

## Original Research Article

### **A Study on Performance and Efficiency Analysis of Selected Private Sector banks in India**

#### **Abstract:**

Banking in India, being the very oldest and strongest form of financial service not only to individuals, business people but also majorly for the growth of the economy. Right from the establishment of Royal Chartered bank, Indian banking sector has seen a magnanimous growth especially after independence. The nationalization of banks in 1969 and 1980 had added fuel to the growth. The New Economic policy, 1991 has totally changed the facets of the banking sector. The doors are open to the private and foreign banks to India and the services are scattered and spread to various areas like wealth management, insurance, mutual funds, forex trading, financial services etc apart from the primary objective of accepting deposits and lending loans. This research paper focuses on evaluation of the performance and efficiency analysis of selected private sector banks with respect to some of the key indicators such as Total deposits, Total advances, Total Assets, Net Profit & Non-Performing Assets of last 10 years. The absolute figures and the average annual growth rates (AAGR) were calculated for each indicator over a period of 10 years and accordingly the rankings were assigned based on performance and efficiency analysis. Key area findings of the research were found and so incorporated in the study. The research found that has been performing well among the given three banks when compared with other two banks.

**Key Words: Private Sector Banks, Loans and Advances, Total Assets, Non-Performing Assets, Net Profit, Performance and Efficiency**

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#### **Introduction**

The lifeline of any economy for its prosperous growth lies in its financial system. Banking is one of the key elements in financial system. It is the oldest form of financial intermediary which accepts deposits from public and turns into loans for the corporate and needy sectors. In India, which is especially emerging economy, banks are very special for three reasons. One is, they lead to develop the other financial and market intermediaries. Secondly, huge dependence of corporate sector on banks due to well-structured and highly liquid equity and bond markets. Thirdly, it is a golden option for many house hold people in India to save money for assured return and safety. The structure and forms of banking industry has been ever changing along

with development of technology and growth of globalization all over the world. Thus, banks are now, not only competing with themselves but also with many other competitors in the market who arise due to deregulation and liberalization.

### **Indian Banking Structure- An Over View**

The whole Indian banking system is governed by Banking Regulation Act, 1949. The Apex body for all the banking transactions and activities in India is Reserve bank of India (RBI). Along with RBI, the other authorities that govern the banking operations are SEBI, Ministry of Finance.

**Public Sector banks** are the banks in which, the Government of India holds a majority stake. It is as good as the government running the bank. Since the public decide on who runs the government, these banks that are fully/partially owned by the government are called public sector banks. At present there are 12 banks in India which are under Public Sector Segment.

**Private-Sector Banks** are banks where greater parts of stake or equity are held by the private shareholders and not by government. They have grown faster and bigger over the two decades since liberalization using the latest technology, providing contemporary innovations and monetary tools and techniques. The new private sector banks are those that have gained their banking license since the liberalization in the 1990s. At Present, there are 22 Private Sector Banks in India.

### **Review of Literature**

**Hetal K Solanki (2022)** in their study on impact of specific variables on profitability of selected private sector banks in which six private banks were taken for the years 2009 to 2020. All the variables such as Return on Assets, Return on Equity, Net Interest Margin etc are analysed and regression analysis is used. It is found that liquidity risk is more and has a negative impact on specific variables and profitability of private banks. On the other hand, Solvency of the banks is having a positive impact on various models.

**Dr A Vini Infanta & R.Ashwini (2021)** in their study on performance analysis of selected private sector banks. The researchers had taken 3 private banks namely, ICICI, AXIS and South Indian bank. The period of study was from 2016 to 2020. The various indicators like Net Profit Margin, Return on Assets, Return on equity, Earnings per Share, Net Interest Margin are used to analyse the performance. It was found that the performance of ICICI and Axis banks are good in most of the aspects where as the performance of South Indian Bank was very poor and needs to be improved a lot.

**Dr Divyang Joshi (2021)** made their research analysis on selected public and private sector banks from 2016 to 2020. The key indicator variables taken for the purpose are Total Assets, Net Profits, Total Equity, CASA ratio, Capital Adequacy ratio etc. The study revealed that private sector banks are out-performing than public sector banks. HDFC is performing better than ICICI and SBI is better performing than BOB in their respective segments.

**N.Sathiya & S.Sangeetha (2021)** analysed the performance of selected five public and private sector banks from 2015 to 2019. Five key indicators are selected for the purpose of analysis such as Return on Assets, Total Income, Net Profit, Net Interest Income, Operating Profits. As per the study, Public sector banks are performing better than Private sector banks with respect to Total Income, Net Interest Income, Operating Profits. On the other hand, Net Profits and Return on Assets of Private banks are better than Public banks. On a whole, private sector banks are performing a step ahead of public sector banks as revealed by the study.

**Dr R Mayakakkannan , C.Jaya Shankar, 2020**– The research was made to study the financial performance of all Public and Private sector banks during 2015-2020. The CAMEL model was used. Mean differences and t-test is used to analyse the performance. The study revealed that though in some aspects, Public Sector Banks are good but in most of the aspects Private sector banks are outperforming.

**S.Panboli and Kiran Birda, 2019** - The study was mainly aimed to compare the performance of selected public private sector banks using CAMEL model. The period of study was 2012-2017. The banks selected are SBI, PNB, BOB, UBI, CB, HDFC, ICICI, KMB, AXIS and Yes bank. The study revealed that HDFC bank stood in 1<sup>st</sup> place, ICICI in 2<sup>nd</sup> and the least rank is given to Canara bank.

**Vinodh Kumar and Bhawan Malhotra,2017**- The authors aimed to compare the performance of selected private sector banks using CAMEL model. The period of study was 2007-2017. The banks selected are HDFC, ICICI, KMB, AXIS and Indus Ind bank. The study revealed that AXIS bank stood in 1<sup>st</sup> place, KMB in 2<sup>nd</sup> and the least rank is given to Indus Ind Bank.

**M. Keshari, 2016**- In his research paper “Analysing Financial Strength of Selected Banks”, has taken two banks namely, J & K Bank, South Indian Bank for the period of 2005-2014. CAMEL model is used along with Average, SD and One Way ANOVA. The study revealed that South Indian Bank is performing less than that of J & K Bank

**Dr Sneha S Shukla, 2015** -In her paper, analysis of financial strength of Public and private sector banks, the researcher has taken 3 Public (BOB, IDBI & PNB) and 3 Private (AXIS, ICICI & HDFC) banks for the period of 2010-2013. The research tool used was CAMEL model along with mean and Variance. It has concluded that, HDFC & BOB are top in Capital adequacy, HDFC in Asset quality, HDFC and ICICI in Management efficiency, HDFC in Earnings, ICICI in Liquidity. Over all, the study ranked HDFC in 1<sup>st</sup> place, ICICI in 2<sup>nd</sup> and BOB in 3<sup>rd</sup> place.

**Khatik and Nag, 2014** – Performances and Soundness of five national banks namely Dena Bank, UBI, SBI, BOB, UCO bank. CAMEL model was used along with other parameters like Percentages, Averages, Coefficient of Variations, One Way ANOVA tools were used. The findings showed that BOB ranked in top, UBI in 2<sup>nd</sup>, Dena bank in 3<sup>rd</sup>, SBI in 4<sup>th</sup> and UCO bank in 5<sup>th</sup> place.

## **Research Methodology**

### **Objectives of Study:**

- To analyse the Average Annual Growth Rate, Mean, Standard Deviations of selected private sector banks with respect to Deposits, Advances.
- To evaluate the Average Annual Growth Rate, Mean, Standard Deviations of selected private sector banks with respect to Net Profits, Net NPA
- To Compare the performances of all selected banks based on the key indicator analysis and to rank the banks accordingly.

### **Sample Size, Period and Variables under study**

The present study takes the top 3 Private Sector banks namely HDFC Bank, ICICI Bank and Kotak Mahindra Bank. The banks were chosen based on the highest market capitalization in BSE Bankex. The study covers the period of 10 years from 2011 to 2020. Total four key performance Indicators were taken.

### ***Financial Metrics used:***

1. Total Deposits
2. Total Advances
3. Total Net Profit
4. Net NPA

### **Relevance for Financial Metrics used**

The financial metrics are taken based on their placing in the financial statements and importance for analysis. For any bank, the two very important aspects are deposits and loans

which are the primary composites of liabilities and assets of any bank's balance sheet. The net profits will indicate the over all financial performance of the banks that can be inferred from the Profit and Loss statement. Net NPA will show the efficiency of the banks in maintaining and recovering the loans and advances on timely basis without any default.

**Statistical tools Used:** The annual growth rates were calculated over a period of 10 years. Then the Average Annual Growth Rate (AAGR) is calculated for all the values of the indicator for 10 years, followed by Mean and Standard deviation values for ranking.

**Average Annual Growth Rate ( AAGR) =**

$$(\text{Value of Year N} - \text{Value of Year N-1}) \div \text{Value of Year N}$$

### Limitations of Study

1. The study is carried for only three banks namely HDFC, ICICI and Kotak Mahindra Bank.
2. Also, the period of study is taken from 2011-2020 only.
3. Very important four indicators are used to analyze the performance and efficiency analysis of selected private sector banks.

### Performance and Efficiency Analysis of HDFC, ICICI & KMB.

#### 1. Deposits:

The deposits of a bank are the major part of the entire funding operations. Without deposits, banks can not lend loans and advances. The whole transaction cycle of banks is mainly depending upon the flow of money from public deposits

**Table 1: Comparative Analysis of Total Deposits Of HDFC, ICICI & KMB during 2011-2020**

Year	HDFC (Rs in Crores)	Annual Growth Rate (%)	ICICI (Rs in Crores)	Annual Growth Rate (%)	KMB (Rs in Crores)	Annual Growth Rate (%)
2011	2,08,287.21	-	2,59,106.00	-	27,312.98	-
2012	2,46,539.58	18.37	2,81,950.47	8.82	36,460.73	33.49
2013	2,96,091.77	20.10	3,14,770.54	11.64	49,389.14	35.46
2014	3,67,080.33	23.98	3,59,512.68	14.21	56,929.75	15.27
2015	4,50,283.65	22.67	3,85,955.25	7.36	72,843.46	27.95
2016	5,45,873.29	21.23	4,51,077.39	16.87	1,35,948.76	86.63
2017	6,43,134.25	17.82	5,12,587.26	13.64	1,55,540.00	14.41
2018	7,88,375.14	22.58	5,85,796.11	14.28	1,91,235.80	22.95
2019	9,22,502.68	17.01	6,81,316.94	16.31	2,24,824.26	17.56
2020	11,46,207.13	24.25	8,00,784.46	17.53	2,60,400.21	15.82
<b>AAGR</b>		<b>20.89</b>		<b>13.41</b>		<b>29.95</b>
<b>MEAN</b>	<b>5,61,437.50</b>		<b>4,63,285.71</b>		<b>1,21,088.51</b>	
<b>SD</b>	<b>2,95,830.18</b>		<b>1,70,999.69</b>		<b>80,023.54</b>	

Source: Annual Reports of HDFC, ICICI, KMB & Compiled Data

The above table is pertaining to total deposits of the selected private sector banks during the period 2011-2020. Deposits include- time, demand and current accounts. HDFC has captured highest growth rate of 24.25% in 2020 and with lowest of 17.01% in 2019. With regard to absolute terms, it has pooled 11,46,207.13 crores in 2020 which was the highest among all banks during 2011-2020. Though, ICICI has also outperformed with its highest growth rate of 17.53% in 2020, there was a declining growth rate of 7.36% in 2015. KMB has also performed exemplary in 2016 with 86.63% highest and with 14.41% In 2017. The AAGR is high in KMB, followed by HDFC and the third place goes to ICICI.

## 1. Total Loans and Advances

**Table 2: Comparative Analysis of Total Advances of HDFC, ICICI & KMB during 2011-2020**

Year	HDFC (Rs in Crores)	Annual Growth Rate (%)	ICICI (Rs in Crores)	Annual Growth Rate (%)	KMB (Rs in Crores)	Annual Growth Rate (%)
2011	1,60,831.42	-	2,56,019.31	-	41,241.95	-
2012	1,98,837.53	23.63	2,92,125.42	14.10	53,143.61	28.86
2013	2,47,245.12	24.35	3,29,974.13	12.96	66,257.65	24.68
2014	3,15,418.86	27.57	3,87,341.78	17.39	71,692.52	8.20
2015	3,83,407.97	21.56	4,38,490.10	13.20	88,632.21	23.63
2016	4,87,290.42	27.09	4,93,729.11	12.60	1,44,792.82	63.36
2017	5,85,480.99	20.15	5,15,317.31	4.37	1,67,124.91	15.42
2018	7,00,033.84	19.57	5,66,854.22	10.00	2,05,997.32	23.26
2019	8,69,222.66	24.17	6,46,961.68	14.13	2,43,461.99	18.19
2020	10,43,670.88	20.07	7,06,246.11	9.16	2,49,878.96	2.64
<b>AAGR</b>		<b>23.13</b>		<b>11.99</b>		<b>23.14</b>
<b>MEAN</b>	<b>4,99,143.97</b>		<b>4,63,305.92</b>		<b>1,33,222.39</b>	
<b>SD</b>	<b>2,82,251.88</b>		<b>1,42,666.26</b>		<b>75,810.60</b>	

**Source: Annual Reports of HDFC, ICICI, KMB & Compiled Data**

The above table is pertaining to total advances of the private sector banks during the period 2011-2020. Advances include all types of loans- Secured and Unsecured accounts. There has been a mixed growth among all banks with regard to advances. In absolute terms, HDFC showcased the highest number of advances of Rs 10,43,670.88 crores in 2020. Its highest growth rate is 27.57% in 2014 and 19.57% in 2018. ICICI showed the highest growth rate of 17.39% in 2014 with a low growth rate of 4.37% in 2017. Similarly, KMB recorded its highest growth rate of 63.36% in 2016 with a lowest of 2.64% in 2020. The Annual Average Growth rate (AAGR) is high in KMB followed by HDFC in second position and ICICI in third position. The Standard Deviation of advances are low in KMB, followed by ICICI and finally it is high in HDFC.

## 2. Total Net Profits:

Table 3: Comparative Analysis of Net Profits of HDFC, ICICI & KMB during 2011-2020

Year	HDFC (Rs in Crores)	Annual Growth Rate (%)	ICICI (Rs in Crores)	Annual Growth Rate (%)	KMB (Rs in Crores)	Annual Growth Rate (%)
2011	4,017.69	-	6,318.19	-	1,569.24	.-
2012	5,273.40	31.25	7,937.63	25.63	1,850.53	17.93
2013	6,900.28	30.85	10,129.88	27.62	2,204.21	19.11
2014	8,764.51	27.02	11,677.12	15.27	2,511.54	13.94
2015	10,700.05	22.08	12,942.30	10.83	3,065.08	22.04
2016	12,817.33	19.79	10,926.89	(15.57)	3,431.12	11.94
2017	15,287.40	19.27	11,340.33	3.78	4,949.98	44.27
2018	18,560.84	21.41	9,099.54	(19.76)	6,147.14	24.19
2019	22,445.61	20.93	5,689.16	(37.48)	7,119.70	15.82
2020	27,296.27	18.75	11,225.47	1.03	8,607.08	20.89
<b>AAGR</b>		<b>23.48</b>		<b>1.26</b>		<b>21.13</b>
<b>MEAN</b>	<b>13,206.34</b>		<b>9,728.65</b>		<b>4,145.56</b>	
<b>SD</b>	<b>7,281.37</b>		<b>2,282.79</b>		<b>2,311.39</b>	

Source: Annual Reports of HDFC, ICICI, KMB & Compiled Data

Net Profit is the key indicator of the annual performance of any organization. It is depending on two variables namely, total expenses and total incomes. From the above table, it can be seen that HDFC showcased a highest rate of NP of 31.25% in 2012 and in absolute terms in 2013 with Rs 27,296.27 Crores in 2020. Similarly, ICICI showed 27.62% highest rate in 2013 with a negative declining growth rate of (37.48%) in 2019. KMB showed its highest of 44.27% in 2017 and with decline of 11.94% in 2016. The AAGR was high in HDFC, followed by KMB and ICICI is in the third place. The Standard deviation (risk) of net profit is low in case of KMB, followed by ICICI and thirdly to HDFC bank.

## 3. Net NPA

Table 4: Comparative Analysis of Total Net NPA Of HDFC, ICICI & KMB during 2011-2020

Year	HDFC (Rs in Crores)	Annual Growth Rate (%)	ICICI (Rs in Crores)	Annual Growth Rate (%)	KMB (Rs in Crores)	Annual Growth Rate (%)
2011	296.41		2,407.36	-	1,186.74	.-
2012	352.33	18.87	1,860.84	(22.70)	1,806.30	52.21
2013	468.95	33.10	2,230.56	19.87	2,393.42	32.50
2014	820.03	74.87	3,297.96	47.85	3,146.41	31.46
2015	896.28	9.30	6,225.53	88.77	4,110.19	30.63
2016	1,320.37	47.32	12,963.08	108.22	2,522.14	(38.64)
2017	1,843.99	39.66	25,216.81	94.53	8,626.60	242.03
2018	2,601.02	41.05	27,823.56	10.34	16,592.00	92.34
2019	3,214.52	23.59	13,577.43	(51.20)	11,275.60	(32.04)
2020	3,542.36	10.20	10,113.86	(25.51)	1,744.81	(84.53)
<b>AAGR</b>		<b>33.10</b>	<b>10571.70</b>	<b>30.02</b>	<b>5340.42</b>	<b>36.22</b>
<b>MEAN</b>	<b>1,535.63</b>		<b>10,571.70</b>		<b>5,340.42</b>	
<b>SD</b>	<b>1,145.28</b>		<b>9,005.42</b>		<b>4,881.08</b>	

Source: Annual Reports of HDFC, ICICI & KMB, Compiled Data

Non-performing assets are those which could not be recovered for a specific period of time from the borrowers. Banks will be safe and grow better if these NPAs are at less and negative growth rates YOY. From the table, it can be seen that, HDFC showed a highest NPA rate of 74.87% in 2014 with a diminished NPA rate of 9.30 in 2015. ICICI showed the highest negative growth rate of (51.20%) in 2019 with a highest positive growth rate of 108.22% in 2016. KMB showed the highest declined negative growth rate of (84.53%) in 2020 with the highest positive growth rate of 242.03 % in 2017. The AAGR is low in case of ICICI, followed by HDFC and finally it is high in KMB. The Standard Deviation (Risk spread of NPA) is low in ICICI, followed by KMB and finally it is high in HDFC.

**Table 5: Over all Comparison and Ranking of AAGRs of Selected Banks**

Performance	AAGR			Mean			SD		
	HDFC	ICICI	KMB	HDFC	ICICI	KMB	HDFC	ICICI	KMB
Deposits	2	3	1	1	2	3	3	2	1
Advances	1.5	3	1.5	1	2	3	3	2	1
Net Profits	1	3	2	1	2	3	3	2	1
NPA	2	1	3	1	3	2	3	1	2
Average of Ranks	1.625	2.5	1.875	1	2.25	2.75	3	1.75	1.25
<b>Group Ranks</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>HDFC COMPOSITE RANK</b>		<b>1.67</b>							
<b>ICICI COMPOSITE RANK</b>		<b>2.33</b>							
<b>KMB COMPOSITE RANK</b>		<b>2</b>							

Overall Composite Rank	
<b>HDFC</b>	<b>1</b>
<b>KMB</b>	<b>2</b>
<b>ICICI</b>	<b>3</b>

### **Findings and Summary**

1. Kotak bank is having the highest average annual growth rate in deposits when compared with other banks. HDFC occupied the second position and ICICI bank is in third position.
2. Both HDFC and Kotak have equal average annual growth rates with regard to advances. ICICI bank occupied the least position in this regard.
3. HDFC is in the first rank with highest annual growth rate of net profits for 10 years, followed by KMB and ICICI bank.
4. ICICI is having the least annual growth rate of Net NPAs of the last 10 years, and the next positions occupied by HDFC and KMB.

5. With regard to the Mean value of deposits, advances and Net Profits, HDFC occupied the first rank, followed by ICICI and the least rank is occupied by KMB.
6. With regard to Mean value of Net NPAs, HDFC is in first position with less mean amount of NPAs, followed by KMB and finally by ICICI bank.
7. With regard to the Standard Deviation of deposits, advances and net profits, it can be seen that Kotak bank is in first position, followed by ICICI bank and finally by HDFC bank. This clearly indicates that the mean value of deposits, advances and net profits are not properly distributed to give the valid conclusion. Hence, the Standard Deviation is used for validity.
8. With regard to SD of NPA, ICICI is having the less SD, compared with Kotak and HDFC banks.
9. Overall, after grouping the ranks under each statistical tool, it is observed that, the performance of HDFC stood in 1<sup>st</sup> rank, followed by Kotak Mahindra bank in 2<sup>nd</sup> position and the third position by ICICI bank.

## **Conclusion**

For any bank, deposits and advances play a very important role to capture more business. ICICI bank should concentrate on the Year on Year (YoY) growth of its deposits, advances and net profits. Kotak Mahindra bank, on other hand, though performs well with regard to all parameters, it needs to get more amount of deposits, advances and net profit to maintain the standards all the years. HDFC bank, the top performer, though performing well with regard to all parameters, but it can be seen that the dispersion of the growth rates measured in terms of standard deviation is high and should be taken care of. If all the three banks could rectify the deficiencies stated above, surely, they will outperform in the banking sector and will surpass the public sector banks.

## **Scope for further research**

The above research is carried out with 3 selected private sector banks namely HDFC, ICICI and Kotak Mahindra based on their market capitalization in BSE Bankex index at the time of study. However, for a better performance analysis and comparison, some more banks may be added for the research. Also, some more specific variables such as Return on Assets, Return on Equity, Operating Profit, Total Income etc. may be taken for the study to get over all picture and better comparative analysis. Also, usage of charts/graphs and statistical methods like t-test to test may be used for more accurate and reliable results of study.

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