-tests. But, it is significant only at 5% level under non-parametric tests. In contrary to our expectations, table IV-96 shows that NPA provision of New Private Sector Banks has been higher during the post-crisis period and statistically significant at 1% level under both parametric and non-parametric tests. It is also interesting to note that the New Private Sector Banks seem to be relatively better capitalised during post-crisis period and these results are statistically significant 5% level under parametric t-test and 1% under non-parametric tests.

It is observed that on average the New Private Sector Banks has been relatively more profitable during the post-crisis period under the three profitability measures, i.e., ROA, ROE and NIMTA (significant at the 5% level under both the parametric t-test and non-parametric Mann-Whitney [Wilcoxon], Kruskal Wallis and Kolmogorov-Smirnov tests). Though ROA is higher during post-crisis period, ROA is not significant under parametric t-test and significant at 5% level under non-parametric tests. The results of ROE reveal that they are significant at 10% only under Kolmogorov Smirnov test. Therefore, the null hypothesis is accepted. Similarly, NIMTA is significant at 1% level under all the three non-parametric tests. In all the cases except ROE, the null hypothesis is rejected and it can be concluded that there exists a significant difference in the performance of New Private Sector Banks during pre-crisis and post-crisis period.

5. CONCLUSION

The study has evaluated the performance of New Private Sector Banks during pre and post financial crisis for the period 2003-2014. Commercial Banks performance indicators in terms of NPA and Profitability factors are assessed during these periods. Apart from this, the study has adopted CAMEL framework to assess the performance of New Private Sector Banks from various dimensions. The results revealed that HDFC Bank showed the top position among the new private sector banks group with the group average of 2.44, followed by Indusland Bank (2.52). However, ICICI Bank (3.36) and Development Credit Bank (3.64) are in the last position. It can be concluded that there exists a significant difference in the performance of New Private Sector Banks during pre-crisis and post-crisis period.

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Appendix 1**Table 1 CAPITAL ADEQUACY OF NEW PRIVATE SECTOR BANKS**

S.N	New Private Sector	LTA	RANK	GSECIN	RANK	CAR	RANK	FT	RANK	COB	RANK	C	RAN
1	Axis Bank	58.16	3	61.80	4	14.96	3	0.74	5	6.46	3	3.6	5
2	Development Credit Bank	60.54	1	76.80	2	14.04	5	5.32	1	6.97	4	2.6	1
3	ICICI Bank	53.93	5	54.64	5	18.47	1	0.94	3	3.30	1	3	3
4	Indusland Bank	60.32	2	76.42	3	14.45	4	3.32	2	5.87	2	2.6	2
5	HDFC Bank Ltd.	57.92	4	80.65	1	16.53	2	0.77	4	10.65	5	3.2	4

Table 2 ASSET QUALITY OF NEW PRIVATE SECTOR BANKS

S.N	New Private Sector	PSAT	RANK	NPATA	RANK	ROAD	RANK	NN	RANK	SAT	RANK	A	RAN
1	Axis Bank	27.71	2	0.21	2	9.70	4	0.36	2	84.25	3	2.6	3
2	Development Credit Bank	38.03	5	1.97	5	11.59	3	1.70	5	85.97	2	4	5
3	ICICI Bank	24.32	1	0.70	4	9.41	5	1.30	4	80.50	4	3.6	4
4	Indusland Bank	33.80	4	0.61	3	12.93	1	0.47	3	89.32	1	2.4	1
5	HDFC Bank Ltd.	32.29	3	0.17	1	11.97	2	0.30	1	75.82	5	2.4	2

Table 3 MANAGEMENT EFFICIENCY OF NEW PRIVATE SECTOR BANKS

S.N	New Private Sector	BPE	RANK	PPE	RANK	CIR	RANK	RO	RANK	NIIT	RANK	M	RAN
1	Axis Bank	120.97	5	1.33	4	21.88	1	18.9	1	2.17	1	6.26	2
2	Development Credit Bank	264.62	4	-1.12	5	31.89	5	1.43	5	1.46	5	6.41	4
3	ICICI Bank	522.83	1	6.15	1	22.57	2	10.6	4	1.81	4	5.91	1
4	Indusland Bank	458.67	2	3.49	2	23.14	3	16.2	3	1.95	2	6.31	3
5	HDFC Bank Ltd.	319.73	3	3.42	3	30.43	4	18.4	2	1.84	3	7.68	5

Table 4 EARNINGS QUALITY OF NEW PRIVATE SECTOR BANKS

S.N	New Private Sector	IITA	RANK	ROI	RANK	NIMTA	RANK	OP	RANK	ROA	RANK	E	RAN
1	Axis Bank	8.02	4	7.31	2	3.07	2	3.01	2	1.66	2	3.01	2
2	Development Credit Bank	8.75	3	6.48	4	2.80	4	1.17	5	0.13	5	3.51	4
3	ICICI Bank	7.48	5	6.46	5	2.45	5	2.52	3	1.41	3	3.76	5
4	Indusland Bank	9.65	1	6.84	3	3.06	3	2.51	4	1.37	4	3.20	3

5	HDFC Bank Ltd.	8.98	2	7.40	1	4.24	1	3.13	1	1.68	1	2.49	1
Table 5 LIQUIDITY LEVEL OF NEW PRIVATE SECTOR BANKS													
S.No	New Private Sector	CSD	RANK	LQTA	RANK	LDT	RANK	LQ	RANK	GSE	RANK	L	RAN
1	Axis Bank	6.48	4	24.70	4	165.55	5	32.2	4	19.34	4	29.2	1
2	Development Credit Bank	5.86	5	29.34	3	289.19	1	37.4	3	60.79	1	47.7	5
3	ICICI Bank	8.67	1	17.41	5	241.26	2	31.5	5	17.05	5	36.1	3
4	Indusland Bank	6.76	3	71.22	1	238.15	3	38.1	2	49.27	2	45.3	4
5	HDFC Bank Ltd.	8.11	2	30.72	2	214.31	4	41.0	1	22.29	3	35.6	2

Table 6 Composite Ranking (Overall Performance) of New Private Sector Banks

S.No	New Private Sector Banks	C	A	M	E	L	CAMEL	RANK
1	Axis Bank	3.6	2.6	2.4	2.4	4.2	3.04	3
2	Dvelopment Credit Bank	2.6	4	4.8	4.2	2.6	3.64	5
3	ICICI Bank	3	3.6	2.4	4.2	3.6	3.36	4
4	Induland Bank	2.6	2.4	2.4	3	2.2	2.52	2
5	HDFC Bank Ltd.	3.2	2.4	3	1.2	2.4	2.44	1

Table 7 Summary of Parametric and Non-Parametric Tests of New Private Sector Banks

Test Groups						
Parametric Test			Non-Parametric Test			
Individual Tests	t -test		Mann-Whitney (Wilcoxon Rank-Sum test)		Kruskall-Wallis Test	Kolmogorov-Smirnov Test
Test Statistics	Mean	t (Prb> t)	Mean Rank	z (Prb> z)	X ² (Prb> X ²)	z (Prb> z)
GNPA						
Pre - Crisis	4.1217	1.645	35.43	-2.188**	4.788**	1.549**
Post - Crisis	2.7897		25.57			
NPATA						
Pre - Crisis	-2.1877	-.800	36.15	-2.507**	6.283**	1.420**
Post - Crisis	0.4653		24.85			
NPA Prov						
Pre - Crisis	45.8060	-4.754*	21.40	-4.036*	16.290*	2.324*
Post - Crisis	69.6653		39.60			
CAR						
Pre - Crisis	11.8837	-8.762**	16.98	-5.995*	35.942*	2.969*
Post - Crisis	15.7127		44.02			
ROA						
Pre - Crisis	0.6993	-1.411	25.65	-2.152**	4.630**	1.420**
Post - Crisis	1.0437		35.35			
ROE						
Pre - Crisis	9.2657	-.465	32.47	-.872	.761	1.291***
Post - Crisis	11.2960		28.53			
NIMTA						
Pre - Crisis	2.2593	-.981	24.68	-2.580*	6.657*	1.807*
Post - Crisis	2.5147		36.32			

Note: - In the above table* indicates p-value is significant at 1% level, ** at 5 level and *** at 10% level.