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A Camel Model Analysis of Private Sector Banks in India

Vishal Garg
Assistant Professor, Department of Commerce, S.D. (PG) College, Panipat, Haryana, India

Abstract: CAMEL model analysis is an important tool to analyse the banks' and financial institutions' performance and to suggest the necessary measures for its improvement where it is required. In India, RBI adopted this approach in 1996 followed on the recommendations of Padmanabhan Committee (1995). In the present study an attempt was made to evaluate the performance & financial soundness of selected private sector banks like ICICI, HDFC AND YES bank using CAMEL approach from 2017 to 2021 as well one way ANOVA method. It is observed that on an average ICICI Bank was at the top most position. It is also observed that Yes Bank was at the bottom most position in selected CAMEL ratios.

Keywords: CAMELS Model, ICICI Bank, HDFC Bank and YES Bank.

INTRODUCTION

Banking is becoming an increasingly global industry, which knows no geographical boundaries. The Indian Banking Sector has witnessed phenomenal growth over the last five decades, especially after the nationalization of the Indian Banks in 1969. Looking at the last twenty-five years, the banking sector has definitely come a long way. The phase of development of the banking sector is a good reflection of the development of the economy. Evaluation of financial performance of the banking sector is an efficient measure and indicator to judge the soundness of economic activities of an economy. Industrial development, modernization of agriculture, expansion of internal trade and foreign trade are the factors which mainly determine the economic development of an economy. A robust financial system is essential for the growth of a strong and vibrant economy. In the globalized economic scenario for economic development of an economy, the role and importance of prudent banking system cannot be underestimated. The banking sector, being a fundamental component of financial system is the backbone of the modern economic system. Banks are one of the oldest financial institutions in the financial system, which play a crucial role in the mobilization of deposits and disbursement of credit among the various sectors of the economy. A sound banking system acts as fuel injection which stimulates economic efficiency by mobilizing savings and allocating them to high return investment. In the 1980s, CAMEL rating system was first introduced by U.S. supervisory authorities as a system of rating for on-site examinations of banking institutions. Under this system, each banking institution subject to onsite examination is evaluated on the basis of five (now six) critical dimensions relating to its operations and performance, which are referred to as the component factors. These are Capital, Asset Quality, Management, Earnings and Liquidity used to reflect the financial performance, financial condition, operating soundness and regulatory compliance of the banking institution. A sixth component relating to

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Sensitivity to market risk has been added to the CAMEL rating to make the rating system more risk-focused.

(Parvesh kumar Oct. 2016) Research studies emphasized the function of financial sector in economic development and expressed that there is a strong correlation between economic growth and development of financial system. (Sanjeev Oct 2016) Another study highlighted that financial sector performs as supply leading role in transferring of resources from traditional, low growth sector to high growth sector and stimulates an entrepreneurship response in the high growth sector. From the above discussion it is cleared that the role of banking system is vital and crucial for the capital formation in the country and it necessitates that banks must be more closely watched for their economic efficiency and performance. In the recent past the banking regulators and policy makers have recommended bank supervision by using CAMELS (capital adequacy, asset quality, management quality, earnings, liquidity and sensitivity) rating model to assess and examine the performance and financial soundness of the bank.

REVIEW OF LITERATURE

Literature review is a study involving a collection of literatures in the selected area of research in which the scholar has limited experience. In the past, various studies relating to the financial performance of banks have been conducted by researchers. Some of them are illustrated below:

- **K.V.N. Prasad and Dr. A.A. Chari (2011)** conducted a study to evaluate financial performance of public and private sector banks in India. In this study they compared financial performance of top four banks in India viz., SBI, PNB, ICICI and HDFC and concluded that on overall basis HDFC rated top most position.
- **Deepti Tripathi, Kishore Meghani and Swati Mahajan (2014)** conducted a study to compare the financial performance of Axis and Kotak Mahindra bank (Private Sector banks). The CAMELS' analysis and t-test concludes that there is no significance difference between the Axis and Kotak Mahindra bank's financial performance but the Kotak Mahindra bank performance is slightly less compared with Axis Bank.
- **Dr. P. Karthikeyan, B. Shangari (2014)** calibrating financial soundness among selected private sector bank in india by using CAMEL model. The present study attempts to show the relative financial position and performance of each bank and a comparative result over a five year period from 2009 to 2013. This study aimed at six private sector banks based on the statistical information of net profit, total assets and market capitalization during the year 2013.
- **Golam Mohiuddin, (2014)** evaluated Sonali Bank Limited and AB Bank Limited in his study by using CAMEL Parameters, the latest model of financial analysis. Through this model, it is highlighted that the position of the banks under the study is sound and satisfactory so far as their capital adequacy, asset quality, management capability and liquidity is concerned.
- **C.A. Ruchi Gupta, (2014)** explained in her study that due to radical changes in the banking sector in the recent years, the central banks all around the world have improved their supervision quality and techniques. In evaluating the function of the banks, many of the developed countries are now following uniform financial rating system (CAMEL RATING) along with other existing procedures and techniques. The results showed that there is a statistically significant difference between the CAMEL ratios of all the Public Sector Banks in India, thus, signifying that the overall performance of Public Sector Banks is different. Also, it can be concluded that the banks with least ranking need to improve their performance to come up to the desired standards.

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- **Sebastian, Francis and Milonas, (2017)** revealed that there is a dramatic changes in the UK banking sector over the 1989–2013 period, seen through the lens of a newly assembled database built from banks' regulatory reports. This database, which they refered to as the Historical Banking Regulatory Database (HBRD), covers financial statement and confidential regulatory information for all authorized UK banks and building societies at the consolidated (group) and standalone (bank) level. As a result, it permits both a more comprehensive picture of the UK banking sector as well as a more refined view of sub-sectors, such as small banks, than possible with other existing data sets (e.g. from external vendors or aggregate statistics). The overview focuses on developments in banks' CAMEL characteristics (Capital adequacy, Asset quality, Management skills, Earnings performance and Liquidity), and relates these developments to concurrent regulatory changes, such as the Basel Market Risk Amendment. They also suggested ways in which the database can be used for evidence-based research and policy analysis.

RESEARCH METHODOLOGY

Research Gap

- This study is undertaken for the period of five years from 2017-21.
- Top 3 private sector banks i.e. HDFC, ICICI and YES banks are chosen for the study based on Total Assets.

Objectives of the Study

- To study the financial performance of selected private sector banks in India.
- To compare and rank selected private sector banks through CAMEL model i.e., based on Capital Adequacy, Assets Quality, Management Efficiency, Earnings Ability and Liquidity.

Scope of the Study

- The scope of this study is to analyze the performance of banking industry in India.
- The performance of the banks are analyzed and examined by using CAMEL model ratios.

Limitations of the Study

- This study is limited to only five select public and private sector banks each in India.
- This study is made only by considering financial statements of the banks which could have undergone through window dressing.
- This study is undertaken only for five years.

Research Design

Tools used: Ratio analysis for CAMEL Parameters.

Sample Size: 3 Private Sector Banks.

Time period: For 5 years i.e., from 2017-18 to 2021-22.

Hypothesis

Ho: There is no significant difference in financial performance of selected private sector banks as assessed by CAMELS model.

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RESULTS AND ANALYSIS

Capital Adequacy

Capital adequacy is assumed to be a crucial reflector of the financial soundness of a bank. In order to survive, it is indispensable to protect the stakeholder confidence and preventing its bankruptcy. Capital is assumed to be a cushion that offers protection to stakeholder' and it enhances the stability and efficiency of bank. Capital adequacy represents the overall financial position of a bank. It reflects whether the bank has sufficient capital to bear unexpected losses in the future and bank leverage.

Table: 1. Capital Adequacy

Banks	Capital Adequacy Ratio		Debt Equity Ratio		Coverage Ratio		Advances to Assets		Govt. Secu. to Total Investment		Group Rank	
	Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
ICICI BANK	17.5	1	0.07	1	1.69	1	74.22	1	15.79	3	1.4	1
HDFC BANK	15.96	3	0.06	2	1.68	2	62.07	2	75.98	1	2	2
YES BANK	16.36	2	0.05	3	1.44	3	54.97	3	33.53	2	2.6	3

Table-1 shows that ICICI is on the top position with group average of 1.4 with rank 1, followed by HDFC 2. Yes bank stands at the lowest position with group average with rank of 3.

Asset Quality

The quality of assets is significant aspect to assess the degree of financial strength of a bank. The principal purpose to measure the assets quality is to determine the composition of non-performing assets (NPAs) as a percentage of the total assets. The quality of credit portfolio expresses the profitability of banks.

Table: 2. Asset Quality

Banks	Net NPA to Net Advance (%)		Net NPA to Total Assets (%)		Total Investment to Total Assets		Group Rank	
	Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
ICICI BANK	2.35	1	2.08	1	34.47	1	1.00	1
HDFC BANK	0.26	2	0.17	2	27.15	3	2.33	2
YES BANK	0.26	2	0.14	3	33.59	2	2.33	2

Table-2 shows that ICICI is on the top position with group average of 1 with rank 1, followed by HDFC and YES BANK with same position with group average 2.33 with rank 2.

Management Soundness

Management efficiency is another indispensable constituent of the CAMELS model that guarantees the growth and endurance of a bank. Management efficiency signifies adherence with prescribed norms, capability to counter to changing environment, leadership and administrative capability of the bank.

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Table: 3. Management Soundness

Banks	Operating Expenses		Net Interest Income		Credit Deposit Ratio		Return on Net Worth (%)		Group Rank	
	Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
ICICI BANK	1.76	3	2.95	2	101.69	1	12.21	3	2.25	2
HDFC BANK	2.56	1	4.2	1	82.5	2	17.54	2	1.50	1
YES BANK	1.77	2	2.82	3	80.28	3	19.15	1	2.25	2

Table-3 shows that HDFC is on the top position with group average of 1.50 with rank 1, followed by ICICI and YES BANK with same position with group average2.25 with rank 2.

Earnings and Profitability

High earnings quality should reflect the firm's current operating performance and a good indicator of future operating performance. The quality of earnings is an extremely significant parameter which expresses the quality of profitability and capability of a bank to sustain quality and earning consistently. It primarily reflects the profitability of bank and enlightens consistency of future earnings. The following ratios are required to assess earning quality:

Table: 4. Earnings and Profitability

Banks	Return on Assets		Cost to Income Ratio		Operating Profit to Total Assets		NIM to Total Assets (%)		Group Rank	
	Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank	Avg.	Rank
ICICI BANK	1.64	2	38.15	3	1.59	3	3.33	2	2.5	2
HDFC BANK	1.85	1	46.15	1	1.87	1	4.04	1	1	1
YES BANK	1.63	3	40.27	2	1.63	2	2.72	3	2.5	2

Table-4 shows that HDFC is on the top position with group average 1 with rank 1, followed by ICICI and YES BANK with same position with group average 2.50 with rank 2.

Liquidity

The adverse effect of increased liquidity for financial Institutions stated that although more liquid assets enhances the ability to raise cash on short-notice, but also reduce management's ability to commit credibly to an investment strategy that protects investors. Liquidity is another noteworthy aspect which expresses the financial performance of banks. Liquidity means the ability of the bank to honor its obligations toward depositors. Bank can preserve adequate liquidity position either by increasing current liabilities or by converting its assets in to cash quickly. It also denotes the fund available with bank to meet its credit demand and cash flow requirements.

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Table: 5. Liquidity

Banks	Liquid Assets to Total Assets (%)		Liquid Assets to Total Deposits (%)		Group Rank	
	Avg.	Rank	Avg.	Rank	Avg.	Rank
ICICI BANK	0.07	1	0.43	1	1	1
HDFC BANK	0.06	2	0.12	3	2.5	2
YES BANK	0.05	3	0.29	2	2.5	2

Table-5 shows that ICICI is on the top position with group average 1 with rank 1, followed by HDFC and YES BANK with same position with group average2.50 with rank 2.

Overall Ranking

In order to assess the overall performance of selected private Sector Banks, composite rating and results are calculated and presented in above Table-6 for the study period 2013- 2017. It is found that under the capital adequacy parameter ICICI at the top position, while YES at lowest position. Under the asset quality parameter, ICICI held the top rank while HDFC and YES bank at same position with 2 ranks. Under management efficiency parameter, it is observed that top rank is taken by HDFC while ICICI and YES bank at same position with 2 ranks. In terms of earning quality parameter, HDFC got the top rank, while ICICI and YES at same position with rank 2. Under the liquidity parameter ICICI stood at the top rank, whereas HDFC and YES bank at same position. The study found that Industrial Credit Investment Corporation of India (ICICI) is at the first position with overall composite ranking average of 1.4 followed by Housing Development Financial Corporation (HDFC) with overall composite ranking average of 1.6. Yes Bank holds the bottom rank with overall composite ranking average of 2.2.

Table: 6. Overall Ranking

	C	A	M	E	L	Average	Rank
ICICI BANK	1	1	2	2	1	1.4	1
HDFC BANK	2	2	1	1	2	1.6	2
YES BANK	3	2	2	2	2	2.2	3

ANOVA Results

One-way ANOVA test applied for determining whether there is any significant difference between the means of The results of ANOVA test highlighted the calculated values of F-ratio is less than the tabulated value (for 2,12 d.f. at 5%). It means there is no statistically significant difference between the mean values of CAMEL ratios, hence null hypothesis accepted. It also signifies that there is no significant difference in performance of selected private sector banks (PSBs) assessed by CAMEL model. CAMEL ratios on the data shown in Table-6. The results of one-way ANOVA test are presented in following Table-.

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Table: 7. ANOVA Results

Source of Variation	Sum of Square	Degree of Freedom	Mean Square	F-Value	Sig.
Between Groups	**1.717**	**2**	**0.859**	**2.871**	**0.096**
Within Groups	**3.588**	**12**	**0.299**		
Total	**5.305**	**14**			

CONCLUSION

CAMEL model is important tool to evaluate the relative financial strength of a banking system and to suggest suitable remedies to improve the deficiencies. CAMEL model is a ratio-based model to appraise the performance of banks. Due to fundamental changes in the banking sector in the recent years, the central banks all around the world have improved their supervision quality and techniques. In evaluating the function of the banks, many of the developed countries are now following uniform financial rating system (CAMEL RATING) along with other existing procedures and techniques. The above study is a humble effort to describe the various ratios which are helpful for the assessment of financial performance of banking sector. The ratios described in the present study are used by various researchers for the evaluation of banks performance in their respective studies. Different banks are ranked according to the ratings obtained by them on the five parameters. In the present study we used five important parameters like Capital Adequacy, Assets Quality, Management Efficiency, Earning Quality and Liquidity for assessing financial performance of the selected private sector banks in India and to determine the factors that predominantly affect the financial performance of the Indian banking sector with efficiently and accurately.

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