

## **PERFORMANCE ANALYSIS USING CAMEL MODEL- A STUDY OF SELECTED PRIVATE BANKS**

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### **ABSTRACT:**

It is crucial to gauge it because a nation's financial system depends on the health of its banking sector. This study's primary goal is to examine the financial performance of a few private. Applying the CAMEL Model, compare sector banks. The analysis covers the five-year period from the financial year 2012–2013 to the financial year 2016–2017. The CAMEL model assisted in measuring each significant characteristic, including capital adequacy, asset quality, management effectiveness, earning quality, and liquidity, to determine how well banks performed. The study is ended by outlining the relative positions of the banks based on the analysis of a few selected private banks, including ICICI Bank, HDFC Bank, KOTAK MAHINDRA Bank, AXIS Bank, and YES Bank.

**Index Terms:** Financial Soundness, performance, CAMEL Mode

### **INTRODUCTION:**

Though the importance of performance evaluation in the banking sector for sustainable growth and development has long been understood, it still necessitates a system that first assesses all factors pertaining to banks before highlighting their strengths and weaknesses to ensure further development. Performance evaluation systems have progressed over time from single-aspect systems to more thorough systems encompassing all elements of banks thanks to advancements in computing tools. In light of the shifting demands of this industry, one rating system that has proven to be more effective for performance measurement, evaluation, and strategic planning for future growth and development of Indian banks is the CAMEL Model.

### **REVIEW OF THE DOCUMENTS:**

The CAMEL model is a very useful, accurate, and efficient tool for assessing the performance of the banking sector and predicting relative risk in the future. A very valuable instrument that can aid in reducing the conditions and dangers that result in bank failures is CAMEL, a rating system for evaluating the soundness of banks.

Capital adequacy is what C in the CAMEL stands for. Asset quality, Management, Earnings, and Liquidity.

Majumdar (2016) used the CAMEL Model to evaluate the financial performance of 15 Bangladeshi banks. He came to the conclusion that there had been a substantial difference in the using Composite Ranking, average, and ANOVA. the efficiency of particular banks. The research recommended that banks take the necessary action to fix these flaws. Erol (2014) used the CAMEL model to assess the performance of Islamic and conventional banks in Turkey. The findings demonstrated that Islamic banks outperformed conventional banks in terms of profitability and asset management ratios, but lagged behind in terms of sensitivity to market risk criteria.

Anita Makkar (2013), Comparative comparison of the financial results of Indian commercial banks. According to the study's findings, there is generally no statistically significant difference between the financial performance of public and private sector banks in India. However, there is still room for improvement in the public sector banks as a whole to strengthen their position in the cutthroat financial sector. Sushendra Kumar Misra (2013) used the CAMEL approach to evaluate the State Bank Group's performance and financial soundness and came to the conclusion that it needed to strengthen its position in terms of asset quality and capital sufficiency.

Aswini Kumar Mishra and et.al (2013 ) based on market capitalization examined the soundness and effectiveness of 12 public and private sector banks. Using the CAMEL technique over a twelve-year period (2000–2011), it has been determined that private sector banks are at the top of the list and have the best soundness performances. In terms of financial strength, Priya Ponraj and Gurusamy Rajendran (2012) evaluated the competitiveness of a select group of Indian commercial banks. Financial ratios, such as the efficiency ratio, profitability ratio, capital adequacy ratio, income-expenditure ratio, deposits, and return ratios, are used to assess a bank's financial health. In terms of profitability ratio and returns ratio, it is discovered that foreign banks are the most competitive when compared to private and public sector banks.

Sufian Fadzlan (2012) examined the internal and external variables that affected bank performance in the Indian banking sector between 2000 and 2008. The empirical results of this study indicate that the profitability of Indian banks is statistically significantly influenced by credit risk, network embeddedness, operating expenses, liquidity, and size. In 2011, Ashok Khurana and Kanika Goyal used trends in operational cost / total cost, cost to revenue, labour / non labour cost, net interest income, NPA, and capital to risk weighted asset ratio to analyse the financial performance of public-sector banks and commercial banks in India. The study found that higher technology capability absorption by various banks is required to boost the argument yield of the banking industry. This would necessitate modifications in business procedures and expanded human resource capabilities.

Doonger Singh Kheechee (2011), sought to evaluate the profitability of various bank types. The findings suggest that while return on funds and return on advances are high in private and international banks, interest income is significantly higher in public sector banks than it is in private sector banks. Data envelopment analysis (DEA), a deterministic non-parametric approach, was used by Ashish Kumar (2011) in an effort to assess the effectiveness of Indian commercial banks. Only 22 banks meet the standards for technical efficiency and pure technical efficiency, according to the study's findings. Further analysis using ANOVA revealed that there is no statistically significant difference between the mean technical efficiency scores of the various banks belonging to the various study groups. In their 2011 study, Bhagirathi Nayak and Nahak examined the performance of India's public sector banks in the years after deregulation. It has been discovered that reform initiatives have had a favourable influence on improving the stability and soundness of India's public sector banks.

Suman Tandon (2010) examined the monetary results of

Indian public sector banks. The conclusion is that the CAGR of many variables has varied from bank to bank.

Sreeramulu and colleagues (2010) evaluate the effectiveness of the Indian banking sector over the years 1999–2003 and 2004–2008. It uses a Cobb Douglas stochastic frontier model to calculate the bank efficiency. According to the report, the Indian banking sector's efficiency increased significantly between 2004 and 2008 compared to 1999 to 2003.

Globalization, liberalisation, and technological advancements are primarily responsible for the improvements in the Indian banking industry. However, there is still a lot of room for the Indian banking sector to increase productivity. In their 2010 study, MabweKumbirai and Robert Webb examine the performance of South Africa's commercial banking industry from 2005 to 2009. Financial ratios are used to assess the profitability, liquidity, and credit worthiness of an organisation. The survey discovered that over the first two years of the analysis, bank per increased significantly, recognised when the global financial crisis first started in 2007, peaking in 2008–2009. As a result, the south African banking industry saw declining profitability, poor liquidity, and declining loan quality.

Ramachandran and Kavitha (2009) conducted a census study that included all of the Indian scheduled commercial banks to examine the significance of increasing the profitability performance of the banking sector in recent years. In the first half of the study period, the group of nationalised banks displayed a position of provisions and contingencies to total expenses, and in the second half of the study period, a position of Capital Adequacy Ratio (CAR). The capital adequacy ratio has replaced the other interest expenditures ratio in reference to the private banks group.

### **OBJECTIVE OF THE STUDY**

Even if numerous studies using the CAMEL model indicated how well private sector banks performed, it is always vital to assess them continually in order to track their efficacy and ensure their genuine financial situation.

### **SCOPE OF THE STUDY :**

In order to determine which bank is in the top spot for performance and efficiency, the study exclusively examines five private banks in India. CAMEL ratios are used to assess each bank's performance and efficiency.

**SOURCES OF DATA:** Information is gathered through journals, annual reports, and data that is posted on bank websites.

**SAMPLE SIZE:** A random sample is chosen.

Data on the top five private banks listed on the BSE are gathered over a five-year period, from 2013 to 2017.

### **TOOLS FOR ANALYSIS:CAMEL MODEL :**

A-asset quality;

M-management;

E-earning and profitability;

L-liquidity;

### **RESULTS AND DISCUSSION:**

#### **C - CAPITAL ADEQUACY RATIOS FOR SELECT BANKS**

**Table-1: DEBT EQUITY RATIOS (DER) & CAPITAL ADEQUACY RATIOS (CAR) FOR SELECT BANKS**

<b>YE AR/</b>	<b>ICICI</b>	<b>HDFC</b>	<b>AXIS</b>	<b>KOTAK</b>	<b>YES</b>
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BANK										
	DER	CAR	CAR	DER	DER	CAR	DER	CAR	DER	CAR
2012-13	6.57	18.74	9.09	16.8	8.96	17	7.56	16.05	15.13	16.05
2013-14	6.65	17.7	9.36	16.07	8.67	16.67	5.86	18.83	13.41	18.83
2014-15	6.64	17.02	8	16.79	9	15.09	6.15	17.17	10.05	17.17
2015-16	6.86	16.64	8.25	15.53	8.6	15.29	6.66	16.34	10.4	16.34
2016-17	6.58	17.39	8.02	14.6	9.31	14.95	6.64	16.77	8.23	16.77
AVG	6.66	17.498	8.55	15.958	8.908	15.8	6.574	17.032	11.444	17.032
RANK	1	1	3	4	4	5	2	2	5	2

The debt to equity ratio reveals how much of a company's funding is provided by creditors and investors. A greater debt to equity ratio shows that bank loans are employed more frequently than investor financing (shareholders). If the debt to equity ratio is 1, creditors and investors both own an equal interest in the company's assets. Table 1 shows that ICICI Bank has the lowest average debt equity ratio out of the five banks. ICICI has improved financial stability as a result. Since the financial year 2012–2013, the YES Bank has continually decreased its debt equity ratio. The YES Bank's financial soundness is increasing. Additionally, other banks' debt equity ratios experience swings. As a result, the other banks' debt to equity ratio is not growing continuously. Better solvency and financial strength of the banks are indicated by higher CAR ratio values, whereas worse solvency and financial strength are indicated by lower values. Every year, the CAR ratio varies for all the chosen institutions. With a CAR of 17.498, which is greater than that of all other banks in this instance, ICICI Bank is better able to withstand losses than the other four banks.

So it may be concluded that while taking C-CAR into account. ICICI outperforms all other select banks based on two ratios.

#### A- ASSET QUALITY RATIOS FOR SELECT BANKS

**Table-2 : NET NPA TO TOTAL ASSETS( NNTA) & NET NPA TO TOTAL ADVANCES (NNTAD) RATIO FOR SELECT BANKS**

YEAR/BANK	ICICI		HDFC		AXIS		KOTAK		YES	
	NNTA	NNTA	NNTA	NNTA	NNTAD	NNTAD	NNTA	NNTA	NNTA	NNTA

		D		D						D
<b>2012-13</b>	0.41	0.76	0.12	0.19	0.21	0.36	0.37	0.64	0	0.01
<b>2013-14</b>	0.55	0.97	0.17	0.27	0.27	0.44	0.65	1.08	0.02	0.05
<b>2014-15</b>	0.97	1.61	0.15	0.24	0.28	0.47	0.57	0.92	0	0
<b>2015-16</b>	1.79	2.97	0.18	0.28	0.48	0.74	0.65	1.06	0.17	0.29
<b>2016-17</b>	3.26	5.43	0.21	0.33	1.43	2.31	0.37	1.26	0.49	0.81
<b>AVG</b>	1.396	2.34	0.16	0.26	0.534	0.86	0.8	0.99	0.13	0.22
<b>RA NK</b>	5	5	2	2	3	3	4	4	1	1

The effectiveness of the bank in determining credit risk and, to some extent, recovering the debts is shown by the average NET NPA TO TOTAL ASSET RATIO. The bank performs better when the ratio is lower. Table 2 shows that YES BANK has a lower average NET NPA TO TOTAL ASSET RATIO than the other chosen banks. As a result, YES BANK is more effective than other banks at evaluating credit. In terms of credit evaluation, YES BANK AND KOTAK BANK have improved throughout the financial year 2012–2013, while the other banks have declined.

We can determine the effectiveness of the bank's Credit Risk Management system by looking at the Net NPA levels. The quality of the banks' assets and advances is gauged by the ratio of Net NPAs to Net Advances. The quality of the bank's assets is determined by how low the Net NPA level is. Compared to the other chosen banks, YES bank has a lower average ratio of net non-performing assets to total advances. As a result, YES BANK outperforms other banks. All of the chosen banks' NET NPA TO TOTAL ADVANCES RATIOS are unchanged from the financial year 2012–2013.

Therefore, HDFC and YES banks are performing better than other banks under the survey based on the ratios taken into account for ASSET QUALITY of the banks.

#### M- MANAGEMENT QUALITY RATIOS FOR SELECT BANKS

**Table-3: CREDIT DEPOSIT (CDR) & RETURN ON NETWORTH (RNR) RATIOS FOR SELECT BANKS**

YEA R/ BA NK	ICICI		HDFC		AXIS		KOTAK		YES	
	CDR	RNR	CDR	RNR	CDR	RNR	CDR	RNR	CDR	RNR
<b>2012-13</b>	99.2	12.48	80.91	18.57	77.97	15.64	94.98	14.4	70.19	22.39
<b>2013-14</b>	102.04	13.4	82.48	19.5	81.89	16.26	89.76	12.24	74.98	22.71
<b>2014-</b>	107.1	13.89	81.07	16.47	87.17	16.64	88.37	13.19	82.86	17.16

<b>15</b>	7									
<b>2015-16</b>	103.28	11.19	85.02	16.91	94.63	15.46	85.59	8.72	87.90	18.41
<b>2016-17</b>	94.73	10.11	86.16	16.26	90.03	16.59	86.44	12.35	92.57	15.09
<b>AVG</b>	101.28	12.21	83.13	17.54	86.34	16.12	89.03	12.18	81.7	19.15
<b>RANK</b>	1	4	4	2	3	3	2	5	5	1

The credit deposit ratio shows the ratio of total advances to total deposits. It demonstrates the management's aggressive efforts to increase lending operations and increase revenue. For banks, a 60 percent ratio is regarded as the standard. A higher CD ratio means that a greater proportion of mobilised deposits be lent to various industries, which will boost bank profitability. Table 3 shows that ICICI Bank has a higher average credit deposit ratio than all other chosen banks. As a result, ICICI BANK outperforms other banks in terms of deposit performance. Regarding the credit deposit ratio, all of the chosen banks—aside from KOTAK—are experiencing continual increase. The RETURN ON NET WORTH ratio is a profitability metric that assesses a company's capacity to make money from the investments made by its shareholders. Of the chosen banks, YES bank has the highest average RETURN ON NET WORTH ratio (19.152). As a result, the YES BANK manages funds more successfully than other chosen banks. With the exception of AXIS BANK, none of the chosen banks have experienced increase in terms of RETURN ON NET WORTH RATIO since 2012–2013.

Thus, by taking into account MANAGEMENT QUALITY ratios, it can be concluded. Among the five selected banks, ICICI Bank is performing well according to two ratios.

#### E - EARNINGS CAPACITY RATIOS FOR SELECT BANKS

**Table-4: INTEREST INCOME TO TOTAL ASSETS( IITA)& RETURN ON ASSETS (ROA) RATIOS FOR SELECT BANKS**

YEA R/BA NK	ICICI		HDFC		AXIS		KOTAK		YES	
	IITA	RO A	IITA	ROA	IITA	ROA	IIT A	ROA	IITA	ROA
<b>2012-13</b>	7.46	1.55	8.75	1.68	7.98	1.52	9.6	1.62	8.36	1.31
<b>2013-14</b>	7.42	1.64	8.36	1.72	7.99	1.62	10	1.71	9.15	1.48
<b>2014-15</b>	7.59	1.72	8.2	1.73	7.68	1.59	9.16	1.76	8.49	1.47
<b>2015-16</b>	7.31	1.34	8.49	1.73	7.8	1.56	8.52	1.08	8.16	1.53
<b>2016-17</b>	7.01	1.26	8.02	1.68	7.4	0.61	8.24	1.58	7.63	1.54
<b>AVG</b>	7.35	1.50	8.36	1.70	7.77	1.38	9.10	1.55	8.36	1.46

<b>RANK</b>	5	2	2	1	4	5	1	3	3	4
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The ratio of net interest income to total assets is known as net interest margin. If the net interest margin is positive, the investment plan is paying out more interest than it is incurring. In contrast, a negative net interest margin indicates that the investing approach is more expensive than it is profitable. According to the table's analysis, KOTAK BANK'S performance is superior to other banks and its average INTEREST INCOME TO TOTAL ASSETS ratio is greater with 9.104 than that of the selected banks. Regarding the INTEREST INCOME TO TOTAL ASSETS compared to the financial year 2012–2013, there is no rise in any of the chosen institutions.

Return on Assets gauges bank earnings in relation to asset value. It is a sign of how effectively an organisation manages its assets. It is one of the RBI's guidelines for the analysis of a bank's balance sheet. A higher number for this ratio suggests that banks are more financially productive and profitable, while a lower value indicates that banks are less productive. Table 4 shows that among the selected banks, HDFC Bank has the highest average RETURN ON ASSETS ratio. As a result, the HDFC BANK outperforms the other chosen banks in terms of financial efficiency and profitability.

Therefore, it is clear that among the five selected banks, HDFC and AXIS banks are performing well when two EFFICIENCY ratios are taken into account.

#### L - LIQUIDITY RATIOS FOR SELECT BANKS

**Table-5: LIQUID ASSETS TO TOTAL ASSETS (LATA) & LIQUID ASSETS TO TOTAL DEPOSITS (LATD) RATIOS FOR SELECT BANKS**

YEAR/BANK	ICICI		HDFC		AXIS		KOTAK		YES	
	LATA	LATD	LATA	LATD	LATA	LATD	LATA	LATD	LATA	LATD
2012-13	7.72	14.15	6.18	9.2	6	8.08	4.4	7.22	4.1	6.07
2013-14	6.98	12.51	8.05	10.77	7.37	10.05	6.82	10.12	5.4	7.94
2014-15	6.55	11.7	6.15	8.05	7.8	11.19	5.9	8.36	5.54	8.28
2015-16	8.31	14.2	5.49	7.12	6.34	9.3	5.65	7.84	4.9	7.35
2016-17	9.18	15.45	5.67	7.61	8.4	12.12	10.51	14.33	9.09	13.68
<b>AVG</b>	7.75	13.60	6.31	8.55	7.18	10.15	6.65	9.57	5.81	8.66
<b>RANK</b>	1	1	4	5	2	2	3	3	5	4

The liquid asset holding percentage is shown by the ratio of total assets to liquid assets. This liquidity can be regarded as being sufficient to cover the banks' immediate obligations. This ratio demonstrates the level of liquidity preference the Bank has chosen. Higher values of this ratio imply greater bank liquidity, whereas lower values indicate decreased bank liquidity.

Table 5 shows that, when compared to the financial year 2012–2013, the liquidity efficiency of all the chosen banks increased over the 2016–2017 fiscal year. With a ratio of 7.75, ICICI has the highest average LIQUID ASSETS TO TOTAL ASSETS of all the banks that were chosen.

The percentage of total deposits held as liquid assets is shown by the liquid assets to total deposits ratio. Higher values of this ratio imply greater bank liquidity, whereas lower values indicate decreased bank liquidity. In comparison to the other chosen banks, ICICI has a higher average LIQUID ASSETS TO TOTAL DEPOSITS ratio at 13.60. As a result, ICICI Bank has a superior liquidity position than other banks. In comparison to the financial year 2012–2013, the KOTAK, AXIS, and YES BANKS' liquidity status has improved.

Therefore, based on two liquidity measures, it can be concluded that, out of the five selected banks, ICICI and AXIS banks are performing well in terms of liquidity.

### Overall ranking for select banks based on CAMEL Rating

<b>RATIO/BANK</b>	<b>ICICI</b>	<b>HDFC</b>	<b>AXIS</b>	<b>KOTAK</b>	<b>YES</b>
DEBT EQUITY RATIO	1	3	4	2	5
CAPITAL ADEQUACY RATIO	1	4	5	2	3
NET NPA TO TOTAL ASSETS	5	2	3	4	1
NET NPA TO TOTAL ADVANCES	5	2	3	4	1
CREDIT DEPOSIT RATIO	1	4	3	2	5
RETURN ON NETWORTH	4	2	3	5	1
INTEREST INCOME TO TOTAL ASSETS	5	2	4	1	3
RETURN ON ASSETS	2	1	5	3	4
LIQUID ASSETS TO TOTAL ASSETS	1	4	2	3	5
LIQUID ASSETS TO TOTAL DEPOSITS	1	5	2	3	4
<b>FINAL RANKS OF BANKS</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>3</b>	<b>4</b>

According to table 6, ICICI bank performs well in the following areas: debt equity ratio, capital adequacy ratio, credit deposit ratio, liquid assets to total assets ratio, and liquid assets to total deposits ratio. In terms of Return on Assets and Net NPA to Total Advances, HDFC Bank performs best. In terms of interest income to total assets, KOTAK Bank performs best. The performance ratios for YES Bank's Net NPA to Total Assets and Return on Net Worth are available. By taking into account rankings obtained on the chosen ratios in the CAMEL MODEL, ICICI is placed first and Axis is placed last in terms of performance.

### CONCLUSION:

As a result of significant developments, central banks all over the world have improved the calibre and methods of their supervision. Numerous developed nations currently use the CAMEL RATING standard financial rating system in addition to other established methods and methodologies when assessing the performance of banks. In the current analysis, ICICI Bank outperforms other banks in terms of capital adequacy ratios. The performance of HDFC and YES banks is good based on asset quality ratios. The performance of ICICI Bank is superior to that of other banks when measured by Management Quality Ratios. In terms of earning capacity ratios, KOTAK and HDFC outperform other banks. When liquidity is taken into account, ICICI is the top bank out of the top 5 banks, while HDFC and YES Bank are bottom. In all of the chosen Banks, there is no ongoing increase in any parameter. The positions of the chosen banks determined by averaging all of the rankings according to all of the calculated ratios are as follows: i) ICICI BANK 2. HDFC Bank KOTAK MAHINDRA BANK (iii) AXIS Bank; YES Bank;

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