COMPARATIVE FINANCIAL PERFORMANCE ANALYSIS OF SELECTED PUBLIC AND PRIVATE SECTOR BANKS IN INDIA –AN APPLICATION OF CAMEL MODEL FOR THE PERIOD 2004-05 TO 2014-15

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Abstract: - In this research paper an attempt has been taken to highlight the financial performance of selected public and private sector banking companies in India from 2004-05 to 2014-15. For the purpose of research of financial analysis CAMEL Model and other statistical tools like average and standard deviation is applied to assess the overall efficiency in terms of profitability, interest spread, management efficiency cost control etc. After deciding the model here researcher selected the 4 public sector and 4 private sector banks for this study.

Keywords: - Banks, Financial performance & CAMEL Model

1. INTRODUCTION

Banks are the key financial intermediaries that serve as a "middle man" in the transfer of funds from servers to those who invest in real assets as house, equipments and factories. While performing these functions financial intermediaries improve the well being of both the saver and investors. By improving the economy efficiency they raise living standard of the society. The banking sector is considered as the importance source of financing for most business. They play a crucial role in the effort to attain stable prices, high level of employment and sound economic growth. They make funds available to meet the needs of the individuals, businesses and the government. In doing this they facilitate the flow of goods and services and the activities of the governments.

The commercial banking system provides a large portion of the medium of exchange of a given country, and is the primary instrument through which monitory policy is conducted, through their deposits mobilization and lending operations. Commercial bank make the productive utilization of ideal funds, thus assist the society to produce wealth. Commercial banks are the institution specifically designed to further the capital formation process through the attraction of deposits and extension of credit.

2. REVIEW OF LITERATURE

In the process of continuous evaluation of the bank performance both in public and private sector, the academicians, scholars and administrators have made several studies on the CAMEL Model but in different perspective and different period. Here the researcher has made an attempt to analyze the bank performance through CAMEL Model for the study period 2003-04 to 2014-15.

Said and Saucier (2003) evaluated the liquidity, solvency and efficiency of the Japanese Bank by using the CAMEL rating methodology. This study assessed the capital adequacy, asset and management quality, earning ability and liquidity position for the year 2003-04 to 2014-15.

Kwan and Eisenbein (1997) observed that Asset quality is commonly used as a risk indicator for financial institutions, which also determinants the reliability of capital ratio. Their study indicated that capitalization affects the operations of financial institutions. More the capital, higher the efficiency of bank.

Rucha Gupta(2014) in his study entitled "An Analysis Indian Public Sector Banks Using Camel Approach" and used ANOVA test highlighted the calculated significance value of F test is less than 0.05. It mean there is a statistically significant difference between the mean value of CAMEL ratio and thus, the null hypothesis is rejected. It cannotes that there is a significant difference in performance of all the public sector bank as assessed by CAMEL model.

3. RESEARCH OBJECTIVES

The main objectives of the studies are as follows.

- This study intends to evaluate the performance of the selected Public sector banks and private sector banks on a comparative basis with the help of relevant ratios and statistical tools.
- To undertake the factors which have led to the current financial performance.
- To suggest measure on the basis of the study result, to improve further the financial performance of the banks under study.

4. RESEARCH METHODOLOGY

Methodology describes the real root to be followed, the instruments to be used, universe and sample of the study for the data to be collected, the tools for the analysis to be used and the patterns for deducing conclusions. For the purpose of the present study, the research instrument used is the CAMEL model.

This model is explained as below.

4.1 CAMEL MODEL

This system was adopted in India Since 1995 at the suggestion of Mr. Padmanabhan, Government RBI. Under this system the rating of individual banks is done along five key parameters.

- **CAPITAL ADEQUACY**

  It is important for the banks to maintain depositors confidence and preventing the banks from going bankrupt. It shows the overall financial conditions of the banks and also the ability of the management to meet the need of additional capital. It also represent whether the bank has enough capital to absorb unexpected losses. Capital adequacy ratio act as indicator of the bank leverage. The following ratio measures capital adequacy.

  1. Capital risk weighted asset ratio
  2. Debts- equity ratio
  3. Advanced to total asset ratio

- **ASSET QUALITY**

  The quality of asset is an important parameter to gauge the strength of the bank. The primary motto behind measuring the asset quality is to ascertain the component of the non-performing assets as a percentage of total assets. This indicate what types of advances the bank has made to generate interest income. This ratio is necessary to assess the asset quality. Following are the ratios included in that.

  1. Gross NPAs to Net advances
  2. Net NPAs to Total Asset
  3. Total Investment to Total Assets

- **MANAGEMENT CAPABILITY**

  Management capability is the important element of CAMEL Model. This ratio in this segment involves subjective analysis to measure the efficiency and effectiveness of management. The management of bank takes crucial decision depending upon its risk perception. Following are the ratios used to describe the management efficiency.

  1. Business per employees
  2. Profit Per employees
  3. Total expenses to total income ratio
  4. Total advances to total deposits
  5. Credit Deposits ratio

- **EARNING CAPACITY**

The capacity of earning is a very important criterion that determines the ability of a bank to earn consistently. Its basically determines the profitability of the bank and explain its substantially and growth in earning in future. This parameter gains important in the light of the argument that much of the bank income is earn through non- core activities like investment, treasury operations and corporate advisory services and so on. The following ratio explain the capacity of earning.

1. Return on equity
2. Return on Asset
3. Interest Income to total income
4. Net Interest margin to total asset

- **LIQUIDITY**

Risk of liquidity is of great significance and it is crucial to banking business to satisfy the demand of depositors. Bank have to take proper care to hedge the liquidity risk, invest funds of depositors in high return generating securities so that it able to generate income with a provision for liquidity to the depositors. The following ratio are used to measure the liquidity for CAMEL Model.

1. Liquid Asset to demand deposit
2. Liquid Assets to Total Deposits (LA/TD)
3. Liquid Assets to Total Assets (LA/TA)
4. Government securities to total assets (GS/TA)

For the purpose of the research the research instrument used in the study is CAMEL Model. Each of the five dimensions of the performance is rated on scale of 1 to 5, varying from fundamentally strong banks to fundamentally weak banks. This model is applied in selected public and private sector banks.

4.2 SAMPLE OF THE STUDY

The present study seeks to evaluate the financial performance of the following public sector banks and private sector banks.

Public Sector Banks

- Bank of Baroda
- Bank of India
- Bank of Maharashtra
- State Bank of India

Private Sector Banks

- HDFC Bank
- ICICI Bank
- Axis Bank
- Kotak Mahindra

4.3 DATA AND TOOLS

This study is mainly based on the secondary data drawn from the annual reports of the respective banks. This data is related to 10 years from 2003-04 to 2014-15. For analysis of data two important statistical tools viz. mean and standard deviation has been used to arrive at conclusion in a scientific way.

5. RESULT AND DISCUSSION

COMPARATIVE STUDY OF CAPITAL ADEQUACY RATIO OF SELECTED PUBLIC AND PRIVATE SECTOR BANKS

Table No. 5.1 Capital adequacy Ratio

CAR	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Mean	SD
Public Sector Banks													
Bank of Baroda	12.61	13.65	11.8	12.91	14.05	14.36	14.52	14.67	13.3	12.28	12.6	13.34	0.98
Bank of India	11.52	10.75	11.75	12.04	13.01	12.94	12.17	11.95	11.02	9.97	10.73	11.62	0.94
Bank of Maharashtra	12.68	11.27	12.06	10.26	12.05	12.78	13.35	12.43	12.59	10.79	11.94	12.02	0.92
State Bank of India	12.45	11.88	12.34	13.47	14.25	13.39	11.98	13.86	12.92	12.96	12	12.86	0.81
Private Sector Banks													
HDFC Bank	12.16	11.41	13.08	13.6	15.69	17.44	16.22	16.52	16.8	16.07	16.79	15.07	2.11
ICICI Bank	11.78	13.35	11.69	13.97	15.53	19.41	19.54	18.52	18.74	17.7	17.02	16.11	2.99
Axis Bank	12.66	11.08	11.57	13.73	13.69	15.8	12.65	13.66	17	16.07	15.09	13.91	1.90
Kotak Mahindra	12.8	11.27	13.46	18.65	20.01	18.35	19.92	17.52	16.05	18.83	17.17	16.73	2.98

Source: - Calculated from RBI statistics

From the above table we can see the capital adequacy position of selected public and private sector banks in India. An introspection of the table No.1 revels that capital dequacy ratio of all public and private sector banks are well above the norms of CAR in India of 9% under BASEL III Norms. Among the private sector banks the highest capital adequacy ratio is highest of Kotak Mahindra Bank i.e 16.73 % and the second position stand ICICI with a mean of 16.11 %. And later on HDFC and Axis Banks. In case of public sector banks Bank of baroda bank has highest CAR mean ratio of 13.34 % and at the second position stand state bank of India with 12.86% n later on Bank of Maharashtra and Bank of India. Capital adequacy ratio is reflection of inner strength of the banks, which would stand it in good stead during the time of crises. Higher the ratio, stronger is the bank. So from here we can say that kotak Mahindra bank is the strongest among private sector banks and bank of baroda is the strongest among Public sector banks

Table No. 5.2 Debt/ Equity Ratio

Debts to Equity ratio(Total liability / Net worth) Times	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	16.65	14.39	16.54	16.15	17.49	18.08	16.78	16.04	16.81	17.86	17.24	16.71	1.01
Bank of India	22.05	23.23	24.62	20.06	18.99	21.37	21.91	19.43	18.92	19.16	19.67	20.96	1.92
Bank of Maharashtra	21.71	20.19	22.72	27.27	28.37	29.37	21.55	20.16	21.95	21.46	21.62	23.27	3.34
State Bank of India	19.1	17.86	18.10	14.71	16.64	15.97	18.83	15.9	15.83	15.15	15.94	17.02	1.50
Private Sector Banks													
HDFC Bank	11.377	13.87	14.18	11.58	12.17	10.33	10.92	11.29	11.05	11.3	9.52	11.94	1.38
ICICI Bank	12.99	11.14	13.97	8.53	7.6	7.04	7.37	7.84	8.04	8.12	8.03	9.64	2.40
Axis Bank	15.58	17.23	21.53	12.49	14.46	11.25	12.77	12.52	10.28	10.02	10.33	14.14	3.52
Kotak Mahindra	8.6	11.76	11.98	7.87	7.35	8.24	7.44	8.22	8.84	7.13	7.49	8.71	1.69

Source:- Calculated from RBI statistics

Debts- equity ratio indicates the degree of leverage of a bank. It indicates how much of the bank is finance through debt and how much trough equity. It is the proportion of total outside liabilities to net worth. "Total liabilities" includes total borrowing, deposits and other liabilities. Net worth includes equity capital and reserve and surplus. Higher ratio indicates less protection for the credit and depositors in the banking system. So lower is preferable. From the above table no. 2 it can be observed that in Public sector banks ratio is high compare to private sector banks. In private sector banks ICICI stands at 1s position with 9.64% and at second position kotak Mahindra stand with 8.71% average of 11 years. In case of public sector banks Bank of Baroda stands at the first position with 16.71% average and SBI stands at the second position.

Table No. 5.3 Advances to total asset ratio

Advances to total asset ratio(times)	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	0.60	0.64	0.63	0.63	0.63	0.59	0.58	0.53	0.46	0.42	0.60	0.57	0.07
Bank of India	0.59	0.58	0.60	0.64	0.64	0.61	0.61	0.65	0.64	0.65	0.65	0.62	0.03
Bank of Maharashtra	0.50	0.73	0.75	0.71	0.69	0.66	0.74	0.86	0.65	0.66	0.68	0.69	0.09
State Bank of India	0.44	0.53	0.60	0.58	0.56	0.60	0.62	0.65	0.67	0.68	0.63	0.60	0.07
Private Sector Banks													
HDFC Bank	0.50	0.48	0.51	0.48	0.54	0.57	0.58	0.58	0.60	0.62	0.62	0.55	0.05
ICICI Bank	0.55	0.58	0.57	0.56	0.58	0.50	0.53	0.54	0.54	0.57	0.60	0.56	0.03
Axis Bank	0.41	0.45	0.50	0.54	0.55	0.58	0.59	0.59	0.58	0.60	0.61	0.55	0.07
Kotak Mahindra	0.62	0.62	0.55	0.55	0.58	0.55	0.58	0.60	0.58	0.61	0.62	0.59	0.03

Source:- Calculated from RBI statistics

This is the ratio of total advances and total assets and indicates a bank's assertiveness in lending which ultimately results in better profitability. Higher ratio of advances/ (assets) is preferred to a lower one. In terms of advances to total assets Kotak Mahindra bank and HDFC bank stood at first position 0.62 follow by Axis banks than ICICI bank. From the statistics of public sector banks Bank of Maharashtra stands at first position 0.68 follow by Bank of India with 0.65 times.

COMPARATIVE STUDY OF ASSET QUALITY RATIOS OF SELECTED PUBLIC AND PRIVATE SECTOR BANKS

Table No. 5.4 Gross NPA/Net advances

Gross NPA/Net advances	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	AVG	SD
Public Sector Banks													
Bank of Baroda	7.65	3.99	2.50	1.86	1.29	1.37	1.38	1.55	2.43	2.99	3.80	2.80	1.87
Bank of India	5.68	3.80	2.47	1.70	1.73	2.90	2.26	2.60	3.22	3.47	5.52	3.21	1.35
Bank of Maharashtra	7.36	5.73	3.58	2.62	2.33	3.00	2.50	2.31	0.39	3.22	6.49	3.59	2.08
State Bank of India	6.15	3.68	2.96	3.08	2.90	3.09	3.35	4.57	4.90	5.09	4.36	4.01	1.08
Private Sector Banks													
HDFC Bank	1.72	1.45	1.4	1.43	2.01	1.44	1.06	1.02	0.97	0.99	0.94	1.31	0.35
ICICI Bank	3.03	1.52	2.11	3.36	4.42	5.23	4.64	3.73	3.31	3.1	3.9	3.49	1.08

Axis Bank	1.99	1.69	1.14	0.83	1.10	1.26	1.12	1.06	1.22	1.37	1.46	1.29	0.32
Kotak Mahindra	0.69	0.59	2.54	2.91	4.15	3.69	2.06	1.57	1.56	2.00	3.43	2.29	1.17

Source:- Calculated from RBI statistics

The quality of asset is an important parameter to gauge the strength of the bank. The main reason behind measuring the asset quality of the banks is to ascertain the components of nonperforming assets as a percentage of total assets. This indicates what types of advances the bank has made to generate interest income. Lower ratio is preferable. In private Sector banks Axis bank stood at first position 1.29 follow by HDFC bank with 1.31 times. In Public Sector banks Bank of Baroda stands at first position with 2.80 times and Bank of India stand at second position with 3.21 times.

Table No.5.5 Net NPAs to Net advances

Net NPAs to Net Advances (%)	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	1.89	0.87	0.6	0.87	0.31	0.34	0.35	0.54	1.28	1.52	1.89	0.95	0.60
Bank of India	2.8	1.49	0.95	0.52	0.44	1.31	0.91	1.47	2.06	2	3.36	1.57	0.92
Bank of Maharashtra	2.15	2.03	1.21	0.47	0.79	1.64	1.32	0.84	0.52	2.03	4.19	1.56	1.06
State Bank of India	2.65	1.88	1.56	1.78	1.79	1.72	1.63	1.82	2.1	2.57	2.12	1.97	0.36
Private Sector Banks													
HDFC Bank	0.24	0.44	0.43	0.47	0.63	0.31	0.19	0.18	0.2	0.25	0.25	0.33	0.15
ICICI Bank	1.65	0.72	1.02	1.55	2.09	2.12	1.11	0.73	0.77	1.61	1.61	1.36	0.52
Axis Bank	1.39	0.98	0.72	0.42	0.4	0.4	0.29	0.27	0.36	0.44	0.46	0.56	0.34
Kotak Mahindra	0.37	0.24	1.98	1.78	2.39	1.73	0.72	0.61	0.64	1.08	0.92	1.13	0.72

Source: - Calculated from RBI statistics

The ratio of net NPA to Net advances discloses the efficiency of the banks in accessing the credit risk and to an extent recovering the debts. It is arrived at by dividing the net non performing assets by net advances. Net non – performing assets are the gross nonperforming assets minus net of provisions on non- performing assets and interest in suspense account. Lower the ratio is preferable. From the above table it can be observed that in private sector bank HDFC bank stood at the first position with ratio of 0.33 times followed by Axis bank, Kotak Mahindra bank and at last ICICI Bank. In case of Public sector banks Bank of Baroda stands at first position with ratio of 0.95 times followed by Bank of Maharashtra, Bank of India and state bank of India.

Table No. 5.6 Total investment/ Total Asset Ratio

Total investment/ Total Asset (%)	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	39.20	31.00	24.40	24.40	23.10	22.00	19.90	18.60	22.20	17.6	16.30	23.52	6.57
Bank of India	30.20	28.30	25.00	23.40	23.30	24.40	24.50	22.60	20.90	19.9	19.40	23.81	3.29
Bank of Maharashtra	44.00	36.40	29.00	25.50	31.10	30.00	29.40	28.60	26.90	27.3	22.40	30.05	5.80

State Bank of India	42.90	32.90	26.30	26.30	28.60	28.10	24.20	22.40	34.50	22.2	23.50	28.35	6.27
Private Sector Banks													
HDFC Bank	37.60	38.60	33.50	27.90	32.10	26.30	25.60	28.80	27.9.0	24.60	25.70	29.87	4.89
ICICI Bank	30.10	28.50	26.50	37.10	27.20	33.30	33.20	32.60	31.90	29.80	24.50	30.43	3.64
Axis Bank	39.90	43.30	36.70	30.80	31.40	31.00	29.70	32.60	33.40	29.60	25.40	33.07	5.09
Kotak Mahindra	28.10	28.10	34.50	32.30	31.70	33.40	33.70	32.80	34.50	29.10	27.00	31.38	2.79

Source:- Calculated from RBI statistics

Total investment to total assets indicates the extent of deployment of assets in investment against advances. This ratio is used as a tool to measure the percentage of total assets locked up in investments, while does not form a core income of the bank, as against providing advances to the customers. Lower the ratio is preferable. From the above table it can be interpreted that among the private sector bank HDFC bank is the leading bank with 29.87 % share followed by ICICI bank with 30.43 % share. In case of Public sector Banks Bank of Baroda bank is leading bank with lowest ratio of 23.52% followed by Bank of India at second position.

COMPARATIVE STUDY OF MANAGEMENT EFFICIENCY RATIOS OF SELECTED PUBLIC AND PRIVATE SECTOR BANKS

Table No.5.7 Business Per Employee

Business Per Employee	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	188.9	39.6	55.5	71	91.4	98.1	122.9	146.6	168.9	186.5	188.9	123.48	55.87
Bank of India	32	38.1	49.8	65.2	83.3	101.1	128.4	136	158.2	196.3	206.9	108.66	61.51
Bank of Maharashtra	29.47	30.62	40.49	51.57	63.6	76.2	82.5	96.7	125.6	143.5	156	81.48	44.49
State Bank of India	24.31	29.92	35.7	45.6	55.6	63.6	70.47	79.84	94.39	106.38	123.4	66.29	32.30
Private Sector Banks													
HDFC Bank	80.6	75.8	60.7	50.6	44.6	59	65.3	65.4	75	89	101	69.73	16.63
ICICI Bank	88.00	90.5	102.7	100.8	115.4	76.5	73.5	70.8	73.5	74.7	83.2	86.33	14.68
Axis Bank	102.1	102	102.4	111.7	106	111.1	136.6	127.6	121.5	123	137.1	116.46	13.41
Kotak Mahindra	38.73	35.2	38.39	38.4	34.7	48.7	53.5	61.3	68.6	67.8	70.5	50.53	14.39

Source:- Calculated from RBI statistics

The management efficiency ratios signal the ability of the board of directors and senior managers to identify, measure, monitor and control risk associates with the bank. Management efficiency is important element of CAMEL Model. The one of the ratio of management efficiency measure is Business per employee. Business per employees shows the productivity of employees of the bank as is used as a tool to measure the efficiency of all the employees of the banks in generating business for the bank. It indicates how much business per employees is producing for the bank. Business is in terms of total deposits and total advances in a particular year of the bank. A high business per employee's ratio is preferable. From the above table it can be seen that in private sector banks Axis Bank is the leading bank with ratio of 116.46 times followed by ICICI bank. In case of Public sector banks Bank of Baroda is the leading bank with ratio of 123.48 times followed by bank of India (108.66),Bank of Maharashtra (81.48) and at last State bank of India with 66.29.

Table No. 5.8 Profit Per Employee

Profit Per Employee	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	0.7	0.21	0.27	0.39	0.6	0.8	1.1	1.2	1	1	0.7	0.72	0.34
Bank of India	0.08	0.17	0.27	0.5	0.75	0.44	0.62	0.64	0.64	0.63	0.37	0.46	0.22
Bank of Maharashtra	0.13	0.04	0.2	0.24	0.28	0.32	0.24	0.31	0.56	0.27	0.3	0.26	0.13
State Bank of India	0.21	0.22	0.24	0.37	0.47	0.45	0.39	0.53	0.65	0.49	0.6	0.42	0.15
Private Sector Banks													
HDFC Bank	0.88	0.74	0.61	0.5	0.42	0.6	0.74	0.8	1	1.2	1	0.77	0.24
ICICI Bank	1.1	1	0.9	1	1.1	0.9	1	1.1	1.4	1.4	1.6	1.14	0.23
Axis Bank	0.8	0.87	0.76	0.84	1	1.2	1.4	1.4	1.5	1.5	1.7	1.18	0.34
Kotak Mahindra	0.54	0.42	0.31	0.4	0.3	0.7	0.8	0.9	1	1	1.1	0.68	0.30

Source:- Calculated from RBI statistics

It is the ratio to measure the efficiency of banks management as this ratio measures the company's profit in relation to the number of employees. This ratio indicates the surpluses earned per employees. It specify the average profit generated per person employed. A higher ratio clearly signifies efficient management. In Private sector bank Axis Bank stand at the first position with ratio of 1.18 times followed by ICICI(1.14), HDFC Bank (0.77) and Kotak Mahindra Bank with 0.68 times. In case of Public sector banks Bank of Baroda stands at the first position with ratio of 0.72 times, followed by Bank of India(0.46), State Bank of India (0.42) and Bank of Maharashtra 0.26 times.

Table No. 5.9 Total Expenses/Total Income ratio

Total Expenses/Total Income ratio	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	0.7	0.77	0.77	0.79	0.76	0.75	0.72	0.74	0.77	0.79	0.79	0.76	0.03
Bank of India	0.8	0.79	0.77	0.74	0.72	0.77	0.78	0.79	0.79	0.8	0.84	0.78	0.03
Bank of Maharashtra	0.8	0.86	0.79	0.82	0.83	0.85	0.86	0.81	0.8	0.84	0.83	0.83	0.02
State Bank of India	0.72	0.74	0.77	0.77	0.77	0.79	0.74	0.74	0.77	0.79	0.77	0.76	0.02
Private Sector Banks													
HDFC Bank	0.64	0.65	0.69	0.7	0.74	0.68	0.68	0.72	0.73	0.71	0.7	0.69	0.03
ICICI Bank	0.77	0.79	0.8	0.8	0.77	0.71	0.72	0.75	0.73	0.7	0.68	0.75	0.04
Axis Bank	0.76	0.73	0.77	0.75	0.73	0.66	0.68	0.73	0.72	0.7	0.69	0.72	0.03
Kotak Mahindra	0.76	0.78	0.8	0.78	0.82	0.67	0.73	0.77	0.77	0.75	0.74	0.76	0.04

Source:- Calculated from RBI statistics

Every banks keep on controlling its expenditure as it is essential aspects to enhance the profit of the bank. It is justified that in case of banks, keep a close watch on expenditure would enable it to enhance its return to its equity share holders. A substantial part of operating expenses of bank consists of salary of employees, technology up gradation and branch rationalization. Lower the ratio is preferable. From the above table it can be seen that in private sector banks the HDFC bank stand at the first position with lowest total expenses to total income ratio i. e 0.69 times and at the second position Axis Bank stand with 0.72 times followed by ICICI(0.75) & Kotak Mahindra Bank (0.76). In case of public sector Banks there is tie for first position between State Bank of Indian and Bank of Baroda with ratio of 0.76 times. On the second position Bank of India stand with 0.78 times followed by Bank of Maharashtra.

Table No. 5.10 Credit Deposit ratio

Credit Deposit ratio	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	53.36	63.97	66.94	70.18	74.46	72.55	74.87	74.67	69.25	69.79	69.32	69.03	6.21
Bank of India	70.45	69.38	71	75.64	75.33	73.33	71.3	78.2	75.78	77.73	75.58	73.97	3.04
Bank of Maharashtra	45.28	61.21	67.57	70.13	65.62	63.68	70.13	73.25	80	76.13	80.74	68.52	9.96
State Bank of India	55.14	68.89	77.46	77.55	73.11	78.58	81.03	83.13	86.94	86.76	82.45	77.37	9.15
Private Sector Banks													
HDFC Bank	70.33	62.84	68.74	62.94	69.24	75.17	76.7	79.21	80.92	82.49	81.08	73.61	7.18
ICICI Bank	91.57	88.54	84.74	92.3	99.98	89.7	95.91	99.13	99.19	102.05	107.18	95.48	6.71
Axis Bank	49.2	55.63	62.73	68.09	69.48	73.84	75.25	77.13	77.97	81.89	87.17	70.76	11.32
Kotak Mahindra	93.43	96.69	99.31	94.69	106.27	86.97	100.23	101.41	94.98	89.77	88.38	95.65	5.92

Source:- Calculated from RBI statistics

This ratio gives the first indication of the health of the bank as this ratio measures the extent to which a bank's core funds are being used to lending which is its main banking activity. Advances are necessary to earn profit and service the interest being paid to the deposits. The ratio measures the efficiency and ability of the bank's management in converting the deposits available with the bank (excluding other funds like equity capital) into high earning advances. A higher ratio is preferable. From the above table it can be seen that in private sector bank Kotak Mahindra Bank stood at first position with 95.61 % and on the second position ICICI bank stand with 95.48 %. In case of public sector bank State Bank of India stands at the first position with 77.37 % and on the second position stand bank of baroda with 69.03 %.

COMPARATIVE STUDY OF EARNING CAPABILITY RATIOS OF SELECTED PUBLIC AND PRIVATE SECTOR BANKS

Table No. 5.11 Return on Equity

Return on Equity	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	12.58	12.28	12.45	14.58	18.62	21.86	23.47	20.64	15.07	13.36	8.96	15.81	4.64
Bank of India	8.03	14.85	20.65	24.38	24.97	12.56	15.79	14	12.25	10.14	5.57	14.84	6.29
Bank of Maharashtra	11.9	3.26	16.41	18.64	17.46	16.35	9.68	9.91	13.66	5.61	5.84	11.70	5.28
State Bank of India	19.43	17.04	15.41	16.75	17.05	14.8	12.62	15.72	15.43	10.03	10.62	14.99	2.86
Private Sector Banks													
HDFC Bank	18.45	17.74	19.46	17.74	17.17	16.3	16.74	18.69	20.34	21.28	19.37	18.48	1.54
ICICI Bank	18.86	14.33	13.17	11.63	7.8	7.96	9.65	11.2	13.1	14.02	14.55	12.39	3.23

Axis Bank	18.81	18.28	20.96	17.6	19.12	19.15	19.34	20.29	18.53	17.43	17.75	18.84	1.10
Kotak Mahindra	12.46	14.58	11.19	11.19	7.36	13.29	14.39	14.65	15.6	13.82	14.12	12.97	2.34

Source:- Calculated from RBI statistics

The return on equity is also known as return on investment (ROI), is a sound measure of return, Since it is product of operating performance, debts- equity management and asset turnover of the banks. ROE measures how much the shareholders earned for their investment in the bank. In this ratio indicates how profitability a bank is by comparing its net income to its average shareholder equity. The higher the percentage, the more efficient the bank is in earning and utilizing its equity base to generate better return is to investors. From the above table it can be seen that in private sector banks Axis Bank stands at the first position with 18.84 % and HDFC stands at the second position with 18.48 % and followed by Kotak Mahindra Bank at their position (12.97%) and ICICI at 4th Position. In case of Public sector banks Bank of Baroda stands at first position with 15.81 % followed by State Bank of India (14.99%), Bank of India (14.84%) and at last Bank of Maharashtra (11.70%)

Table No. 5.12 Net Interest margin to total asset ratio

Net Interest margin to total asset ratio (%)	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	3.31	3.05	2.79	2.42	2.52	2.35	2.76	2.56	2.28	1.98	1.92	2.54	0.42
Bank of India	2.49	2.54	2.71	2.64	2.72	2.3	2.49	2.26	2.16	2.11	1.91	2.39	0.27
Bank of Maharashtra	2.71	3.03	3.12	2.59	2.34	1.99	2.67	3	2.92	2.77	2.74	2.72	0.33
State Bank of India	3.21	3.27	2.84	2.64	2.48	2.35	2.86	3.38	3.06	2.93	2.86	2.90	0.32
Private Sector Banks													
HDFC Bank	3.79	4.08	4.21	4.66	4.69	4.13	4.22	4.19	4.28	4.14	4.14	4.23	0.25
ICICI Bank	1.94	2.25	1.89	1.96	2.15	2.19	2.34	2.4	2.7	2.91	3.07	2.35	0.40
Axis Bank	2.36	2.47	2.39	2.83	2.87	3.05	3.1	3.04	3.09	3.3	3.37	2.90	0.35
Kotak Mahindra	3.66	4.55	4.12	5.08	5.33	5.62	4.75	4.31	4.29	4.34	4.36	4.58	0.57

Source: - Calculated from RBI statistics

To measure the earning capacity of selected banks, this ratio is computed and analyzed i.e spread as a percentage of total asset. Net interest income to total assets. Spread is the difference between the interest received and interest expended. It is an important measure of a bank's core income (income from lending operations). Higher the ratio indicates better is the earning capacity and efficiency in profitability of the bank and vice- versa. From the above table it can be observed that in case of the Private sector bank Kotak Mahindra bank stands at the first position with 4.58% contribution and HDFC Bank stands at the first position with 4.23 % contribution in Net interest margin out of total assets. Third position is taken by Axis bank with 2.90 % and followed by ICICI Bank. IN case of Public sector banks State Bank of India stands at the first position with 2.90 % contribution and on the second position stand Bank of Maharashtra (2.72%) followed by Bank of Baroda and Bank of India.

Table No. 5.13 Interest Income/Total income

Interest Income/Total income	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	0.83	0.86	0.86	0.85	0.85	0.86	0.87	0.90	0.91	0.90	0.90	0.87	0.03
Bank of India	0.84	0.86	0.85	0.85	0.84	0.87	0.89	0.90	0.89	0.89	0.91	0.87	0.03
Bank of Maharashtra	0.86	0.98	0.91	0.90	0.90	0.89	0.91	0.92	0.91	0.93	0.93	0.91	0.03
State Bank of India	0.82	0.83	0.85	0.85	0.83	0.83	0.84	0.88	0.88	0.88	0.87	0.85	0.02
Private Sector Banks													
HDFC Bank	0.83	0.80	0.81	0.82	0.83	0.80	0.82	0.83	0.84	0.84	0.84	0.82	0.02
ICICI Bank	0.73	0.77	0.76	0.77	0.80	0.77	0.8	0.82	0.82	0.81	0.81	0.79	0.03
Axis Bank	0.82	0.80	0.81	0.80	0.79	0.75	0.77	0.82	0.81	0.81	0.81	0.80	0.02
Kotak Mahindra	0.76	0.77	0.80	0.85	0.92	0.84	0.84	0.86	0.87	0.86	0.83	0.84	0.05

Source: - Calculated from RBI statistics

Interest income to total income ratio reflects the capacity of the bank in generating interest income from advances. Interest income is the basic source of the earning for the banks. In other words, this ratio computes the income from the lending operations as a percentage of total income generated by the bank in a year. Ideally the bank should likely to have higher ratios as it indicates consistency in the income and represents the income of the bank in regular course of banking operations. In case of Private sector banks Kotak Mahindra Bank stands at the first position with 0.84 and the HDFC 0.82 stands at the second position. Axis banks stand at the third position wit 0.80 times and ICICI bank at the last position. In case of the public sector bank Bank of Maharashtra stands at the position stand at the first position 0.91 times and Bank of Baroda & Bank of India stand at the second position 0.87 times and at the fourth position stand State Bank of India stands at fourth position with 0.85 times.

Table No. 5.14 Return on Asset

Return on Asset	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	0.75	0.79	0.80	0.89	1.09	1.21	1.33	1.24	0.90	0.75	0.49	0.93	0.26
Bank of India	0.38	0.68	0.88	1.25	1.49	0.70	0.82	0.72	0.65	0.51	0.27	0.76	0.36
Bank of Maharashtra	0.54	0.16	0.76	0.75	0.72	0.70	0.47	0.55	0.74	0.3	0.33	0.55	0.21
State Bank of India	0.99	0.89	0.84	1.01	1.04	0.88	0.71	0.88	0.97	0.65	0.68	0.87	0.14
Private Sector Banks													
HDFC Bank	1.47	1.38	1.33	1.32	1.28	1.53	1.58	1.77	1.90	2	2.02	1.60	0.28
ICICI Bank	1.59	1.30	1.09	1.12	0.98	1.13	1.35	1.50	1.70	1.78	1.86	1.40	0.30
Axis Bank	1.21	1.18	1.10	1.24	1.44	1.67	1.68	1.68	1.70	1.78	1.83	1.50	0.27
Kotak Mahindra	1.56	1.39	0.94	1.1	1.03	1.72	1.77	1.83	1.81	1.8	1.98	1.54	0.37

Source: - Calculated from RBI statistics

The return on asset also called return on total asset is a profitability ratio that measures the net income produced by total asset during a period but comparing net income to the average total assets. Higher ratio is preferable. HDFC bank stands at the first position with highest ratio Followed by the Kotak Mahindra bank stand at the first position stand at the second position. Axis Bank stand at the third position with 1.50 % followed by ICICI bank at the fourth position with 1.40 %. In case of public sector bank, Bank of Baroda stands at the first position with 0.93 % followed by the state bank of India with 0.87% and then Bank of India and Bank of Maharashtra.

COMPARATIVE STUDY OF LIQUIDITY RATIOS OF SELECTED PUBLIC AND PRIVATE SECTOR BANKS

Table No. 5.15 Total investment/ total deposits

Total investment/ total deposits	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	45.58	37.49	27.97	28.86	27.26	25.36	23.38	21.62	25.62	20.41	18.92	27.50	7.83
Bank of India	36.39	33.83	29.61	27.87	27.73	29.2	28.73	27.26	24.78	23.93	22.52	28.35	4.06
Bank of Maharashtra	50.2	42.2	33.31	29.41	35.18	33.68	33.65	34.02	33.32	31.89	26.83	34.88	6.33
State Bank of India	53.7	42.77	34.25	35.26	37.19	36.78	31.65	29.91	29.17	28.6	30.55	35.44	7.41
Private Sector Banks													
HDFC Bank	53.23	50.89	44.75	49.02	41.19	35.01	34	39.51	37.68	32.93	33.64	41.08	7.37
ICICI Bank	50.58	43.34	39.59	45.6	47.2	59.84	59.7	62.45	58.57	53.33	43.73	51.27	7.95
Axis Bank	47.45	53.67	45.75	38.46	39.47	39.61	38.04	42.34	45.02	40.42	36.46	42.43	5.11
Kotak Mahindra	42.49	43.49	62.38	55.66	58.23	52.38	58.51	55.96	56.58	43.14	38.28	51.55	8.16

Source:- Calculated from RBI statistics

This ratio measures liquidity available to the depositors of the bank. It measures how liquid the bank is in meeting its obligation towards the depositors of the bank. In case of private sector banks the ICICI bank and Kotak Mahindra banks are very close to each other with 51.27 % and 51.55 %. On the other hand Axis bank and HDFC banks are next one who close to each other with ratio of 42.43 % and 41.08 %. In case of Public sector banks state bank of India stands at the first position with ratio of 35.44 % than bank of Maharashtra followed by Bank of India and Bank of Baroda.

Table No. 5.16 Liquid Asset / Total Assets

Liquid Asset / Total Assets	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	0.10	0.12	0.13	0.12	0.11	0.13	0.14	0.14	0.16	0.2	0.21	0.14	0.04
Bank of India	0.08	0.10	0.12	0.10	0.10	0.11	0.11	0.09	0.12	0.11	0.12	0.11	0.01
Bank of Maharashtra	0.12	0.08	0.09	0.09	0.07	0.09	0.05	0.06	0.05	0.04	0.05	0.07	0.02
State Bank of India	0.09	0.09	0.09	0.09	0.11	0.08	0.10	0.07	0.07	0.07	0.08	0.09	0.01
Private Sector Banks													
HDFC Bank	0.09	0.09	0.1	0.11	0.1	0.13	0.11	0.06	0.07	0.08	0.06	0.09	0.02
ICICI Bank	0.08	0.07	0.11	0.10	0.08	0.11	0.08	0.07	0.08	0.07	0.07	0.08	0.02
Axis Bank	0.12	0.07	0.09	0.11	0.1	0.08	0.09	0.05	0.06	0.07	0.08	0.08	0.02

Kotak Mahindra	0.06	0.06	0.07	0.07	0.04	0.06	0.05	0.04	0.04	0.07	0.06	0.06	0.01

Source:- Calculated from RBI statistics

Liquid assets includes cash in hands, balance with the RBI, balance with the other banks (both in Indian and aborad) and money at call and short notice. This ratio is calculated by dividing liquid assets with total assets. The proportion of liquid assets to total assets indicates represents the overall liquidity position of the bank. Higher the ratio is preferable. In case of the private sector banks it can be seen that HDFC bank stands at the first position with 0.09 times followed by ICICI & Axis bank at the same position with (0.08 times) and last at Kotak Mahindra bank with 0.06 times. In case of Public sector banks Bank of Baroda stands at the first position with 0.14 times followed by Bank of India with 0.11, State Bank of India with 0.09 and Bank of Maharashtra with 0.07 times.

Table No. 5.17 Government Securities/ Total Assets

Government Securities/ Total Assets (%)	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	29.6	22	17.7	18.7	17.7	17.8	16.6	15.5	18.7	14.5	13.6	18.40	4.36
Bank of India	20.2	19.5	17.8	18.5	18.9	20.7	19.2	18.6	17.6	16.9	16.5	18.58	1.31
Bank of Maharashtra	38.9	31	23.9	22	27.4	25.7	24.3	22.7	21.7	22.3	20.1	25.45	5.40
State Bank of India	37.3	27.3	20.8	19.5	23.5	21.5	18.9	19.2	17.2	17.2	18.4	21.89	5.91
Private Sector Banks													
HDFC Bank	21.8	26.7	24.7	23.8	28.5	22.9	19.3	22.6	21.2	19.3	20.4	22.84	2.94
ICICI Bank	20.5	20.3	19.5	18.9	16.7	18.8	15.8	17.8	17.2	16	16.3	17.98	1.71
Axis Bank	19.9	23.7	22.3	18.3	19.2	18.9	18.2	20.5	21.2	18	17.6	19.80	1.95
Kotak Mahindra	20.4	23.3	29.4	28.6	28.4	25.9	26	25.3	25.8	19.9	21.6	24.96	3.29

Source:- Calculated from RBI statistics

Government securities are the most liquid and safe investment. This ratio measures the proportion of risk- free liquid assets invested in government securities as a percentage of total assets held by the bank and it is calculated by dividing investment in government securities by total assets. It measures the risk involved in assets held by a bank. Here from the above table it can be observed that in case of private sector banks Kotak Mahindra Bank has the highest ratio that is 24.96 % followed by HDFC(22.84%), Axis Bank (19.80%) and at last ICICI Bank with 17.98 %. In case of Public sector Banks, Bank of Maharashtra stands at the first position with 25.45 %, followed by State Bank of India with 21.89%, Bank of India 18.58 % and at last Bank of Baroda with 18.40%

Table No. 5.18 Cash/Deposit ratio

Cash/Deposit ratio	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Avg	SD
Public Sector Banks													
Bank of Baroda	3.33	3.56	5.13	6.16	5.51	5.61	6.5	5.63	2.84	3.27	3.64	4.65	1.33
Bank of India	4.95	5.95	6	7.83	4.7	6.79	7.29	4.71	5.75	4	5.11	5.73	1.19
Bank of Maharashtra	7.38	6.96	6.69	9.32	7.43	8.4	5.75	5.93	5.58	5.13	5.45	6.73	1.33
State Bank of India	4.58	5.7	6.68	9.59	7.49	7.62	10.11	5.18	5.47	6.09	7.35	6.90	1.76
Private Sector Banks													
HDFC Bank	7.29	5.93	7.43	12.46	9.47	9.25	12.03	6.08	4.94	6.9	6.1	7.99	2.51
ICICI Bank	6.36	5.41	8.12	12.02	8.03	13.62	9.27	8.01	6.51	6.57	7.1	8.27	2.51
Axis Bank	10.88	6.06	7.93	8.34	8.02	6.71	7.34	4.86	5.86	6.07	6.15	7.11	1.65
Kotak Mahindra	5.55	6.38	6.83	10.25	6.36	8.73	7.2	5.23	4.33	4.99	5.25	6.46	1.75

Source:- Calculated from RBI statistics

This is the one of the important parameter to measures the liquidity as it indicates the amount of cash that the bank has from the deposits that it has generated. Cash being liquid of the entire asset gives the entire picture of the liquidity of the bank. Bank has to maintain the sound cash to deposits ratio so it can ensure that large volume of cash has is not maintained in idle form and subsequently excess of cash or lack of cash should not affect the earning capacity of the bank. From the above table it can be observed that in case of Private sector banks if we see the ratio from high to lowest ICICI bank stands at the first position, than HDFC followed by ICICI and Axis Bank. In case of Public sector banks State Bank of India stands at the first position with 6.90%, than bank of Maharashtra with 6.73 % followed by Bank of India and Bank of Baroda.

6. CONCLUSION

The study reveals that there is development in both the public and private sector banks over a period of time. In the highly global competitive environment it is essential for the banks to reflect improvement in performance over the period of time in various parameters. Finding of the study indicates that in some of the parameters private sector banks performed well and in some of the parameters public sector bank performance is better. But overall private sector banks are leading banks over public sector banks amongst the selected banks for the study period of 2004-05 to 2014-15. Following are the findings of the individual parameters of CAMEL Model.

Capital adequacy Parameter

1. In private sector bank capital adequacy ratio is highest of Kotak Mahindra Bank i.e 16.73 % & in public sector banks- Bank of Baroda bank has highest CAR mean ratio of 13.34 %
2. Debt to equity ratio prefers the lowest one. In private sector banks ICICI stands at 1s position with 9.64% & in case of public sector banks Bank of Baroda stands at the first position with 16.71% average.
3. Highest advances to total assets ratio is preferable. From the study it is concluded that Kotak Mahindra bank and HDFC bank stood at first position 0.62 times and in public sector banks Bank of Maharashtra stands at first position 0.68.4

Asset Quality Parameter

1. In Gross NPA to Net Advances ratio Axis bank stood at first position 1.29 in private Sector & Bank of Baroda stands at first position with 2.80 times in Public Sector banks.
2. Net NPA to Net Advances lower is preferable. In case of Public sector banks -Bank of Baroda stands at first position with ratio of 0.95 and in private sector bank- HDFC bank stood at the first position with ratio of 0.33 times
3. Lowe total investment to total asset ratio is preferable. It is concluded from the study that amongst the private sector bank HDFC bank is the leading bank with 29.87 % and In case of Public sector Banks Bank of Baroda bank is leading bank with lowest ratio of 23.52%

Management Efficiency Ratio

1. Business per employee is high preferable. Axis Bank is the leading bank with ratio of 116.46 times and in Public sector banks- Bank of Baroda is the leading bank with ratio of 123.48 times.
2. In case of Profit Per Employee of private sector bank , Axis Bank stand at the first position with ratio of 1.18 times and In case of Public sector banks Bank of Baroda stands at the first position with ratio of 0.72 times
3. It is concluded that in private sector banks the HDFC bank stand at the first position with lowest total expenses to total income ratio i. e 0.69 times and in public sector Banks there is tie for first position between State Bank of Indian and Bank of Baroda with ratio of 0.76 times
4. Credit Deposit ratio of is prefer on a higher side. Kotak Mahindra Bank stood at first position with 95.61 % in private sector bank State Bank of India stands at the first position with 77.37 % in case of public sector bank

Earnings Capability Ratios

1. Return on Equity is high of Axis Bank with 18.84 % in private sector banks and in public sector banks Bank of Baroda stands at first position with 15.81 % .
2. Net interest margin to total asset ratio is preferable high. In case of Private sector bank Kotak Mahindra bank stands at the first position with 4.58% contribution and in public sector bank State Bank of India stands at the first position with 2.90 % contribution.
3. Interest income to total income is preferable high. In private sector bank list Kotak Mahindra Bank stands at the first position with 0.84 and in public sector banks Bank of Maharashtra stands at the position stand at the first position 0.91 times
4. Return on Asset ratio of is highest i.e. 1.60% in private sector bank and in public sector bank- Bank of Baroda stands at the first position with 0.93 %

Liquidity Ratio

1. In Total Investment to total deposit ratio e ICICI bank and Kotak Mahindra banks are close to each other with 51.27 % and 51.55 %. For the private sector bank. In case of Public sector banks state bank of India stands at the first position with ratio of 35.44 %
2. In Liquid assets to total asset ratio of private sector banks that HDFC bank stands at the first position with 0.09 times and in Public sector banks - Bank of Baroda stands at the first position with 0.14 times
3. Government Securities to total asset ratio in private sector bank Kotak Mahindra Bank has the highest ratio that is 24.96 % and in public sector bank Bank of Maharashtra has the highest ratio of 25.45 %.
4. In Cash/Deposit ratio of Private sector from high to lowest category ICICI bank stands at the first position, than HDFC followed by ICICI and Axis Bank. In case of Public sector banks State Bank of India stands at the first position with 6.90%, than bank of Maharashtra with 6.73 % followed by Bank of India and Bank of Baroda.

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