Financial Performance Appraisal of Indian Banks: A Comparative Study of BOB and HDFC Bank

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Abstract

Banks are the lifeline of any economy. They play pivotal role in the growth and development of a nation. Large number of reforms has been introduced from time to time in Indian banking sector by central bank of India. New technologieslike ATM, NEFT, RTGS etc has been introduced in Indian banking system to improve quality of banking services, customer satisfaction and their overall performance. There are number of other factors which have influence over the performance of the banks. Few of them are government reforms, growth rate of nation, introduction of new technology, inflation etc. Indian banking sector is mainly classified into public sector, private sector and foreign bank. On 30th August, 2019, Nirmala Sitharaman, Finance minister of India has made an announcement regarding merger of ten public sector banks into four banks. As a result the number of total public sector bank will fall down to 12 from 27. This measure was taken with the motive to improve the financial health and performance of Indian public sector banks. Therefore, it becomes important at this time to conduct a study in this regard. The aim of this study is to analyse and compare the performance of one public sector (Bank of Baroda) and one private sector (HDFC) Indian bank using CAMEL model. Secondary data i.e. annual report of Bank of Baroda and HDFC bank has been used to accomplish the purpose of this study.Financial year 2008-09 to 2017-18is the period of this study.Statistical tools like ratio analysis, mean, standard deviation, t-test are used to analyse financial performance of Indian banks. Financial performance of banks are measured based on five parameters that are capital adequacy, asset quality, managerialability, earning capability and liquidity. Performance of HDFC bank is found to be better than Bank of Baroda over these ten years.

Keywords: BOB, HDFC, Financial Performance, CAMEL Model, Financial Ratios, Commercial Banks.

Introduction

Indian banking system is going through a new era. This is technology driven phase where every Indian and foreign banksare trying to innovate new way to serve their customer. Information technology definitely has impact on the overall performance of bank and over customer's satisfaction. IT in banking sector brings new opportunity and challenges for the banks. Therefore, it becomes important to study and analyse the performance of Indian bank in technology based banking system.

Bank of Baroda (BOB)

Bank of Baroda is the second largest Indian bank which was established in 1908. It's headquarter is in Vadodara, Gujarat. It was established by Maharaja Sayajirao Gaekwad III. It serves around 82 million customersin around twenty two countries. It has 5573 branches and 55662 employees up to March 2018. All its branches are connected to core banking solution.

Housing Development Finance Corporation Limited (HDFC)

HDFC stands for Housing Development Finance Corporation limited. It was started in 1994 with headquarter in Mumbai. It has 4787 branches and 88252 employees up to March 2018.The bank has introduced new banking services using latest technology. These services include paper less auto loan within 30minute using biotechnology, personal loan using Net banking in just 10 sec, instant loan at ATM, missed call recharge etc.

Review of Literature

Yadav, M. (2015) has analysed the performance of Indian scheduled commercial bank. The period of this study was 2008-2012. He evaluates and compares the performance of new private bank, old private bank, public bank and foreign banks using CAMEL model. He found that there is constant growth in the no. of branches and deposit of all the banks over the study period. But growth in new private banks was exceptionally high as compared to other banks. The author discovered that the performance of private sector banks and foreign banks were better as compared to public sector banks and old private sector banks.

Chaudhuri, B. (2018)has compared the financial performance of SBI and ICICI bank using CAMEL model. The period of this study was 2011-2015. This study is analytical in nature and based on secondary data. The author found that the performance of both the banks is satisfactory. Return on asset, return on Equity and return on networth of ICICI bank is more than SBI which means profitability of ICICI is better than SBI. Current and quick ratio of ICICI bank is more than SBI which indicates that liquidity position of ICICI is superior than SBI.

Chaudhary, K., & Sharma, M. (2011) havecompared the performance of public and private sector Indian banks. The authors take asset quality as the parameter for judging the performance of Indian bank. They compared net performing asset, standard asset, doubtful asset and loss asset of all public sector banks with all the private sector Indian banks. They found that NPA of public sector bank is more than private sector for year 2009 & 2010. They also observed that sub-standard and loss asset of private banks are more than public sector bank in 2009 & 2010. The authors have suggested ways in which bank could improve the quality of their asset.

Malhotra D. K., Poteau R., & Singh, R.(2011) have evaluated the Indian banks performance. the period of this study was 2005-09. The authors talk about the 2007 economic crisis in their paper. The objective of this study is to compare the performance of Indian banks between pre and post crisis period. They found that Indian banks were not much affected by the crisis. Indian Bank's financial position was healthy even after the crisis. They used ratio analysis to measure and analyse the banks performance.

Objectives of the study

To analyse the financial performance of Bank of Baroda and HDFC bank.

To compare thefinancial performance of Bank of Baroda and HDFC bank.

Hypothesis

H0: There is no significance difference in the financial performance of public and private sector Indian banks.

H1: There is significance difference in the financial performance of public and private sector Indian banks.

Research Methodology

a) Period of study

Financial data of banks for the financial year 2008-09 to 2017-18 has been collected for the analysisof their performance.

b) Data Collection

Data has been collected using secondary sources like annual report of banks of different years from the website of respective bank, RBI report on trend and progress and profile of Indian bank from RBI website.

c) Tools and Techniques

Descriptive statistics like Mean, Standard Deviation, Percentageand Ratio analysis and t test are the statistical tools are used for analysis of bank's financial data. CAMEL model has been used for analysing the financial performance of banks over the years.

Data Analysis

Capital Adequacy Ratio

Capital Adequacy Ratio is used to analyse the financial strength of a firm. Higher the ratio healthier is the financial position of the firm. Every bank should have sufficient amount of capital to provide assurance to stakeholders as well to protect itself from bankruptcy.

Table-1 Comparative Analysis of CRAR and Debt to Equity Ratio

	BANK OF BARODA				HDFC			
Year	**CRAR %**	**Growth %**	**Debt/Equity**	**Growth %**	**CRAR %**	**Growth %**	**Debt/Equity**	**Growth %**
2008	12.88		11.51		15.69		6.05	
2009	12.84	-0.311	12.11	5.22	17.44	11.154	4.33	-28.41
2010	13.02	1.402	11.41	-5.75	16.22	-6.995	4.46	2.87
2011	12.95	-0.538	11.10	-2.76	16.52	1.8496	5.05	13.36
2012	12.09	-6.641	11.90	7.25	16.8	1.6949	5.21	3.18
2013	12.28	1.572	12.76	7.22	16.07	-4.345	5.57	6.87
2014	12.6	2.606	12.30	-3.64	16.79	4.4804	4.80	-13.85
2015	13.17	4.524	11.35	-7.72	15.53	-7.504	5.00	4.14
2016	12.24	-7.062	10.89	-4.06	14.55	-6.31	4.57	-8.61
2017	12.13	-0.899	10.19	-6.42	14.82	1.8557	5.35	17.18

Source: Annual Report of BOB and HDFC of various years (2008-2009 to 2017-18) and Author's Calculation

Table 1 displays capital adequacy ratio and debt equity ratio of BOB and HDFC bank. It is explored from above table that CRAR of HDFC is more than BOB for all ten years. As per Basel III, Tier I and Tier II Capital should be 8% of risk weighted asset. It is found that CRAR of both the banks are above 8%. BOB has higher Debt/Equity ratio than HDFC for all ten year. Ideal debt equity ratio is 2. But both these banks have debt/equity much higher than the ideal ratio which indicates that bank should take measures to lower it.

Table-2 Comparative Analyses of Advance to Total Asset and Equity to Total Asset Ratio

(Values in %)

	BANK OF BARODA				HDFC			
Year	Advance/Total Asset	Growth	Equity/Total Asset	Growth	Advance/Total Asset	Growth	Equity/Total Asset	Growth
2008	63.316		5.66		53.92		4.18	
2009	62.891	-0.672	5.43	-4.17	56.44	4.68	3.89	-6.92
2010	63.805	1.454	5.87	8.18	57.68	2.20	3.96	1.81
2011	64.244	0.688	6.14	4.61	57.83	0.26	3.81	-3.82
2012	59.983	-6.633	5.84	-4.88	59.88	3.54	3.95	3.58
2013	60.198	0.359	5.46	-6.62	61.64	2.93	3.76	-4.81
2014	59.870	-0.544	5.57	2.11	61.90	0.42	3.79	0.88
2015	57.162	-4.524	5.99	7.47	65.54	5.89	3.89	2.63
2016	55.155	-3.510	5.80	-3.13	64.20	-2.05	3.84	-1.44
2017	59.366	7.634	6.03	3.91	61.88	-3.62	3.77	-1.77

Source: Annual Report of BOB and HDFC of various years and Author's Calculation

Table 2 shows the comparative analysis of the performance of Bank of Baroda and HDFC bank on the basis of advance to total asset and equity to total asset ratios. It is found that from the year 2008-2012 advances to total assetof BOB was more than HDFC but from 2013-2017 advance to total asset of HDFC was more than BOB. There is a growth in the advance to total asset in HDFC while Bank of Baroda shows decline over the year.Percentage of equity to total asset is more in BOB than HDFC. There is a fluctuating trend in this ratio over the year of both the banks.

Table-3 Group Statistics

	Bank name	N	Mean	Std. Deviation	Std. Error Mean
CRAR	Bank of Baroda	10	12.6200	.40398	.12775
	HDFC	10	16.0430	.91012	.28780

Debt/Equity	Bank of Baroda	10	11.5520	.74622	.23597
	HDFC	10	5.0390	.53195	.16822
Advance/Total Asset	Bank of Baroda	10	60.60	2.986	.944
	HDFC	10	60.09	3.618	1.144
Equity/ Advance	Bank of Baroda	10	5.7791	.24359	.07703
	HDFC	10	3.8840	.12580	.03978

Source: Author's compilation

Table-4 T Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
CRAR	Equal variances assumed	4.682	.044	-10.87	18	.000	-3.423
	Equal variances not assumed			-10.87	12.414	.000	-3.423
Debt/Equity	Equal variances assumed	.938	.346	22.47	18	.000	6.513
	Equal variances not assumed			22.47	16.270	.000	6.513
Advance/Total asset	Equal variances assumed	.527	.477	.342	18	.736	.508
	Equal variances not assumed			.342	17.374	.736	.508
Equity/ Advance	Equal variances assumed	5.446	.031	21.859	18	.000	1.8951
	Equal variances not assumed			21.859	13.482	.000	1.8951

Source: Author's Compilation

In above the above Table 4, p value of levene's test for CRAR and Equity/ Advance is less than 0.05 which means homogeneity of variance is not present in these ratio of both the banks but homogeneity of variance is present in Debt/Equity and Advance/Total asset of banks as the p value of levene's test is more than 0.05. The p value of t test for all the ratio except advance/total asset is less than 0.05 which means that there is significance difference in these ratio of both the bank. The mean value of CRAR is more in HDFC bank while debt/equity and equity/advance ratio is more in BOB.

Asset Quality

Asset quality ratio calculates what percentage of total advance is comprised of non-performing asset. Bank should try to keep it's NPA as low as possible. Therefore, lower the value of these ratios better is the quality of bank's asset.

Table-5 Comparative analysis of Gross NPA/Gross Advanceand Net NPA/Net Advance

(Values in %)

	BANK OF BARODA				HDFC			
Year	**Gross NPA/Gross Advance**	**Growth**	**Net NPA/Net Advance**	**Growth**	**Gross NPA/Gross Advance**	**Growth**	**Net NPA/Net Advance**	**Growth**
2008	1.28		0.31		1.98		0.63	
2009	1.37	7.16	0.34	9.68	1.43	-27.78	0.31	-50.79
2010	1.38	0.51	0.35	2.94	1.05	-26.57	0.19	-38.71
2011	1.55	12.70	0.54	54.29	1.00	-4.76	0.18	-5.26
2012	2.43	56.56	1.28	137.04	0.95	-5.00	0.20	11.11
2013	2.99	22.98	1.52	18.75	0.98	3.16	0.28	40.00
2014	3.80	26.99	1.89	24.34	0.94	-3.98	0.25	-10.71
2015	10.56	177.95	5.06	167.72	0.95	0.96	0.28	12.00
2016	11.15	5.56	4.72	-6.72	1.05	10.53	0.33	17.86
2017	13.21	18.55	5.49	16.31	1.30	23.81	0.40	21.21

Source: Annual Report of BOB and HDFC of various years and Author's Calculation

In the above table 5, it is observed that BOB has highergross NPA to gross advanceand net NPA to net advance ratio than HDFC bank which indicates that asset quality of HDFC bank is better than BOB. It is also found that there is a continuous growth in both these ratio of BOB but there is decline in the gross NPA to gross advanceratio of HDFC bank which means that HDFC bank had made efforts to improve the quality of it's asset but net NPA to net advance ratio of HDFC fall in 2008-2011 and rises thereafter.

Table-6 Comparative Analysis of Net NPA/ Total Asset and Gross NPA/Total Asset

(Values in %)

	BANK OF BARODA				HDFC			
Year	**Net NPA/ Total Asset**	**Growth**	**Gross NPA/Total Asset**	**Growth**	**Net NPA/ Total Asset**	**Growth**	**Gross NPA/Total Asset**	**Growth**
2008	0.20		0.81		0.34		1.08	
2009	0.22	9.09	0.86	6.44	0.18	-48.28	0.82	-24.61
2010	0.22	1.97	0.88	1.97	0.11	-39.17	0.61	-25.06
2011	0.35	56.38	1.00	13.47	0.10	-2.65	0.59	-3.20
2012	0.77	122.03	1.46	46.17	0.12	17.01	0.59	0.03
2013	0.92	20.03	1.80	23.42	0.18	45.68	0.63	6.37
2014	1.14	23.55	2.27	26.30	0.15	-15.05	0.58	-7.68
2015	2.89	154.39	6.04	165.37	0.19	22.72	0.62	6.43
2016	2.60	-9.99	6.15	1.86	0.21	14.60	0.67	8.83
2017	3.26	25.35	7.84	27.60	0.24	14.53	0.80	18.56

Source: Annual Report of BOB and HDFC of various years and Author's Calculation

In the above table 6, it is observed that BOB has higherNet NPA to Total Asset and Gross NPA/Total Asset than HDFC bank which means HDFC bank is in a better position than BOB in terms of asset quality. It is observed that there is a continuous growth in both these ratios of BOB but there is a fluctuating trend in both these ratios of HDFC bank over these 10 year.Therefore, It could be concluded on the basis of the above ratios that the asset quality of HDFC is better that BOB.

Table-7 Group Statistics

	Bank Name	N	Mean	Std. Deviation
Gross NPA/Gross Advance	Bank of Baroda	10	4.9720	4.71687
	HDFC	10	1.1630	.33059
Net NPA/Net Advance	Bank of Baroda	10	2.1500	2.10670
	HDFC	10	.3050	.13310
Net NPA/Total Asset	Bank of Baroda	10	1.2570	1.19895
	HDFC	10	.1820	.07146
Gross NPA/Total Asset	Bank of Baroda	10	2.9110	2.68173
	HDFC	10	.6990	.15906

Source: Author's Calculation

Table-8T Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Gross NPA/Gross Advance	Equal variances assumed	31.31	.000	2.547	18	.020	3.809
	Equal variances not assumed			2.547	9.088	.031	3.809
Net NPA/Net Advance	Equal variances assumed	28.32	.000	2.764	18	.013	1.845
	Equal variances not assumed			2.764	9.072	.022	1.845
Net NPA/Total Asset	Equal variances assumed	26.45	.000	2.830	18	.011	1.075
	Equal variances not assumed			2.830	9.064	.020	1.075
Gross NPA/Total Asset	Equal variances assumed	29.92	.000	2.604	18	.018	2.212
	Equal variances not assumed			2.604	9.063	.028	2.212

Source: Author's Calculation

From the above table 8, it is found that homogeneity of variance is present in all the four ratio of both the banks. It is also observed that the p value or significance values of t test for all the four ratios of asset quality is less than 0.05 which means that there is a significance difference in the asset quality of both the banks. From the mean values of these four ratios, it is found that all the asset quality ratios of BOB has higher value than HDFC bank which indicates that the asset quality of HDFC bank is better than BOB.

Management Efficiency

Management Efficiency ratios is used to evaluate the ability of managers to generate revenue, their decision making and leadership skill etc. Higher the ratio better is the management efficiency.

Table-9 Comparative Analysis of Business Per Employee and Profit Per Employee

	BANK OF BARODA				HDFC			
Year	**Business Per Employee (cr.)**	**Growth %**	**ProfitPer Employee(cr.)**	**Growth %**	**Business Per Employee (cr.)**	**Growth %**	**Profit Per Employee (cr.)**	**Growth %**
2008	9.14		0.06		4.46		0.43	
2009	10.68	16.85	0.08	29.84	5.90	32.29	0.57	33.33
2010	12.29	15.07	0.11	34.93	6.53	10.68	0.70	23.24
2011	14.66	19.28	0.12	12.08	6.54	0.15	0.80	14.29
2012	16.89	15.21	0.104	-12.45	7.50	14.68	1.00	25.00
2013	18.65	10.42	0.099	-5.03	9.83	31.07	2.49	149.00
2014	18.89	1.29	0.07	-30.28	10.70	8.85	2.55	2.41
2015	16.8	-11.06	-0.10	-250.70	11.55	7.94	2.72	6.67
2016	17.49	4.11	0.03	74.54	14.21	23.03	3.09	13.60
2017	17.68	1.09	-0.04	-265.58	16.40	15.41	3.65	18.12

Source: Annual Report of BOB and HDFC of various years and Author's Calculation

Table 9 analyses the management efficiency of both the banks. It is assumed that the higher the value of these ratiosbetter is the efficiency of management. It is observed from the above table that there is constant growth in the business per employees of both the banks but the rate of growth in HDFC bank is more than BOB. Profit per employee of BOB increases in 2008-2011 but declines thereafter while there is a continuous growth in profit per employee of HDFC bank over these ten years.

Table-10 Comparative Analysis of ROE and ROA

	BANK OF BARODA				HDFC			
Year	**ROE**	**Growth**	**ROA**	**Growth**	**ROE**	**Growth**	**ROA**	**Growth**
2008	19.56		0.98		17.2		1.28	
2009	22.19	13.45	1.10	12.24	16.3	-5.1	1.53	19.53
2010	21.42	-3.47	1.18	7.27	16.7	2.7	1.58	3.27
2011	19.11	-10.78	1.12	-5.08	19	13.3	1.77	12.03
2012	14.59	-23.65	0.82	-26.79	20.3	7.28	1.9	7.34
2013	13.00	-10.90	0.69	-15.85	19.5	-4.1	1.72	-9.47
2014	9.21	-29.15	0.48	-30.43	16.5	-16	1.73	0.58
2015	-17.6	-291.53	-0.80	-266.67	16.9	2.67	1.73	0.00
2016	4.53	74.32	0.20	75.00	16.3	-3.8	1.68	-2.89
2017	-7.64	-268.65	-0.34	-270.00	16.5	1.17	1.64	-2.38

Source: Annual Report of BOB and HDFC of various years and Author's Calculation

From the above table 10, it could be concluded that return on equity of BOB is more than HDFC bank from 2008-2011 but ROE of HDFC bank is more than BOBfrom 2012-2017. It is observed that ROE of BOB is constantly declining over these ten year which indicates poor performance while on the other hand HDFC had fluctuating ROE. on the other side, return on asset of HDFC is more than BOB . Steady and constant growth is seen in the ROA of HDFC bank except in 2013,2014& 2016 while there is a constant decline in ROA of BOB.

Table-11 Group Statistics

	Bank Name	N	Mean	Std. Deviatio n	Std. Error Mean
Business Per Employee	Bank of Baroda	10	15.31	3.46580	1.09598
	HDFC	10	9.358	3.87625	1.22578
Profit Per Employee	Bank of Baroda	10	.0530	.07134	.02256
	HDFC	10	.1110	.05065	.01602

ROE	Bank of Baroda	10	9.833	13.28688	4.20168
	HDFC	10	17.51	1.50450	.47577
ROA	Bank of Baroda	10	.5430	.67026	.21195
	HDFC	10	1.656	.16715	.05286

Source: Author's Calculation

Table-12 T Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Business Per Employee	**Equal variances assumed**	.114	.740	3.62	18	.002	5.95
	Equal variances not assumed			3.62	17.7	.002	5.95
Profit Per Employee	**Equal variances assumed**	.637	.435	-2.09	18	.050	-.058
	Equal variances not assumed			-2.09	16.2	.052	-.058
ROE	**Equal variances assumed**	12.8	.002	-1.81	18	.086	-7.67
	Equal variances not assumed			-1.81	9.23	.102	-7.67
ROA	**Equal variances assumed**	10.8	.004	-5.09	18	.000	-1.11
	Equal variances not assumed			-5.09	10.1	.000	-1.11

Source: Author's Calculation

In the above table12, homogeneity of variance is observed in case of business per employee and profit per employee as p value of levene's test in both these cases is more than 0.05 while homogeneity of variance is not assumed in ROE and ROA as p value of levene's test is less than 0.05. It is found that there is a significant difference in business per employee and ROA of both the banks as p value of t-test for these ratios is less than 0.05. But the p value of ROE is more than 0.05 which indicates that there is no significant difference in ROE of both the banks. The p value of profit per employee is equal to 0.05 which means there is a significant difference in profit per employee of both banks.

Mean value of business per employee of BOB is more than HDFC while mean value of profit per employee and ROA is more in case of HDFC bank. Therefore, it could be concluded that management efficiency of HDFC is superior to BOB.

Earning

Earnings ratio analyses the earning capability of a firm. Higher the value of these ratio means better is the earning capacity of that firm.

Table-13 Comparative Analysis of Operating Profit/Total Asset and Net Interest/ Total Income

(Values in %)

	BANK OF BARODA				HDFC			
Year	**Operating Profit/Total Asset**	**Growth**	**Net Interest/ Total Income**	**Growth**	**Operating Profit/Total Asset**	**Growth**	**Net Interest/ Total Income**	**Growth**
2008	1.47		28.70		2.96		37.83	
2009	1.52	3.59	30.45	6.09	3.04	2.84	41.26	9.08
2010	1.58	3.53	35.64	17.05	2.94	-3.24	43.42	5.23
2011	1.35	-14.56	31.17	-12.54	2.78	-5.55	38.28	-11.83
2012	0.88	-34.45	29.14	-6.51	2.85	2.72	37.72	-1.47
2013	1.41	59.54	27.57	-5.40	2.92	2.33	37.68	-0.11
2014	1.39	-1.57	27.84	0.99	2.95	0.90	38.97	3.44
2015	1.31	-5.31	25.97	-6.73	3.01	2.25	38.88	-0.25
2016	1.58	20.29	27.60	6.29	2.98	-1.16	40.61	4.46
2017	1.67	5.58	30.85	11.78	3.07	2.94	42.00	3.42

Source: Annual Report of BOB and HDFC of various years and Author's Calculation

From the above table 13, it is explored that operating profit to total asset and net interest to total income of HDFC is more than BOB for all ten years. There is fluctuating trend in both these ratios of both banks.

Tabl e-14 Comparative Analysis of Dividend Payout and Net Profit/ Total Asset

(Values in %)

	BANK OF BARODA				HDFC			
Year	**Dividend Payout**	**Growth**	**Net Profit/ Total Asset**	**Growth**	**Dividend Payout**	**Growth**	**Net Profit/ Total Asset**	**Growth**
2008	17.22		0.98		22.17		1.22	
2009	20.90	21.37	1.10	12.20	21.72	11.15	1.32	8.052
2010	17.76	-15.02	1.18	7.70	22.72	-7.00	1.42	7.037
2011	16.22	-8.67	1.12	-5.42	22.70	1.85	1.53	8.014
2012	23.65	45.81	0.82	-26.84	22.77	1.69	1.68	9.878
2013	23.86	0.89	0.69	-15.92	22.68	-4.35	1.72	2.647
2014	25.06	5.03	0.48	-30.97	23.62	4.48	1.73	0.312
2015	0	-100	-0.80	-269.08	23.51	-7.50	1.73	0.269
2016	24.6		0.20	75.23	23.32	-6.31	1.68	-2.904
2017	0	-100	-0.34	-269.68	23.62	1.86	1.64	-2.417

Source: Annual Report of BOB and HDFC of various years and Authors Calculation

From the above table 14, it is explored that dividend payout and net profit to total asset of HDFC is more than BOB. There is fluctuating trend in both these ratios of both the banks. That is there is rise and fall in both these ratio of both the banks over past ten years.

Table-15 Group Statistics

	Bank Name	N	Mean	Std. Deviation	Std. Error Mean
Operating profit/Total asset	Bank of Baroda	10	1.4160	.22001	.06957
	HDFC	10	2.9500	.08628	.02728
Net Income/Total income	Bank of Baroda	10	29.4930	2.71895	.85981
	HDFC	10	39.6650	2.03025	.64202
Net profit/Total asset	Bank of Baroda	10	.5430	.67026	.21195
	HDFC	10	1.5670	.18613	.05886
Dividend Payout	Bank of Baroda	10	16.8730	9.43028	2.98212
	HDFC	10	22.8830	.63643	.20126

Source: Author's compilation

Table-16 T test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Operating Profit/Total Asset	**Equal variances assumed**	2.715	.117	-20.5	18	.000	-1.53
	Equal variances not assumed			-20.5	11.7	.000	-1.53
Net Income/Total Income	**Equal variances assumed**	.250	.623	-9.47	18	.000	-10.1
	Equal variances not assumed			-9.47	16.6	.000	-10.1
Net Profit/Total Asset	**Equal variances assumed**	9.221	.007	-4.65	18	.000	-1.02
	Equal variances not assumed			-4.65	10.3	.001	-1.02
Dividend Pay out	**Equal variances assumed**	11.137	.004	-2.01	18	.060	-6.01
	Equal variances not assumed			-2.01	9.08	.075	-6.01

Source: Author's Calculation

In the above table 16, p value of levene's test for operating profit to total asset, net interest to total income and net profit to total asset is more than 0.05 therefore it could be concluded that there is homogeneity of variance in all these ratio while dividend payout ratio does not have equal variance as the p value is more than 0.05. It is also observed that there is significance difference in the operating profit to total asset, net interest to total income and net profit to total asset of both the as the p value of t-test for all these three ratio is less than 0.05. The mean value of these three ratio of HDFC is more than BOB, therefore it is concluded that HDFC bank has better earning capability than BOB.It is found that p value of dividend payout ratio is more than 0.05 therefore it indicates that there is no significance difference in the dividend pay-out of both these banks.

Liquidity

Liquidity refers to the ability of a firm to meet its current liability as and when it arises. Higher the value of these ratios better is the liquidity position of a firm.

Table-17 Comparative analysis of Liquid Asset/ Total Asset and Liquid Asset/ Total Deposit
(Values in %)

	BANK OF BARODA				HDFC			
Year	**Liquid Asset/ Total Asset**	**Growth**	**Liquid Asset/ Total Deposit**	**Growth**	**Liquid Asset/ Total Asset**	**Growth**	**Liquid Asset/ Total Deposit**	**Growth**
2008	10.59		12.52		9.56		12.28	
2009	12.74	20.31	14.70	17.42	13.49	41.09	17.97	46.32
2010	13.93	9.33	16.35	11.21	10.70	-20.71	14.22	-20.84
2011	14.35	2.96	16.67	1.98	6.20	-42.08	8.49	-40.33
2012	15.61	8.81	18.02	8.09	6.81	9.98	9.21	8.50
2013	19.84	27.14	23.01	27.66	8.05	18.16	10.78	17.02
2014	20.75	4.56	24.02	4.42	6.15	-23.58	8.06	-25.20
2015	19.94	-3.88	23.33	-2.90	5.49	-10.77	7.12	-11.63
2016	21.65	8.57	25.01	7.21	5.67	3.21	7.61	6.78
2017	12.90	-40.42	15.71	-37.18	11.55	103.87	15.58	104.89

Source: Annual Report of BOB and HDFC of various years and Authors Calculation

From the above table 17, it is explored that liquid asset to total asset and liquid asset to total deposit of BOB is increasing constantly except in year 2015 & 2017 while there is fluctuating trend seen in case of HDFC. It is also observed that liquid asset to total asset and liquid asset to total deposit is more in BOB than HDFC. Therefore, it could be clearly concluded that BOB has better liquidity position than HDFC bank.

Table-18 Comparative Analysis of Credit Deposit Ratio

(Values in %)

	BANK OF BARODA		HDFC	
Year	**Credit Deposit**	**Growth**	**Credit Deposit**	**Growth**
2008	82.36		69.24	
2009	84.47	2.56	75.17	8.56
2010	86.77	2.72	76.70	2.04
2011	86.86	0.10	79.21	3.28
2012	82.03	-5.56	80.92	2.16
2013	86.15	5.02	81.79	1.08
2014	84.82	-1.54	81.71	-0.10
2015	78.29	-7.70	83.24	1.87
2016	71.86	-8.21	85.64	2.88
2017	76.92	7.04	84.68	-1.12

Source: Annual Report of BOB and HDFC of various years and Author's Calculation

From the above table 18, it is found that credit deposit ratio of BOB is more than HDFC in year 2008-2015 but credit deposit ratio of HDFC exceed BOB from 2015-2017. There is fluctuating trend observed in BOB while there is a constant rise in credit deposit ratio of HDFC bank besides 2014 & 2017.

Table-19 Group Statistics

	Bank Name	N	Mean	Std. Deviation	Std. Error Mean
Liquid asset/ Total asset	Bank of Baroda	10	16.23	3.95658	1.25118
	HDFC	10	8.367	2.80732	.88775
Liquid asset/ Total Deposit	Bank of Baroda	10	18.93	4.48234	1.41744
	HDFC	10	11.13	3.74363	1.18384
Credit Deposit %	Bank of Baroda	10	82.05	4.94571	1.56397
	HDFC	10	79.83	4.96114	1.56885

Source: Author's Calculation

Table-20 T Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Liquid asset/ Total asset	Equal variances assumed	2.89	.106	5.12	18	.000	7.86
	Equal variances not assumed			5.12	16.2	.000	7.86
Liquid asset/ Total Deposit	Equal variances assumed	1.08	.313	4.22	18	.001	7.80
	Equal variances not assumed			4.22	17.4	.001	7.80
Credit Deposit %	Equal variances assumed	.000	.986	1.00	18	.329	2.22
	Equal variances not assumed			1.00	18	.329	2.22

Source: Author's Calculation

In the above table 20, on applying levene's test,p value of liquid asset to total asset, liquid asset to total depositand credit deposit ratiocomes out to bemore than 0.05 therefore it is concluded that there is homogeneity of variance in these ratio. On applying t test, it is observed that there is significance difference in the liquid asset to total asset and liquid asset to total deposit of both the banks as the p value of these ratios is less than 0.05. The mean value of these ratios of BOB is more than HDFC, therefore it is concluded that BOB has better liquidity position than HDFC. Since the p value of t test for Credit deposit ratio is more than 0.05, therefore there is no significance difference in the mean value of credit deposit ratio of both these banks.

Findings

From the above discussions, it is found that capital adequacy ratio and debt equity ratio of HDFC is better than BOB while BOB has superior advance to asset and equity to total asset ratio. Therefore, both banks are equally good in terms of capital adequacy.

Asset quality, Management efficiencyand earning capability of HDFC bank is better than Bank of Baroda.

Liquidity position of Bank of Baroda is superior to HDFC bank.Therefore, it could be concluded that the overall performance of HDFC is better than Bank of Baroda.

Conclusion

From the above finding, it could be concluded that there is a significance difference in the performance of public and private sector Indian commercial banks. Hence, the null hypothesis is rejected.

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