

PERFORMANCE EVALUATION OF ANDHRA BANK & BANK OF MAHARASHTRA WITH CAMEL MODEL

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Abstract

The present study focuses on the evaluation of the performance of two public sector banks viz., Andhra Bank and Bank of Maharashtra with CAMEL model. Andhra Pradesh & Maharashtra states are among the top five most populace states of India. Also these are the two states, which have the high incidences of farmer suicides due to the inability to repay the loans. With this background these states with their respective public sector banks are considered to do the comparative study. The study adopts an analytical and descriptive research design. The data of the sample banks for a period of 2011-2013 have been collected from the annual reports of the banks. Twenty variables as supported by the existing literature related to CAMEL model are used in the study. The study found that Andhra Bank dominated in Management Efficiency and Earning Quality. However on Assets Quality & Liquidity Bank of Maharashtra dominated over Andhra Bank. Both the banks were on par with respect to the Cash Adequacy Ratio.

KeyWords: *Capital Adequacy Ratio, Liquidity, Management Efficiency, Andhra Bank, Bank of Maharashtra.*

Introduction

The banking sector in India has witnessed a constant restructuring since 1991. Performance evaluation of the banks has become pertinent in the light of the growing complexities, economic downturn and political uncertainties. It has become more evident with the occurrence of the financial crisis in U.S. (2008). Greater risk exposure, volatility in the domestic and international market etc. call for stringent regulation with effective supervision of the performance of the sector. In this aspect, the central bank of India has chalked out many plans, devised many tools and techniques and adopted a number of measures. CAMEL framework is one of the most effective measures to evaluate the performance of the banks.

Literature Survey

Prasad et al. (2011) have used CAMEL model to examine the performance of Indian public sector banks for the period 2006 – 2010 and to rate the banks according to their performance. After analysis they ranked Andhra bank as first and Central bank of India was ranked at the bottom most position. Prasad (2012) revealed that both the public and the private sector banks did not differ significantly during the study period and same was the case with management efficiency and liquidity. Aspal and Malhotra (2013) conducted a study with the objective of evaluating the financial performance of Indian public sector banks, excluding State Bank Group, for the period of 2007-11. The Bank of Baroda was ranked at the first position due to its better performance in the areas of liquidity and asset quality, whereas, United Bank of India was ranked at the bottom most position due to its management inefficiency, poor assets and earning quality. Reddy (2012) used modified version of CAMEL ranking approach to assess relative positions of commercial banks. From the study, it is found that during the year 2009 the top three performing banks among all the banks were Mashreq Bank, China Trust Commercial Bank and Bank of Ceylon because of high capital adequacy and liquidity. The worst three performers were American Express Bank, Development Credit Bank and Catholic Syriyan Bank because of low capital adequacy, low assets and earnings quality and poor management quality. Jha and Hui (2012) studied the financial performance of different ownership structured commercial banks in Nepal based on their financial characteristics. Eighteen commercial banks for the period 2005 to 2010 were selected. The results showed that public sector banks were significantly less efficient than their counterparts. Furthermore, the study revealed that return on

assets was significantly influenced by capital adequacy ratio, interest expenses to total loan and net interest margin, while capital adequacy ratio had considerable effect on return on equity. Lakhtaria (2013) made an attempt to analyse the performance of three public sector banks namely, Bank of Baroda (BOB), State Bank of India (SBI) and Punjab National Bank (PNB) for the period of three years

from 2010 to 2012. The CAMEL approach was used to rank the three banks under study. The study came up with ranking the Bank of Baroda at first place followed by Punjab National Bank and State Bank of India. Vijayakumar (2012) also used CAMEL model in his study aiming at evaluating performance of SBI and its Associates for the period of 14 years starting from 1996-97 to 2009-10. It was found from the study that State Bank of India and its associate banks succeeded in maintaining capital adequacy ratio at higher level than the prescribed level (more than 9 per cent) during the study period. Mishra et al. (2012) analysed the performance of 12 public and private sector banks over a period of eleven years (2000-2011). For this purpose, CAMEL approach was used and they concluded that private sector banks are at the top of the list, with their performances in terms of soundness. Pinyani et al. (2013) used CAMEL approach to compare Islamic, American and Canadian banking models for the period 2007-2010. The study found that Canadian banking system outperformed American and Islamic banking system in terms of asset quality, expenses, securities, liquidity and earnings whereas, Islamic banks have performed better than others in terms of capital adequacy and management ratios. Siva and Natarajan (2011) empirically tested the applicability of CAMEL and its consequential impact on the performance of SBI Groups. The study found that CAMEL scanning helps the bank to diagnose its financial health and alert the bank to take preventive steps for its sustainability. Misra and Aspal (2013) analyzed the performance of State Bank Group using CAMEL approach for the period 2009-2011. The study found that in terms of Capital Adequacy parameter State Bank of Bikaner and Jaipur (SBBJ) and State Bank of Patiala (SBP) were at the top position where as under the Liquidity parameter SBI stood on the top position and State Bank of Mysore (SBM) was on the lowest position. Sheeva Kapil (2006) examine the degree to which supervisory CAMELS ratings reflect the level of risk taken by U.S banking industry and the risk-taking efficiency of those banks. The study found that supervisors not only distinguish between the risk-taking of efficient and inefficient banks, but they also permit efficient banks more latitude in their investment strategies than inefficient banks. Reddy and Prasad (2011) discussed the financial performance of selected regional rural banks during post reorganization period i.e. 2006-10. The study adopted CAMEL model to examine the overall performance of Andhra Pragathi Grameena Bank and Saphthagiri Grameena Bank.

Objective of the study

From the above reviews it is clear that CAMEL model is a very popular model of measuring performance of banks. The model can be used to measure financial soundness of all commercial banks. It is a management tool that measures Capital Adequacy, Assets Quality, efficiency of Management, quality of Earnings and Liquidity of financial institutions. The main objective of the study is to evaluate the performance of two public sector banks viz., Andhra Bank and Bank of Maharashtra with CAMEL model. Andhra Pradesh & Maharashtra states are among the top five most populace states of India. Also these are the two states, which have the high incidences of farmer suicides due to the inability to repay the loans. With this background these states with their respective public sector banks are considered to do the comparative study. CAMEL is basically ratio-based model for evaluating the performance of banks.

Hypothesis

H₀: $\mu_{AB} = \mu_{BOM}$, no significant difference between the performance of Andhra Bank and the Bank of Maharashtra

Methodology

The study adopts an analytical and descriptive research design. The data of the sample banks for a period of 2011-2013 have been collected from the annual reports of the banks. Twenty variables as supported by the existing literature related to CAMEL model are used in the study. Descriptive statistics and independent t test have been used with the help of SPSS 20.

Discussion and Analysis

Capital Adequacy

Capital adequacy reflects the overall financial conditions of the banks. Capital is seen as cushion to protect the depositors and promote stability and efficiency. It is required to maintain confidence of depositors and prevent the bank from going bankrupt. Capital Adequacy indicates whether the bank has enough capital to absorb unexpected losses. It also shows the ability of the management to meet the need for the additional capital. In this study following ratios have been used to measure capital adequacy.

Capital Adequacy Ratio (CAR); Advance to Assets Ratio (ADV/TA); Government Securities to Investments (GS/ INV); Debt-Equity Ratio (D/E)

Table 1: Capital Adequacy Ratios for The Period 2011 - 2013

Ratio	Bank	Mean	Std. Deviation	t value	p value
CAR (%)	Andhra Bank	13.1067	1.31154	.330	.758
	Bank of Maharashtra	12.7533	1.30726		
ADV/TA	Andhra Bank	47.5767	35.67005	-.997	.403
	Bank of Maharashtra	69.5767	13.75541		
GS / INV	Andhra Bank	89.6400	3.37360	2.550	.079
	Bank of Maharashtra	79.6033	5.92446		
DEBT / EQUITY	Andhra Bank	14.3367	.28937	-2.891	.100
	Bank of Maharashtra	19.9300	3.33801		

Source: Based on data obtained from the annual reports of the respective banks, Table 1 shows that for CAR (%) mean of Andhra Bank has been marginally higher than that of bank of Maharashtra. As per the latest RBI norms, the banks in India should have a capital adequacy ratio of 9 per cent.

The mean capital adequacy ratio of Andhra Bank and Bank of Maharashtra for the study period is higher than the stipulated level as prescribed by the capital adequacy norms. Both the banks under study are capable enough to maintain the capital adequacy ratio of 9 per cent. It is not unjustified to interpret that Andhra bank and the Bank of Maharashtra enjoy good financial position.

Similarly, mean of Andhra Bank for Govt. Securities to Investment ratio has been also higher as compared to Bank of Maharashtra. A very high mean values for the investment in Government securities to total investment ratio for both the banks indicates that both these two banks under study are conservative. Andhra Bank and Bank of Maharashtra have preferred risk free Government securities to other investment avenues.

But the mean for Advances to Assets ratio and debt-equity ratio of Bank of Maharashtra is higher than that of Andhra Bank. The higher value of mean for Bank of Maharashtra indicates its aggressiveness in lending operations that ultimately may create a possibility of better profitability as compared to Andhra Bank. The mean debt equity ratio of Andhra Bank and Bank of Maharashtra are 14.33 and 19.93 respectively. The mean for Debt/equity ratio of Bank of Maharashtra is higher than that of Andhra Bank which indicates that Bank of Maharashtra is depending more on debt capital as compared to Andhra Bank. Higher debt equity ratio also indicates less protection for the creditors and depositors in the banking system.

In order to test the significance of differences between Andhra Bank and the Bank of Maharashtra for various capital adequacy ratios, independent samples t -test is used. The t values and p values shown in table 1 clearly reflects that there is no significant difference between Andhra Bank and the Bank of Maharashtra in the matter of capital adequacy.

Assets Quality

Asset quality of banks helps to ascertain the component of non-performing assets as a percentage of the total assets which indicates the types of advances the bank has made to generate interest income. The ratios necessary to understand the asset quality of the banks are the following: Total Investments to Total Assets (TI/TA); Net NPAs to Total Assets (NNPAs/TA), Net NPAs to Net Advances (NNPAs/NA) and Percentage Change in NPAs

Table 2: Asset Quality Ratios for the Period 2011 - 2013

Ratios	Bank	Mean	Std. Deviation	t value	p value
TI/TA	Andhra Bank	24.2467	1.90117	-3.114	.038
	Bank of Maharashtra	28.6200	1.51793		
NNPS / TA	Andhra Bank	.8333	.72858	1.641	.228
	Bank of Maharashtra	.1200	.19053		
NNPS/ NA	Andhra Bank	1.2467	1.07528	.533	.637
	Bank of Maharashtra	.8933	.40266		
CHANGE in NPAS	Andhra Bank	1.9361E2	22.29863	15.112	.001
	Bank of Maharashtra	-15.6500	8.83408		

Source: Based on data obtained from the annual reports of the respective banks

Table 2 shows that the mean of Total investments to total assets ratio of Bank of Maharashtra is marginally higher than Andhra Bank. This is indicative of the better performance of the Bank of Maharashtra's investments. Andhra bank has to be more conservative in investments and should diversify the investment portfolio. The difference in the 't' and 'p' values is significantly large suggesting that Bank of Maharashtra fares better than Andhra Bank.

From the table it's evident that Andhra Bank has more non-performing assets than Bank of Maharashtra. The mean of NPAs to total assets and NPAs to net assets ratios of Andhra Bank are higher than that of Bank of Maharashtra. The differences are significant enough to suggest that Andhra Bank has to change the investment strategy on the right assets.

Change in NPA has increased dramatically in Andhra Bank while it has decreased in Bank of Maharashtra. Very high standard deviation of Andhra Bank shows that the means are scattered widely and they need to be more consistent and aggressive in selling their instruments.

In case of Total investment to total assets ratio, NNPS/TA, NNPs/NA, Bank of Maharashtra has performed better than Andhra Bank which indicates that Bank of Maharashtra is more efficient in assessing the credit risk, managing its nonperforming assets and recovering the debts. The t value and p values shown in Table 2 suggest that there is significant difference between Andhra Bank and the Bank of Maharashtra in the matter of Asset quality. The asset quality of Andhra Bank is inferior to Bank of Maharashtra.

Management efficiency

Management ratios indicate the effectiveness of management in dealing with their Deposits and Advances. The ratios used to measure the management efficiency are the following: Return on Net worth (RONW); Total Advances to Total Deposits (TA/TD); Profit per Employee (PPE) and Business per Employee (BPE).

Table 3: Management Efficiency Ratios for the Period 2011 – 2013

Ratios	Bank	Mean	Std. Deviation	t value	p value
RONW	Andhra Bank	16.1667	1.55307	.377	.725
	Bank of Maharashtra	15.6833	1.58752		
TA/TD	Andhra Bank	84.6500	.05196	-.166	.876
	Bank of Maharashtra	85.0133	3.79566		
PPE	Andhra Bank	8.5667	.66516	5.131	.016
	Bank of Maharashtra	3.9733	1.40080		
BPE	Andhra Bank	11.1167	1.36515	.713	.525
	Bank of Maharashtra	9.9500	2.48187		

Source: Based on data obtained from the annual reports of the respective banks

Management efficiency is one of the important elements of CAMEL Model as management is ultimately responsible for the sound functioning of banks. In view of increased competition in the Indian banking sector, improving efficiency has become a compulsion for all the banks for their survival and growth. Table 3 shows that both the banks on par so far as Return on Net Worth and Total advances to total deposit ratios are concerned. The mean for total deposit to Advances ratio of Bank of Maharashtra is marginally higher than that of Andhra Bank. The higher value of mean for Bank of Maharashtra indicates its efficiency and ability in converting the deposits available with the bank into high earning advances as compared to Andhra Bank.

However, profit per employee is higher for Andhra Bank as compared to Bank of Maharashtra. This ratio shows the surplus earned per employee. Higher the profit per employee ratio, higher is the efficiency of the management. The table also reveals that Andhra Bank has outperformed Bank of Maharashtra in terms of business per employee ratio during the study period. Analysis of the values of standard deviation reflects that the variability is more in Bank of Maharashtra as compared to Andhra Bank indicates that the productivity of human force of Andhra bank is better than Bank of Maharashtra. Business per Employee is used as a tool to measure the efficiency of employees of a bank in generating business for the bank.

The t values and p values shown in table 3 clearly reflects that there is no significant difference between Andhra Bank and the Bank of Maharashtra in the matter of management efficiency.

Earning Quality

Earning quality checks the ability of a bank to earn consistently. It determines the profitability of bank and explains its sustainability and growth in earnings in future. The ratios explain the quality of income generation is Percentage Growth in Net Profit (PAT/ Growth); Net Profit to Average Assets (PAT/AA); Operating Profit to Average Working Funds (OP/AWF)

Table 4: Earning Quality Ratios for the Period 2011 - 2013

Ratio	Bank	Mean	Std. Deviation	t value	p value
PAT/GROWTH	Andhra Bank	7.7133	12.71509	-.649	.576
	Bank of Maharashtra	27.2833	50.63699		
PAT/AA	Andhra Bank	1.1800	.18520	4.442	.013
	Bank of Maharashtra	.5867	.13868		
OP/AWF	Andhra Bank	2.4033	.25146	2.164	.116
	Bank of Maharashtra	1.7467	.46145		

Source: Based on data obtained from the annual reports of the respective banks

Table 4 shows that Bank of Maharashtra has huge lead over Andhra Bank in profit/ growth ratio with higher mean. Analysis of the values of standard deviation reflects that the variability is also more in Bank of Maharashtra as compared to Andhra Bank. The table also reveals that Andhra Bank makes more net profit after tax over the average assets compared to the Bank of Maharashtra. This suggests that Andhra Bank has instruments and advances, which are more profitable and sought after than Bank of Maharashtra. The mean value of Operating profit to average working funds ratio of Andhra bank is higher than Bank of Maharashtra, which indicates that Andhra Bank is able to manage more profit from its operations of every rupee spent in the form of working fund as compared to Bank of Maharashtra. The t values and p values shown in table 4 further confirm the fact that there is significant difference between Andhra Bank and the Bank of Maharashtra in the matter of earning quality.

Liquidity

Bank has to take a proper care to hedge the liquidity risk; at the same time ensuring that good percentage of funds are invested in high return generating securities, so that it is in a position to generate profit with provision for liquidity to the depositors. The following ratios are used to measure the liquidity: Liquid Assets to Total Deposits (LA/TD); Liquid Assets to Total Assets (LA/TA); G-Sec to Total Assets (G-Sec/TA); Approved Securities to Total Assets (AS/TA).

Table 5: Liquidity Ratios for the Period 2011 - 2013

Ratio	Bank	Mean	Std. Deviation	t value	p value
LA/TD	Andhra Bank	14.6000	2.94746	4.501	.037
	Bank of Maharashtra	6.7033	.73867		
LA/TA	Andhra Bank	12.3100	2.47473	4.553	.037
	Bank of Maharashtra	5.6267	.58321		
GOVSEC/TA	Andhra Bank	21.6100	.80876	-1.431	.238
	Bank of Maharashtra	22.8667	1.28873		
AS/TA	Andhra Bank	21.6233	.85652	-1.392	.246
	Bank of Maharashtra	22.8667	1.28873		

Source: Based on data obtained from the annual reports of the respective banks

From the above table it is clear that 5 Liquid Assets to Total Deposits ratio of Andhra Bank is considerably higher than that of Bank of Maharashtra. Andhra Bank is better place than Bank of Maharashtra in case of sudden excessive withdrawal of deposits by the investors. The mean of Bank of Maharashtra for liquid assets to total deposit ratio has been higher as compared to Andhra Bank. The low mean values for liquid assets to demand deposits ratio for both the bank indicates that the banks low ability to meet the demand from depositors in a particular year. To offer higher liquidity for them, bank has to invest their funds in highly liquid form.

From table 5 it is also seen that the mean value of G-sec to Total Assets ratio is marginally higher in case of Bank of Maharashtra which indicates that the bank is conservative and relied more on Government securities. The t values and p values shown in the table clearly reflects that there is significant difference between Andhra Bank and the Bank of Maharashtra in the matter of liquidity.

Conclusion

Andhra Bank & Bank of Maharashtra were analysed for their comparative performance using the CAMEL model. On the CAMEL model Andhra Bank dominated in Management Efficiency and Earning Quality. However on Assets Quality & Liquidity Bank of Maharashtra dominated over Andhra Bank. Both the banks were on par with respect to the Cash Adequacy Ratio. Overall both the banks were found to be performing on par with each other.

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