International Journal of Innovative Technology and Exploring Engineering (IJITEE)
ISSN: 2278-3075 (Online), Volume-8 Issue-12, October 2019

Camel Research of Selected Private and Public Sector Banks in India

S.Panboli, Kiran Birda

Abstract—Banks are the mainstay of any country's economic development. The money is stored in the bank, wherein the people are risk free of keeping money at home, and whenever required can take their money. The banks also help for any business growth or any start up business. And to meet all this peoples' requirement and even gain profits, banks sees their financial growth and analyze as what to be done to meet the requirements. Even the people should know, whether the bank in which they have gone on their money is stable and can give back their money back when needed or when the bank fails to shut down due to unavailability of assets or loss which cannot be reclaimed. This report examines the execution of certain private and public sector banks. Five banks from private sector viz. ICICI, HDFC, Axis, YES, Kotak Mahindra and five banks from public sector viz. SBI, PNB, BOB, UBI and Canara bank were chosen for this analysis. The data were collected for a period from 2012-2013 to 2016-2017 (5 years). CAMEL analysis (Capital adequacy, Asset quality, Management efficiency, Earning quality, and Liquidity) was applied towards assessing the performance. Based on CAMEL rating, HDFC & AXIS Bank are considered as performing above average; whereas PNB & Canara Bank is seen as below average. Thus, it could be concluded that in all the parameters of the CAMEL Model and its sub-parameters, the performance of the private sector is found to be better than the public sector. .

Keywords: Performance, Public sector banks, Private sector banks, CAMEL model

I. INTRODUCTION

Bank is an institution wherein the deposit is accepted from the public and lends to individuals and institutions. Capital market helps in contributing the amount both by directly and indirectly. Banks are regulated in most of the countries since, financial stability of the country is of most importance. Most of the nations have a fractional reserve banking system. Under this, each bank has to hold liquid assets equal to certain portions of their current liabilities. Also, it is mandatory that banks have to keep minimum capital as per the global capital standards fixed by Basel Accord.

Revised Manuscript Received on October 30, 2019.
***** Correspondence Author

Dr.S.Panboli*, Associate Professor, Department of Management Studies, B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai, Tamilnadu, India.

(E-mail: panboli@crescent.education)

Ms. Kiran Birda,Alumnus, Department of Management Studies, B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai, Tamilnadu, India.

(E-mail: kbirda94@gmail.com)

Bank's role in the economic activity:

Credit provision — Credit allows the individuals or any households in purchasing homes without having entire cost in advance in their savings, businesses in investing beyond their cash on hand limit, etc. Hence credit plays an essential role in the economy by helping the government to smoothen their spending.

Liquidity provision — Individuals, households and businesses would like to protect themselves from the sudden cash crunch. Banks provide such liquidity, through a provision by which they can withdraw money at any time and also the banks can offer lines of credit. Banks offer liquidity by trading in securities and the related products when needed, at a relatively lesser transaction costs.

Risk management services — the individuals and corporations are able expose to risks by way of financial and commodity trading. This is possible only with the help of banks. Banks provide such facility through derivative instruments dealings. Banks also help them indirectly by taking part in the universal exchange markets and product markets. It is highly complex for any business to import or export without the help of the bank, as the bank plays as an important actor in the global currency markets and help in foreign currency exchange.

Remittance of Money — Now in today's scenario, anyone can easily transfer the cash from anywhere and everywhere with the help of a bank. This helps in expanding the domestic and international trade. The bank has helped the individuals to be free of the risks which they had when carrying cash, gold, silver etc. with them. To facilitate the transit of money the banks help in issuing the credit instruments.

Rapid Economic Development — Banks assist in the process of economic development by way of providing loans to agriculture, trade and industry.

Promoting Entrepreneurship — Banks provide loans at a fair rate and also make it easily available. This increases the participation of the private sector in the economic development which promotes entrepreneurship.

The reason behind the preference of banks by anyone is :

Security: As banks are the most secure place to keep money, jewelry, etc. where there is no risk of losing it.

Convenience: It's not safe to keep money or jewelry in a home or personally with us in large amounts every time. So for this ATMs are there where we can take money out whenever needed and it's convenient to take out money out from banks, ATMs when needed.

Saving and Investing: By doing this we get a financial security in the future and which will help in future for the unexpected happenings or when there is emergency for money.

To insure above functioning of banks properly and regularly, the main thing that is needed is the financial functioning of the bank. If the banks are stable and running smoothly, then the above requirement of the peoples can be fulfilled and hence which in turn will increase the bank's profit. To know the performance of banks, whether it's running smoothly, meets the criteria and have sufficient balance with them, etc., which all can be evaluated by using the CAMEL approach.

II. STATEMENT OF THE PROBLEM

An analysis of bank performance: A study on select public and private sector banks in India.

III. OBJECTIVES

- To examine the fiscal execution of select private and public sector banks by the CAMEL Model
- To rank them according to the parameter under the CAMEL model.

IV. REVIEW OF LITERATURE

Rohit Bansal and Anoop Mohanty (2013) in their study "A Study on Financial Performance of Commercial Banks in India: Application of Camel Model", have taken 5 banks (Kotak Mahindra bank, ICICI bank, Axis bank, HDFC bank and State Bank of India for the period 2007-2012) and the ratios were calculated using camels model. From the weighted results of ratios, the ranking were given to the bank and based on the overall performance HDFC bank is ranked 1st, SBI as 2nd, Kotak Mahindra as 3rd, ICICI Bank as 4th and Axis Bank as 5th.

Sushendra Kumar Misra and Parvesh Kumar Aspal (2013) on "A Camel Model Analysis of State Bank Group", showed that in Capital Adequacy norms, SBP and SBBJ ranked first while SBI ranked last. Under the parameter 'Asset Quality', the SBBJ topped. Under the parameter 'Management efficiency', SBT ranked top and SBBJ was at the last. Under the 'Earning Capability', the SBM is ranked first and SBP at the last. Under the Liquidity parameter, the SBI was ranked at the first and SBM at the last.

Golam Mohiuddin (2014) studied the "Use of CAMEL Model: A Study on Financial Performance of Selected Commercial Banks in Bangladesh", by taking two major banks as the base for the study (NCB & PSB) operating in Bangladesh. This survey concluded that the banks were all at satisfactory place.

CA. Ruchi Gupta (2014) studied the public sector bank's performance from 2009 to 2013 using CAMEL. The survey result shows that there is a considerable distinction between the public sector banks using CAMEL. The ranks were given differently for the banks based on 5 parameters.

Hare Krishna Karri, Kishore Meghani & Bharti Meghani Mishra (2015) have studied the Performance of Public sector banks in India using the CAMEL model. Their study concluded that Bank of Baroda's performance as better than the Punjab national bank.

Jaspreet Kaur, Manpreet Kaur and Dr. Simranjit Singh (2015) examined the performance of prime public sector banks using the CAMEL. Punjab national bank, Bank of Baroda, State Bank of India, Bank of India, and Canara Bank were considered for this study from 2009 to 2014. The study used many aspects to evaluate the functioning of banks using the weighted average cost of capital, Regression analysis and also the CAMEL model. Bank of Baroda was in the first position in all the aspects of CAMEL. Punjab National Bank was leading into Capital adequacy, Management efficiency and Earning capacity. Bank of India was leading in Asset Quality.

G. L. Meena (2016) has made a study on "Financial Analysis of Select Banks Using CAMEL approach - a Study with Reference to Indian Banking Industry". This survey concluded that the four major dependent factors such as debt-equity ratio, earnings per employee, total assets to total deposits ratio, net non performing assets to total advances ratio are impacting the financial operation of the banks when taken into account the return on assets as an independent variable.

Jagjeet Kaur, Dr. Harsh Vineet Kaur (2016) analyzed the public sector bank's performance from 2004 to 2014 by means of the CAMEL model. The results showed that the first position is taken by Bank of Baroda, next by PNB and last position by Central Bank of India. Bank of Baroda and PNB were considered the more steady banks, next by Indian bank and IDBI banks as per CAMEL model. Canara bank & SBI were considered as medium performance. Union Bank, Bank of India, Syndicate Bank & CBI were considered below average performance.

Mohammad Kamrul Ahsan (2016) in his work on "Measuring Financial Performance Based on CAMEL: A Study on Selected Islamic Banks in Bangladesh", examined the performance of three Islamic banks during 2007 and 2014. The effects showed that all the three Islamic Banks selected were in the best performance in their composite rating system. All the three banks were good in all the aspects of CAMEL.

Muralidhara P. and Chokka Lingam (2017) in their study took five nationalized banks for finding the economic performance using the CAMEL model for a period between 2006 and 2016. In this study the Central Bank of India occupied first position in three parameters.

V. METHODOLOGY

Sources of Data:

The data source was secondary to this subject. The performance of the banks was taken from the banks' websites, annual reports, Money control, Equity master, Economic times, various journals and research papers on financial performance. The prime five banks each from public sector and private sector were brought from this comparative survey.

Period of Study:

The work period is from 2012-2017 (5 years).

Sampling:

The prime five banks from private and public sector were taken for this analysis and their operation was examined based on different parameter in CAMEL model.

Research technique:

The different parameters in the CAMEL model were applied to examining the fiscal operation of the banks. The bank's performance is measured and ranked (1 strongest to 5weakest) by the bank examiners and other professional experts who award these ratings.

(i) Capital Adequacy (C)

The capital adequacy ratio (CAR) is used to check the ability of the banks in taking up a reasonable amount of loss. The banks CAR is tracked by the national regulators. This helps in knowing how safe is the people's money to the banks and how the banks can overcome the losses if any. This helps in protecting the depositors and also to support the steadiness and effectiveness of the banking systems in the globe.

The minimum requirement of CAR ratio, by Basel II norms is 8%, by RBI 9%.

The four ratios under this parameter are:-

a) CAR ratio:

$$\text{Capital adequacy ratio} = \frac{\text{Tier I capital + Tier II capital}}{\text{Risk weighted assets}} \times 100$$

The capital which takes in the losses is called Tier I capital. At the time of winding – up of the company tier II capital can help in absorbing the losses. This capital gives lesser shield to depositors. The highest CAR ratio is preferred and will be rated at 1.

b) Debt / Equity ratio:

This ratio shows how much debt is taken up by the company to fund its assets. If the ratio is more then it means creditor financing is more than the investor financing. This contributes to greater financial distress if earnings do not surpass the borrowing cost. Lower debt to equity ratio is preferred and will be ranked as1.

$$\text{Debt / Equity ratio} = \frac{\text{Total liabilities}}{\text{Shareholder's equity}} \times 100$$

c) Advances / Total assets ratio:

This ratio helps in identifying how violent a bank is, in lending, which results in improved profitability. The larger the ratio, the better the profit and is ranked 1. Receivables are included in total advances and re- valued assets are removed from total assets.

$$\text{Advances / Total assets ratio} = \frac{\text{Advances}}{\text{Total assets}} \times 100$$

d) Equity / Total assets ratio:

This ratio helps to find out the fate of assets of the company that are owned by investors. If the company is highly levered then, debt holders will take the control at the time of bankruptcy. If it is less leveraged, then it means most of the company's assets are owned by the company itself. The higher proportion of equity to assets will be favored.

$$\text{Equity / Total assets ratio} = \frac{\text{Networth}}{\text{Total assets}} \times 100$$

(ii) Assets Quality (A)

This parameter used to assess the credit risk which is tied in with a particular asset. How effective the organization is in protecting and monitoring the credit risk may have an outcome of the credit rating that the bank would like to achieve. Asset quality measures how much percentage of Non-Performing Assets (NPA) are present in the total assets. This also suggests the different ways of advances the bank may produce. The subsequent proportions be applied to evaluate the asset quality:

a) Net Non Performing Assets / Total Assets:

When any borrower is unable to return the interest or the principal amount within 90 days, then that amount is considered as a Non Performing Asset (NPA). This ratio helps in identifying the competency of the bank in predicting the credit risk and its ability in recovering the debts. Lower ratio is preferred.

$$\text{Net NPA / Total assets} = \frac{\text{Net Non Performing Assets}}{\text{Total assets}} \times 100$$

b) Gross Non Performing Assets / Total assets ratio:

Here the lower ratio is chosen.

$$\text{Gross Non Performing Assets / Total Assets ratio} = \frac{\text{Gross Non Performing Assets}}{\text{Total assets}} \times 100$$

c) Net Non Performing Assets / Net advances:

Here net Non Performing Assets are measured as a percentage of net advances. From gross Non Performing Assets, provision for Non Performing Assets and interest in suspense account are subtracted to get net NPAs. It shows bad debts against the total loan sanctioned. Lower ratio will be preferred.

$$\text{Net Non Performing Assets / Net advances} = \frac{\text{Net Non Performing Assets}}{} \times 100$$

Net advances

d) *Gross Non Performing Assets / Gross advances:*

Here gross Non Performing Assets are considered, which is the equal to the amount without subtracting the provisions. The lower ratio will be favored.

$$\text{Gross Non Performing Assets} = \frac{\text{Gross Non Performing Assets}}{\text{Gross advances}} \times 100$$

(iii) *Management Efficiency (M)*

This stands for the capacity of the management to find, monitor, compute and manage the risk. This ratio takes the subjective analysis to appraise the effectiveness and efficiency of the management. This parameter is used to find the banks, which are performing better sweep away the banks which are managed poorly. The following ratios are used to measure this.

a) *Business per employee:*

This ratio shows how effectively the human resources are utilized by the business. The Larger the ratio, the better the human resources are utilized. The higher ratio is chosen.

$$\text{Business per employee} = \frac{\text{Total deposits and advances}}{\text{Number of employees}}$$

b) *Profit per employee:*

This ratio indicates the employees' contribution towards the profit of the banks. The larger ratio is chosen.

$$\text{Profit per employee} = \frac{\text{Net profits}}{\text{Number of employees}}$$

c) *Return on Assets (ROA):*

This ratio measures the profitability of a bank against its total assets. This ratio is also named as "Return on Investment" (ROI). The higher value is preferable.

$$\text{Return on Assets} = \frac{\text{Net income}}{\text{Total assets}} \times 100$$

d) *Return on Equity (ROE):*

Return on equity (ROE) discloses how much funds invested by the banker have converted into income. The higher return on equity is preferred.

$$\text{Return on Equity} = \frac{\text{Net income}}{\text{Shareholder's wealth}} \times 100$$

(iv) *Earning Quality (E)*

Profitability of the banks is determined by this. The following proportions will be counted on to determine the earnings of the Banks:

a) *Dividend payout ratio:*

This ratio shows the percentage of earnings that has been distributed as dividends to the shareholders. The higher ratio will be favored.

$$\text{Dividend payout ratio} = \frac{\text{Dividend per share}}{\text{Earnings per share}} \times 100$$

b) *Operating profits / Total assets:*

This ratio is helpful in finding out the sum of operating profits generated by using the assets of the banks. The higher ratio is preferred which shows the assets are utilized to the fullest extent to make maximum profits.

$$\text{Operating profits / Total assets} = \frac{\text{Earnings Before Interest and Tax}}{\text{Total assets}}$$

c) *Net interest / Total income:*

This ratio helps in finding out the portion of the income from interest out of income in total. The higher ratio is chosen.

$$\text{Net interest / Total income} = \frac{\text{Interest earned} - \text{Interest paid}}{\text{Total income}} \times 100$$

d) *Net profit / Total assets:*

This ratio is useful in finding out the sum of profit left out after paying interest and revenue enhancements. The higher ratio is chosen.

$$\text{Net profit / Total assets} = \frac{\text{Earnings After Interest and Taxes}}{\text{Total assets}} \times 100$$

(v) *Liquidity (L)*

Liquidity shows the ability of the banks to fulfill their short term obligations.

Banks should get hold of the right steps to hedge them against liquidity risk and to ensure that they put in better investments to generate a higher yield on investment. This will help the banks to get earnings and at the same time offer the liquidity. The following ratios are considered here.

a) Liquid assets / Total assets:

Cash in hand & with other banks (India and abroad), cash in Reserve Bank of India and money at call and short notice are called liquid assets. The liquidity position of the bank could be assessed by this ratio. A higher ratio is chosen.

$$\text{Liquid assets / Total assets} = \frac{\text{Liquid assets}}{\text{Total assets}} \times 100$$

b) Liquid assets / Total deposits:

The ability of the banks to quickly convert their deposits into cash is measured by this ratio. Total deposit includes demand, saving, and term deposits and deposits in other institutions. The bank with higher ratio is chosen.

$$\text{Liquid assets / Total deposits} = \frac{\text{Liquid assets}}{\text{Total deposits}} \times 100$$

c) Credit deposit ratio:

The amount of advances made by the depository financial institution against its total deposits is measured by this ratio. If the ratio is low, then it shows that the bank is not fully employing its resources and a higher ratio means the reverse of it. For the lending purpose the higher the ratio is preferred.

$$\text{Credit deposit ratio} = \frac{\text{Total advances}}{\text{Total deposits}} \times 100$$

d) Current Ratio:

The ability of the banks to pay back its short term obligations is called current ratio.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

If this ratio is less than 1 then, it shows that the company is not in a situation to pay off its short term obligations. If it is more than 3, then it does not mean the company is in serious shape with regard to the financial being. Because all depends on how a company allocates its assets. A high current ratio may also sometimes suggest that the troupe is not utilizing its current assets and working capital efficiently.

Analysis: Rating 1 represents the stable nature of the banks. A rating of 2 or 3 represents the average and a rating of 4 or 5 represents below average performance. Banks with a below average rating needs to be supervised closely.

VI. DATA ANALYSIS AND INTERPRETATION& RESULTS

Name of the Bank	CAR %	RANK	D/E RATIO %	RANK	AD /T.A %	RANK	EQUITY/ T.A %	RANK	COMPOSITE C	RANK
HDFC Bank	16.2	4	8.7	3	70.54	1	9.945	3	2.75	2
ICICI Bank	17.6	1	7.02	2	58.59	8	10.77	2	3.25	3
AXIS Bank	15.6	5	8.91	4	61.4	6	9.73	4	4.75	4
YES Bank	16.4	3	11.44	5	56.39	10	8.34	5	5.75	6
KOTAK MAHINDRA Bank	17.032	2	6.54	1	61.74	5	12.78	1	2.25	1
SBI	12.82	6	13.942	6	62.186	3	6.1	6	5.25	5
PNB	12.2	8	15.492	9	61.92	4	5.86	7	7	7
UNION BANK OF INDIA	11.62	10	17.18	10	65.69	2	3.97	10	8	8
BANK OF BARODA	12.72	7	15.42	8	58.4	9	5.73	8	8	8
CANARA BANK	11.7	9	15.12	7	60.04	7	4.99	9	8	8

Fig: 1 (a): Camel Model: C: - Capital Adequacy

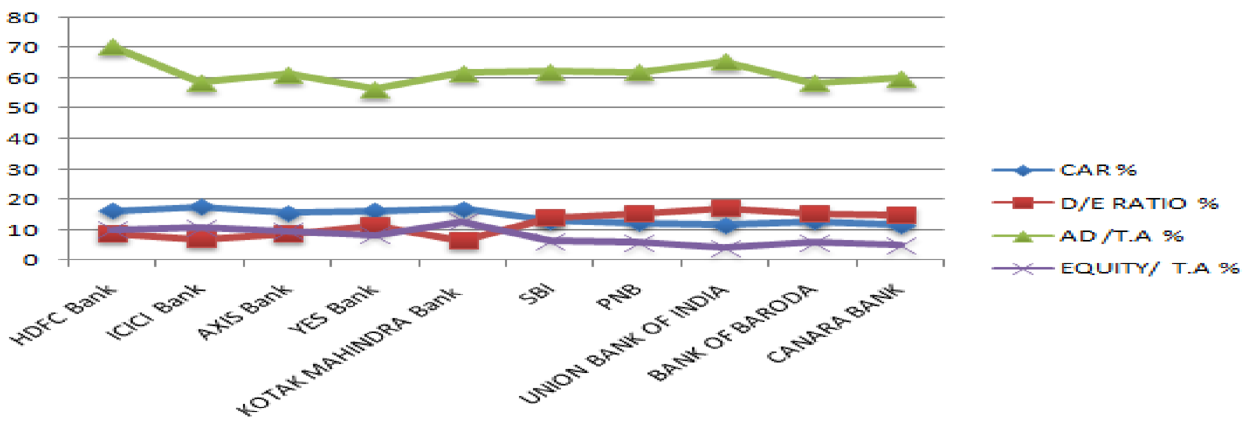

Fig 1 (b): Graphical representation of the calculated ratios under the Capital adequacy parameter.

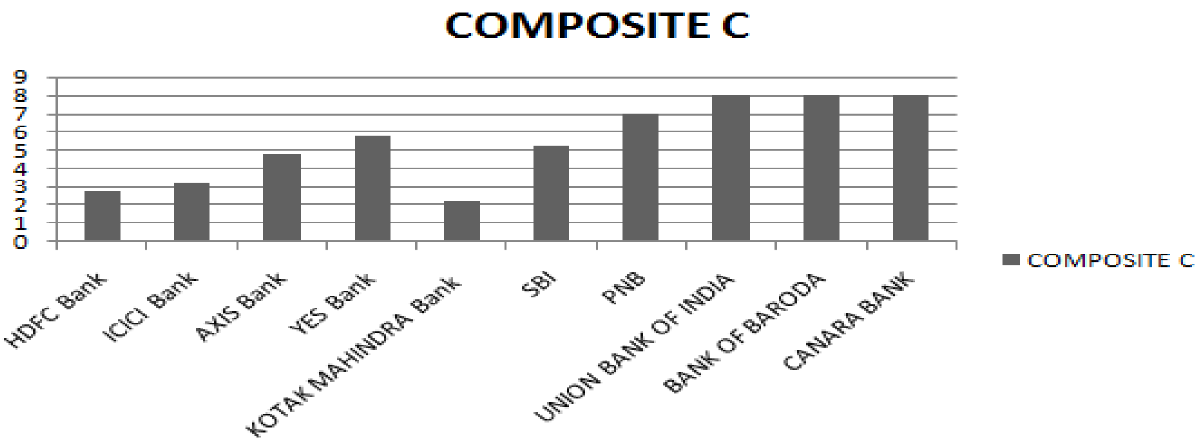

Fig 4.1 (c): Overall performance under capital adequacy norm

Interpretation: It is found that ICICI Bank has ranked 1 with highest capital adequacy. The Union Bank of India is ranked last with least capital adequacy ratio, still it is meeting the 8% minimum Basel II norms. Every bank has fulfilled the minimum requirement of 8%. Regarding Debt - Equity ratio (level of leverage of a depository financial institution), Kotak Mahindra Bank is using minimum debt to operate their line of work, whereas Union Bank is using higher debt and their capital adequacy ratio is too low. As per the advances to total assets ratio, HDFC Bank is really violent in lending. The next is Union bank of India (65.69), followed by SBI (62.186) followed by PNB (61.92) in lending. In the final ratio equity to total assets, Kotak Mahindra has larger assets to compensate off their shareholders in case of winding up, followed by ICICI (10.77), HDFC (9.945), AXIS (9.73) and the least equity to assets ratio of Union Bank of India (3.97).

Based on the average of all the four sub-parameters, Kotak Mahindra (2.25) ranked number 1 followed by HDFC (2.75), ICICI (3.25), AXIS (4.75), SBI (5.25), YES Bank (5.75), followed by all three Bank of Baroda, Canara bank and Union Bank of India, together at rank 8. Union Bank of India is the only bank which is not doing well in all the 3 sub- parameters individually as well as a composite.

Name of the Bank	N. NPA/ TA	RANK	G. NPA/ TA	RANK	N. NPA / N. ADV	RANK	G. NPA / G. ADV	RANK	COMPOSITE A	RANK
HDFC Bank	0.175	1	0.62	2	1.53	4	0.99	2	2.25	2
ICICI Bank	1.53	6	3.17	5	2.61	6	5.41	5	5.5	4
AXIS Bank	0.6137	3	1.6	4	0.99	2	2.61	4	3.25	3
YES Bank	0.19	2	0.46	1	0.34	1	0.82	1	1.25	1
KOTAK MAHINDRA Bank	0.65	4	1.38	3	1.06	3	2.24	3	3.25	3
SBI	1.08	5	3.684	6	1.69	5	5.78	6	5.5	4
PNB	3.333	9	5.603	8	5.38	9	9.05	8	8.5	6
UNION BANK OF INDIA	2.55	7	4.57	7	3.89	7	6.96	7	7	5
BANK OF BARODA	2.92	8	6.88	9	5	8	11.78	10	8.75	7
CANARA BANK	4.63	10	7.24	10	7.71	10	12.9	9	9.75	8

Fig 2 (a): Camel Model: A: - Asset Quality

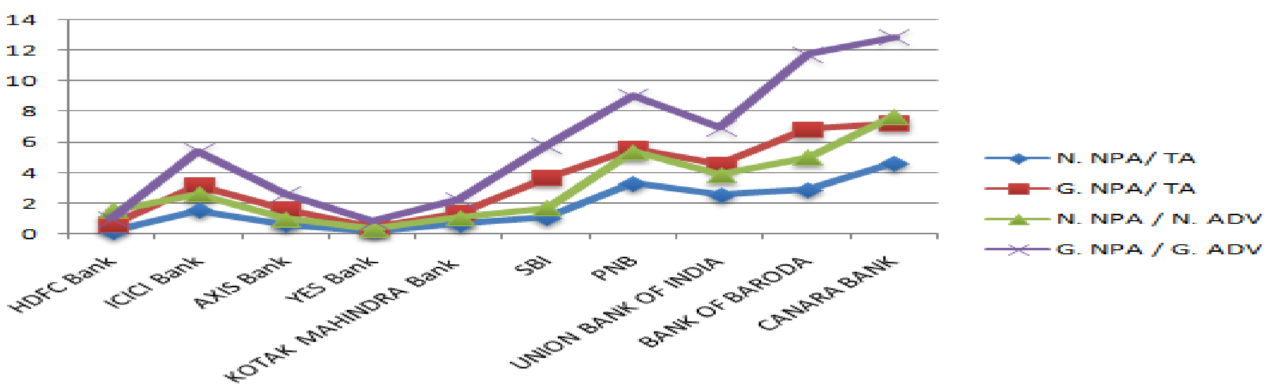

Fig 2 (b): Graphical representation of the calculated ratios under the Asset Quality parameter.

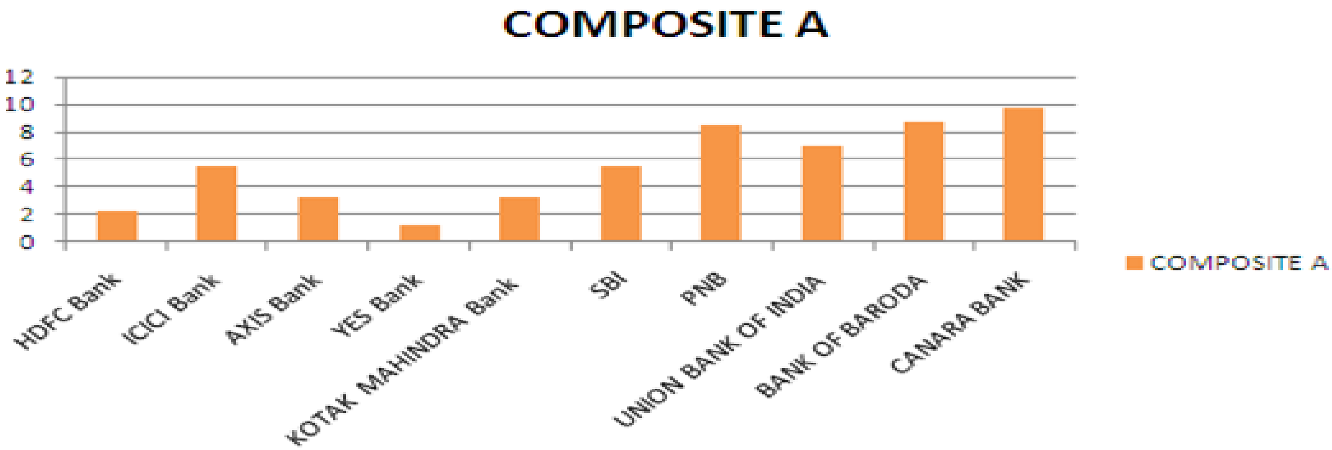

Fig 2 (c): Overall performance of the banks under the Asset Quality parameter

Interpretations: Fig 2(a) shows that HDFC Bank (.175) is having the lowest net NPAs against total assets , and Canara bank (4.65) has the maximum net NPAs against total assets. This indicates that Canara Bank advances are not safer. With regard to gross NPAs to total assets YES Bank has got finest quality of loans followed by HDFC Bank (. 62) and Kotak Mahindra (1.38) and the maximum gross NPAs to total assets is of Canara Bank. Regarding gross non performing asset to gross advances, YES Bank is in first place followed by HDFC Bank (. 99) and Kotak (2.24). The most unpleasant gross NPAs to gross advances ratio is in Canara Bank (7.71). Regarding net NPAs to net advances, YES Bank has got less non performing asset to net advances followed by AXIS Bank (.99), Kotak (1.06), HDFC Bank (1.53).

As per the averages of four sub-parameters under asset quality, the YES Bank (1.25) is in number 1 position, followed by HDFC Bank (2.25), AXIS and Kotak Bank (3.75), ICICI and SBI Bank (5.5), Union Bank of India (7), PNB (8.5), Bank of Baroda (8.75), and Canara Bank (8).

Name of the Bank	B.P.E	RANK	P.P.E	RANK	ROA %	RANK	ROE %	RANK	COMPOSITE M	RANK
HDFC Bank	54.902	5	0.68	1	1.72	2	17.84	2	2.5	1
ICICI Bank	45.35	8	0.58	2	1.3	5	12.68	5	5	4
AXIS Bank	53.48	6	0.537	3	1.36	4	14.28	3	4	2
YES Bank	44.5	9	0.536	4	1.48	3	19.14	1	4.25	3
KOTAK MAHINDRA Bank	27.36	10	0.31	5	1.82	1	12.84	4	5	4
SBI	52.14	7	0.2	7	0.5	6	8.26	6	6.5	5
PNB	59.4	4	0.115	9	0.33	10	4.72	10	8.25	8
UNION BANK OF INDIA	79.72	2	0.21	6	0.46	7	7.68	7	5.5	5
BANK OF BARODA	90.73	1	0.16	8	0.34	9	5.84	9	6.75	6
CANARA BANK	63.38	3	0.106	10	0.42	8	7.16	8	7.25	7

Fig 3 (a): Camel Model: M: - Management Efficiency

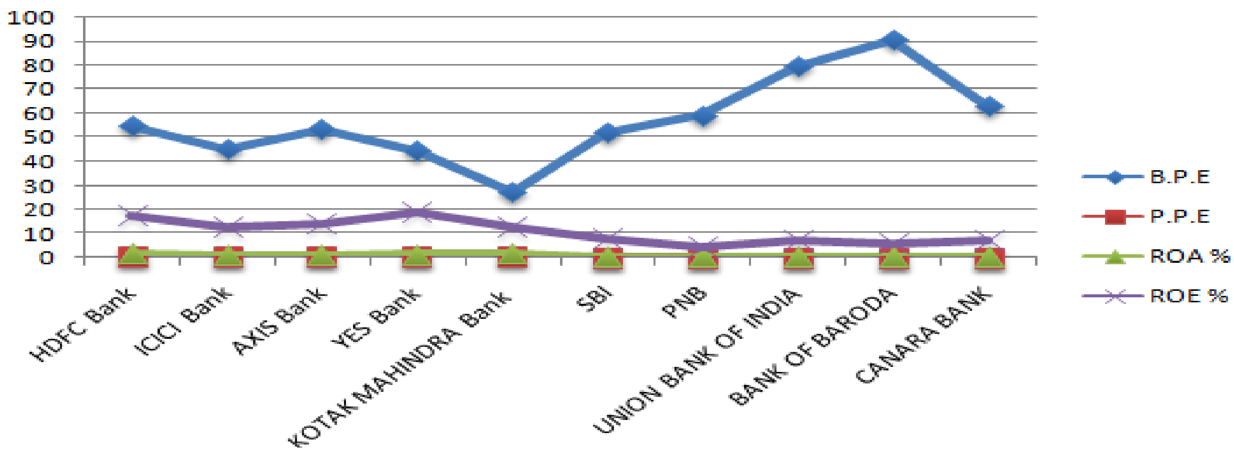

Fig 3 (b): Graphical representation of the calculated ratios under the Management Efficiency parameter.

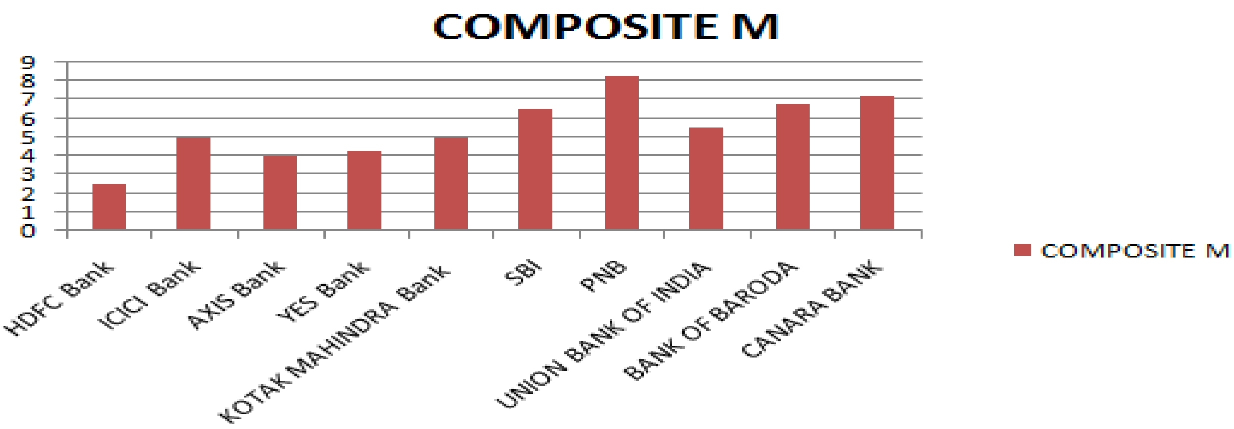

Fig 3 (c): Overall performance of the banks under the Management Efficiency parameter

Interpretations: Fig 3 (a) shows each parameter of management efficiency. Regarding business per employee, Bank of Baroda is having a more secured business, followed by Union Bank and Canara Bank. The business per employee is very low in Kotak bank. That is Kotak is having more employees as compared to the job. The next ratio is profit per employee. This ratio shows each employee's contribution to the bank's profitability. The maximum donation is established by the employees of HDFC Bank (. 68) followed by the ICIC Bank (. 58), AXIS Bank (. 537). The final contribution in the profitability is established by the employees of PNB. Regarding the return on assets, Kotak is having highest profit followed by HDFC, YES bank and AXIS bank. The next ratio under this parameter is return on equity. In this parameter YES Bank is in the first position, the second is HDFC (17.84) and the third is AXIS Bank (14.28). The minimum yield on equity calculated is of PNB. With regard to the group average of this parameter, HDFC is on the upper side, next by AXIS, YES, ICICI and Kotak in the same rank. Union bank.and SBI has the same rank. Bank of Baroda, Canara Bank & PNB are at last.

Name of the Bank	D.P.O Ratio	RANK	O.P /T.A	RANK	N.I / T.I	RANK	N.P / T.A	RANK	COMPOSITE E	RANK
HDFC Bank	19.271	5	7.43	4	39.01	1	1.711	3	3.25	1
ICICI Bank	26.42	1	7.6	2	30.18	6	1.49	4	3.25	1
AXIS Bank	15.78	9	7.88	1	31.85	3	1.32	5	4.5	2
YES Bank	16.65	7	4.75	10	26.2	8	5.02	1	6.5	6
KOTAK MAHINDRA Bank	3.8	10	7.2	6	36.72	2	4.766	2	5	3
SBI	19.52	4	6.38	8	30.68	4	0.88	6	5.5	4
PNB	17.08	6	6.92	7	30.34	5	0.28	8	6.5	6
UNION BANK OF INDIA	16.16	8	7.38	5	24.32	9	0.4	7	7.25	8
BANK OF BARODA	22.6	3	5.74	9	27.56	7	0.26	9	7	7
CANARA BANK	25.1	2	7.5	3	20.33	10	0.25	10	6.25	5

Fig 4 (a): Camel Model: E: - Earnings

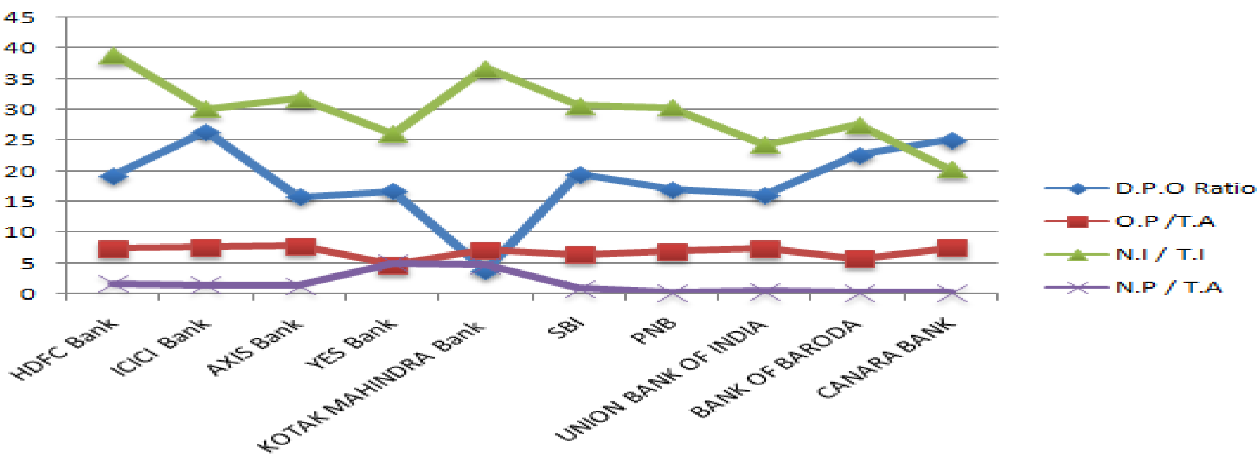

Fig 4 (b): Graphical representation of the calculated ratios under the Earnings parameter.

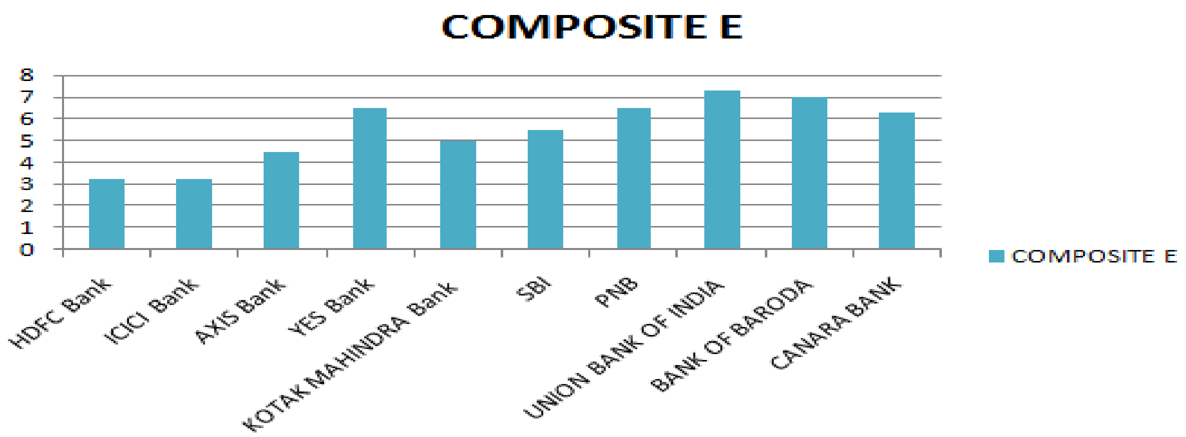

Fig 4 (c): Overall performance of the banks under the Earnings parameter

Interpretation: - Fig 4 (a) shows that parameter E of the camel rating. Under this parameter operating profits to total assets ratio (OP/T.A) is taken. This ratio indicates that maximum operating profits are earned by AXIS Bank (7.88) followed by ICICI (7.6), Canara Bank (7.53). The bank, which is earning least operating profits is YES Bank (4.75). The next ratio is the dividend payout ratio (DPO) that shows ICICI Bank is paying maximum dividend to its shareholders followed by Canara Bank (25.1), Bank of Baroda (22.6) & SBI (19.52). The lowest dividend payout ratio is of Kotak Bank (3.8). In respect to Net Interest to total income ratio (NET INT/T.I), the maximum interest income is earned by HDFC Bank (39.01) followed by Kotak Bank (36.72), AXIS Bank (31.85). The least interest income of selected banks is Canara Bank (20.33), reasoning that this bank is earning profits through investments rather than its principal origin of income (interest). The Net profits to total assets (N.P/T.A) ratio shows that YES Bank is earning maximum net profits as operating profits followed by the Kotak &HDFC bank. The least net profits against total assets are realized by the Canara Bank. On the foundation of composite E, HDFC & ICIC Bank (3.25) are best in regard to the earnings followed by AXIS Bank (4.5), Kotak (5), SBI (5.5), Canara Bank (6.25), YES Bank & PNB (6.5) Bank of Baroda (7), and Union Bank (7.25).

Name of the Bank	LA/TA	RANK	LA/TD	RANK	C.D.R	RANK	CURRENT RATIO	RANK	COMPOSITE L	RANK
HDFC Bank	14.87	4	19.62	6	82.504	5	0.058	2	4.25	3
ICICI Bank	14.58	7	25.12	1	101.69	1	0.098	1	2.5	1
AXIS Bank	15.12	2	20.73	2	85.12	3	0.052	4	2.75	2
YES Bank	13.27	9	19.74	4	80.282	6	0.0576	3	5.5	6
KOTAK MAHINDRA Bank	14.53	8	20.67	3	90.306	2	0.044	6	4.75	4
SBI	14.74	6	19.64	5	84.084	4	0.05	5	5	5
PNB	14.76	5	17.7	9	75.76	8	0.024	10	8	9
UNION BANK OF INDIA	14.95	3	17.74	8	78.43	7	0.028	9	6.75	8
BANK OF BARODA	16.17	1	18.74	7	68.66	10	0.03	8	6.5	7
CANARA BANK	11.48	10	15.73	10	69.71	9	0.036	7	9	10

Fig 5 (a): Camel Model: L: - Liquidity

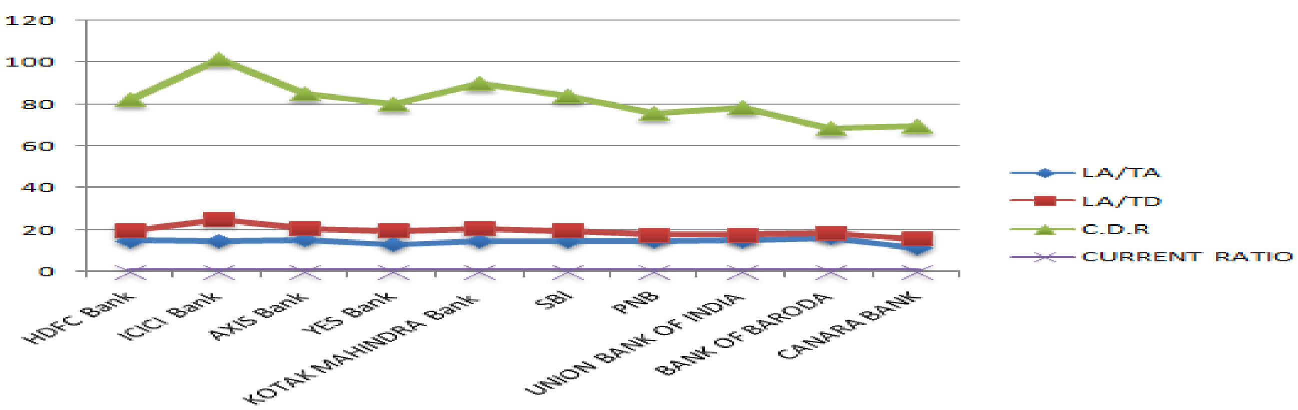

Fig 5 (b): Graphical representation of the calculated ratios under the Liquidity parameter.

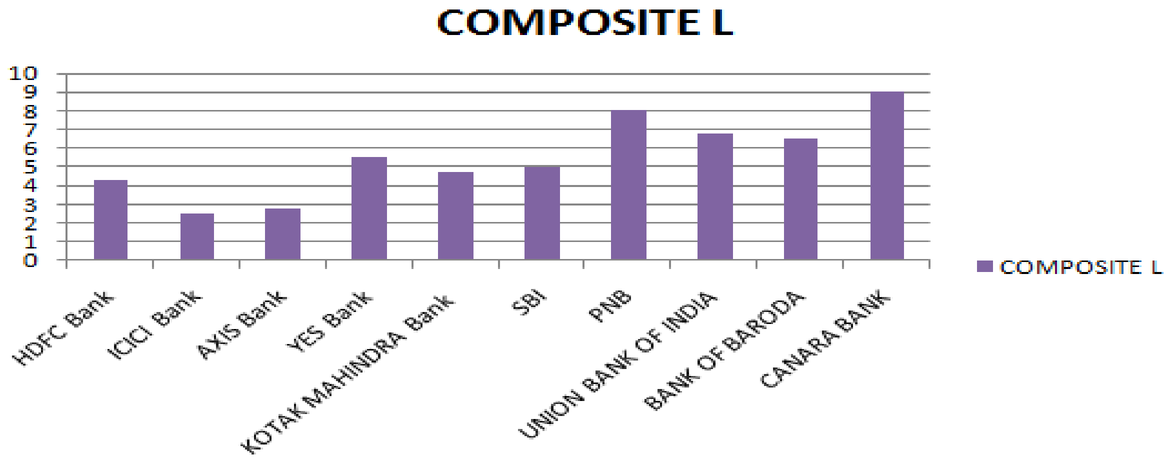

Fig 5 (c): Overall performance under liquidity

Interpretation: In this Bank of Baroda (16.17) has got more liquid assets, next by AXIS (15.12) and Union Bank of India (14.95). The smallest amount of liquidity is maintained by the Canara Bank (11.48).

With respect to liquid asset to total deposits (L.A/T.D) ICICI Bank is throwing the highest value. The smallest liquidity is held by the Canara Bank (15.73). The current ratio must be between 1 and 2. With compliments to this ratio all the banks are keeping up their current ratio. But the best bank is ICICI Bank and the least ratio is of PNB. The final ratio is Credit Deposit Ratio (CDR). This ratio shows that ICICI bank followed by Kotak bank relies on deposits for their lending activities. It is found that the Bank of Baroda is not using its deposits adequately.

The high liquidity to fulfill the short term obligations are held by ICICI (2.5), followed by AXIS (2.75), HDFC (4.25), Kotak (4.75), SBI (5), YES Bank (5.5), Bank of Baroda (6.5), Union Bank (6.75), PNB (8) and Canara Bank (9).

Name of the Bank	Capital Adequacy	Assets Quality	Management Efficiency	Earnings	Liquidity	Average	Rank
HDFC Bank	2.75	2.25	2.5	3.25	4.25	3	1
ICICI Bank	3.25	5.5	5	3.25	2.5	3.9	3
AXIS Bank	4.75	3.25	4	4.5	2.75	3.85	2
YES Bank	5.75	1.25	4.25	6.5	5.5	4.65	5
KOTAK MAHINDRA Bank	2.25	3.25	5	5	4.75	4.05	4
SBI	5.25	5.5	6.5	5.5	5	5.55	6
PNB	7	8.5	8.25	6.5	8	7.65	9
UNION BANK OF INDIA	8	7	5.5	7.25	6.75	6.9	7
BANK OF BARODA	8	8.75	6.75	7	6.5	7.4	8
CANARA BANK	8	9.75	7.25	6.25	9	8.05	10

Fig 6 (a): -Composite Performance (Overall Ranking) of the Banks

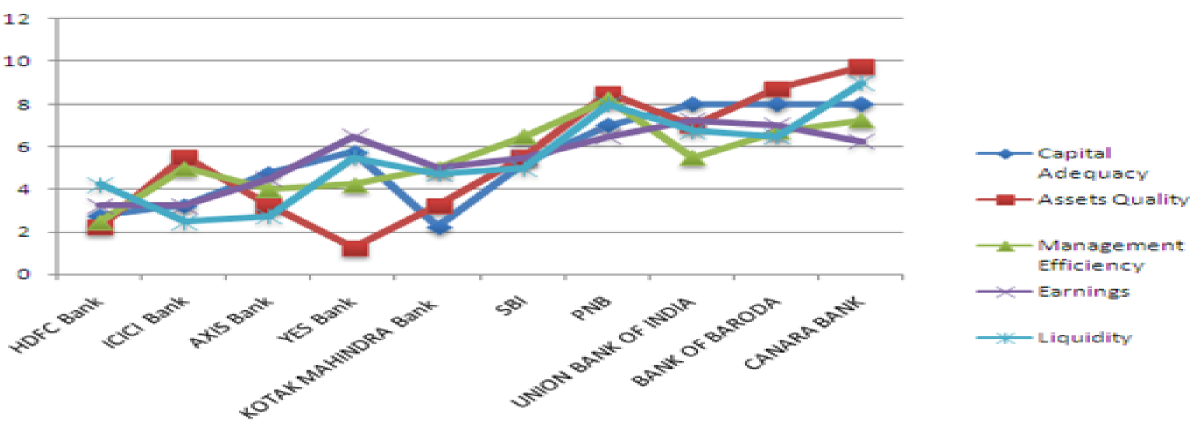

Fig 6 (b): Graphical representation of all parameters for the banks under the CAMEL model

Retrieval Number L39791081219/2019©BEIESP
DOI: 10.35940/ijitee.L3979.1081219
Journal Website: www.ijitee.org

Published By:
Blue Eyes Intelligence Engineering
& Sciences Publication

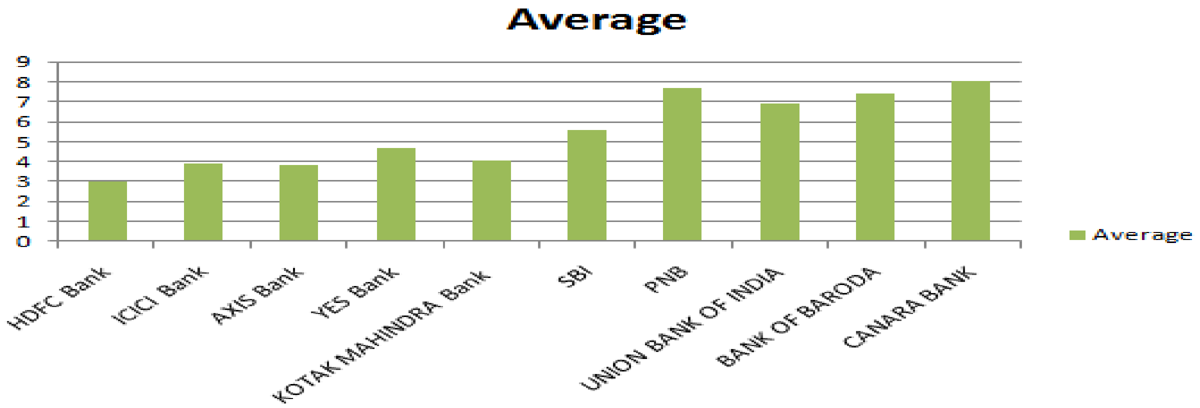

Fig 6 (c): overall performance combining all the parameters

Interpretation:-Fig 6 (a) shows the composite ranking of all the selected banks from 2012 to 2017. HDFC is ranked in the first place. AXIS Bank, ICICI Bank, Kotak Bank, YES Bank, and Canara Bank are all in the late position.

As per CAMEL rating, HDFC & AXIS Bank are in the above average status; ICICI & Kotak Bank, YES bank & SBI Bank are in the average status, and the Union Bank, Bank of Baroda, PNB & Canara Bank are in the below average status.

VII. CONCLUSION

It is concluded that in all of the parameters of the CAMEL Model and its sub-parameters, private sector banks are found to be better performers than the public sector banks.

VIII. REFERENCES

1. Zafar, S.M, Maqbool, Adeel and Nawab Ali, S.I (2012), "A study of ten Indian commercial bank's financial performance using CAMELS methodology", .IMS Manthan, 7(1), 1-14.
2. S.K Mishra. and P.K Aspal (2013), "A Camel Model Analysis of State Bank Group", World Journal of Social Sciences, Vol.3, No.4, pp 36-55.
3. Nilesh J. Lakhtaria. (2013), "A Comparative Study of the Selected Public Sector Banks through Camel Model", Indian Journal of Research, Vol. 2, No. 4.
4. Rohit Bansal and Anoop Mohanty (2013), "A Study on Financial Performance of Commercial Banks in India: Application of Camel Model" Al-Barkaat Journal of Finance and Management, Vol 5, pp 60-79.
5. CA. Ruchi Gupta (2014), "An Analysis of Indian Public Sector Banks Using Camel Approach", IOSR Journal of Business and Management (IOSR-JBM), Vol 16, Issue 1. Ver. IV, pp 94-102.
6. Dr.P.Karthikeyan and B.Shangari (2014), "Calibrating Financial Soundness Among Selected Private Sector Banks In India By Using Camel Model", International Journal Of Management Research And Review (IJMRR), Vol 4, Issue 4, pp 449-454.
7. Dr. Mahua Biswas (2014), "Performance Evaluation of Andhra Bank & Bank Of Maharashtra With Camel Model", International Journal of Business and Administration Research Review (IJBARR), Vol.1, Issue.5.
8. Prof. Nitin R. Suba and Prof. Kavita P. Jogi (2015), "Evaluating Performance of Private Sector Banks HDFC & ICICI: An Application of Camel Model with Capital & Earning Parameter", RESEARCH HUB – International Multidisciplinary Research Journal, Vol 2 Issue 5, 1-5.
9. Hari Krishna Karri, Kishore Meghani & Bharti Meghani Mishra (2015), "A Comparative Study on Financial Performance of Public Sector Banks in India: An Analysis on Camel Model", MPRA Paper No. 62844.
10. Jaspreet Kaur, Manpreet Kaur and Dr. Simranjit Singh (2015), "Financial performance analysis of selected public sector banks: A CAMEL model approach", I J A B E R, Vol. 13, No. 6, 4327-4348
11. Ahmad Waleed, Muhammad Bilal Shah and Muhammad Kashif Mughal (2015), "Comparison of Private and Public Banks Performance", IOSR Journal of Business and Management (IOSR-JBM), Volume 17, Issue 7.Ver. III, pp 32-38.
12. Jagjeet Kaur and Dr. Harsh Vineet Kaur (2016), "Camel analysis of selected public sector banks",National Conference on "Management, Information Technology and Engineering" (GJ-NatConMITE 2016) GIAN JYOTI E-JOURNAL, Volume 6, Issue 3.
13. G. L. Meena (2016), "Financial Analysis of Select Banks Using Camel Approach a Study with Reference to Indian Banking Industry, International Journal of Research and Scientific Innovation (IJRSI), Volume III, Issue X.
14. Maninderkaur and RituPriya (2017), "Evaluating the performance of Public sector Banks "Bank of Baroda and Punjab National Bank": An Application of CAMEL Model with capital and Earning Parameter.", Asian Journal of Research in Business Economics and Management, Vol 7, Issue :5, pp 258- 270.
15. Ch Balaji and Dr. G. Praveen Kumar (2017), "Performance evaluation of selected public & private sector banks in India: an application of camel model", International Journal of Research in IT and Management (IJRIM),Vol 7, Issue 3, pp 62-70.
16. Kankipati, Ajaykumar and Murty, A. V. N. (2017), "Financial Performance of Selected Public and Private Sector Banks Based on CAMEL Model with Reference to Indian Banking Sector", International Journal in Management and Social Science, Vol. 5, Issue 4.
17. P. Muralidhara and Chokka Lingam (2017), "Camel Model as an Effective Measure of Financial Performance of Nationalised Banks", International Journal of Pure and Applied Mathematics, Vol 117,No. 7 2017, 255-262.
18. Vinod Kumar and Bhawna Malhotra (2017), "A Camel Model Analysis Of Private Banks In India", EPRA International Journal of Economic and Business Review, Vol 5, Issue 7.

IX. ABBREVIATIONS USED:

1. SBI: State Bank of India.
2. BOB: Bank of Baroda.
3. PNB: Punjab National Bank.
4. UBI: Union Bank of India.
5. BOI: Bank of India.
6. HDFC: Development Financial Corporation Bank Limited.
7. ICICI: Industrial Credit and Investment Corporation of India.
8. CAR: Capital adequacy ratio.
9. D/E Ratio: debt equity ratio.
10. AD / T.A: Advances to Total assets.
11. EQUITY /T.A: Equity to Total assets.
12. N.NPA/ T.A: Net non - performing assets to Total assets.
13. G.NPA / T.A: Gross non - performing assets to Total assets.
14. G.NPA / G.AD: Gross non-performing assets to Gros advances.
15. N.NPA / N.AD: Net non-performing assets to Net advances.
16. Composite A: Composite assets quality.
17. B.P.E: Business per employee.
18. P.P.E: Profit per employee.
19. ROA: Return on assets.
20. ROE: Return on equity.
21. COMPOSITE M: Composite management efficiency.
22. OP/T.A: Operating profits to Total assets.
23. D.P.O ratio: Dividend payout ratio.
24. N.INT/T.I: Net interest to Total interest.
25. N.P / T.A: Net profit to Total assets.
26. COMPOSITE E: Composite earning efficiency.
27. L.A/T.A:- Liquid asset to Total assets.
28. L.A/ T.D:- Liquid asset to Total deposits.
29. CDR: - Credit Deposit Ratio.
30. COMPOSITE L: - Composite liquidity ratios

Retrieval Number L39791081219/2019©BEIESP
DOI: 10.35940/ijitee.L3979.1081219
Journal Website: www.ijitee.org

Published By:
Blue Eyes Intelligence Engineering
& Sciences Publication