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Profitability and Efficiency of Banks of India: A Comparative Case Study of OBC and HDFC Bank

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INTRODUCTION

This paper focuses on the achievement and performance of Nationalised Banks vis-à-vis Private Sector Banks. The parameters selected for evaluation of performance of various categories of banks are Profitability and Productivity. An Eleven year period (2000-2001 to 2010-2011) has been selected for evaluating the performance. The logic of selection of this period is to find out the impact of government's decontrolled and liberalized policies on Nationalised banks as compared to other categories of banks like Private Sector Banks. The other reason is that the new Private Sector Banks, which are having major share in asset holding, started their business commercially from the year 1996 onwards; to segregate the overall result of the new Private Sector banks it is more appropriate to select this period.

Keeping in view of the transformation and liberalization of the Indian Banking structure, it is imperative that the Performance and Efficiency of the Indian banks in respect of the various key parameters have been studied. Data have been collected from various sources and massaged, interpolated and Spearman Rank Correlation Test has been applied to HDFC and Oriental Bank of Commerce – 10 parameters have been taken.

Objectives of the Study are as under:-

1. To analyze the Productivity (price/technological/multiple scale) efficiency parameters in Indian banks.
2. Since the standard benchmarks have certain inherent flaws, comparative efficiency analysis and productivity measurement in terms of financial key ratios has been studied.
3. Best practice analysis in terms of efficiency, management review, management audits, operational review, comprehensive staffing models using spearman's rank correlation test.
4. Analysis and implementing the Spearman Rank Correlation Test as a case study in HDFCBank and OBC and for Nationalized and Private Banks has been statistically interpolated so that cost saving measures can be adopted at the management and branch level.

The study makes use of Ratio Analysis and Spearman's Rank Correlation Test to compare Profitability and Productivity of different categories of banks. *Ratio analysis is a powerful tool of Financial Analysis*. In financial analysis, ratios are generally used as benchmarks for evaluating a firm's position or performance. The absolute values may not provide us meaningful values until and unless they are related to some other relevant information. Ratios represent the relationship between two or more variables. Ratios help to summarize large data to draw qualitative judgments about the organisation's performance.

Spearman's Rank Correlation is a technique used to test the direction and strength of the relationship between two variables. In other words, it is a device to show whether any one set of numbers has an effect on another set of numbers. It uses the statistic **Rk** which falls between -1 and +1.

Procedures for Using Spearman's Rank Correlation

1. State the null hypothesis i.e. "There is no relationship between the two sets of data."
2. Rank both sets of data from the highest to the lowest. Make sure to check for tied ranks.

3. Subtract the two sets of ranks to get the difference **D**.
4. Square the values of **D**.
5. Add the squared values of **D** to get Sigma $\mathbf{D}^2$.
6. Use the formula Rk = 1 – (6Sigma $\mathbf{D}^2/n^3$-n) where n is the number of ranks you have.
7. If the **Rk** value…
    - Is " -1", there is a perfect negative correlation
    - Falls between "-1", and -0.5, there is a strong negative correlation.
    - Falls between -0.5 and 0, there is a weak negative correlation.
    - Is 0, there is no correlation
    - Falls between 0 and 0.5, there is a weak positive correlation
    - Falls between 0.5 and " 1",, there is a strong positive correlation
    - Is "1"; there is a perfect positive correlation between the two sets of data.
8. If the **Rk** value is 0, state that null hypothesis is accepted. Otherwise say it is rejected.

The sample used for the study is two banks viz. OBC and HDFC Bank.

Performance Analysis of Oriental Bank of Commerce (As on march 31)											
Item	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
No. of Branches	969	1007	1028	1050	1138	1161	1224	1344	1422	1530	1640
Credit-Deposit Ratio (CDR)	44.88	49.70	52.59	55.17	52.87	66.89	68.97	70.09	69.64	69.43	68.97
Investment-Deposit Ratio (IDR)	49.83	48.18	49.58	47.08	38.33	33.50	32.31	32.44	28.96	29.76	30.26
Ratio of interest Margin to Total Assets	3.06	3.28	3.64	3.88	3.21	2.84	2.55	2.04	1.96	2.33	2.8
Return on Assets (ROA)	0.8	1	1.3	1.7	2.01	1.39	1.21	1.02	0.88	0.91	1.03
Cost of Deposits	8.28	7.64	6.97	5.46	4.71	4.92	5.77	6.9	7.41	6.43	5.76
Cost of Funds	8.2	7.55	6.82	5.35	4.67	4.92	5.74	6.83	7.27	6.21	5.56
Ratio of Burden to Total Assets	0.99	0.19	0.13	-0.21	0.61	0.73	0.59	0.55	0.31	0.39	0.62
Return on Advances	11.79	11.22	10.29	9	8.06	8.03	8.49	9.8	10.6	9.96	9.98
Business per Employee (Rs lakh)	263.2	318	343	416	512.2	570.3	743	924.4	1142	1331	1419.5
Ratio of Net NPA to Net Advances	3.6	3.2	1.44	0	1.29	0.49	0.49	0.99	0.65	0.87	0.98
Return on Equity	13.63	20.23	24.51	28.67	24.19	13.11	10.78	6.21	13.51	14.51	15.55

Performance Analysis of HDFC Bank (As on March 31)											
Item	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
No. of Branches	121	156	288	358	419	515	639	745	1412	1725	1986
Credit-Deposit Ratio (CDR)	39.77	38.6	52.53	58.35	70.33	62.84	68.74	62.94	69.24	75.17	76.7
Investment-Deposit Ratio (IDR)	61.29	68	59.83	63.33	53.23	50.89	44.75	49.02	41.19	35.01	34
Ratio of interest Margin to Total Assets	3.71	3.21	3.07	3.68	3.79	4.08	4.21	4.66	4.24	4.42	4.22
Return on Assets(ROA)	1.62	1.48	1.52	1.45	1.47	1.38	1.33	1.32	1.28	1.53	1.58
Cost of Deposits	6.36	6.25	5.31	3.93	3.32	3.38	4.34	5.18	6.58	4.51	4.27
Cost of Funds	6.45	6.48	5.29	4.12	3.45	3.76	4.58	5.25	6.92	4.68	4.64
Ratio of Burden to Assets	0.91	0.43	0.44	0.91	0.93	0.91	1.1	1.3	1.42	0.96	1.13
Return on Advances	12.33	10.9	8.47	7.52	7.68	8.91	10.57	12.62	14.96	10.77	10.56
Business per Employee (Rs lakh)	643	778	865	866	806	758	607	506	446	590	653
Ratio of Net NPA to Net Advances	0.45	0.5	0.37	0.16	0.24	0.44	0.43	0.47	0.63	0.31	0.19
Return on Equity	22.99	20.81	18.48	20.61	18.45	17.74	19.46	17.74	17.17	16.3	16.74

Brief of the Case Study

Comparison of HDFC bank and Oriental Bank of Commerce: to individually compare Nationalised and Private Banks, from the sample of 7 banks, one bank of each category are chosen: HDFCBank- Private Sector and Oriental Bank of Commerce -Public Sector. These banks are good representatives of their respective categories of banks. Both banks have similar status in their category. Ten parameters have been chosen to compare their efficiency and profitability, and these are:

1. Credit-Deposit Ratio
2. Investment- Deposit Ratio
3. Ratio of Net interest margin to Total Assets
4. Return on Assets
5. Cost of Deposits
6. Cost of Funds
7. Burden to Assets Ratio
8. Return on Advances
9. Business per Employee (in Rs. Lakh)
10. Ratio of Net NPA to Net Advances

The justification for two extra parameters used for comparison between HDFC Bank and OBC is as under:

Business per Employee: This ratio determines the operational efficiency of the bank and its ability to maximize productivity from each employee. This ratio is an important parameter in the comparison of individual banks since it will bring out the stark contrast between the two banks. The same has not been calculated for nationalised and private banks in general due to the huge difference in their denominator and hence would give misleading results.

Ratio of net NPA to Net Advances:

This ratio is again calculated for individual banks and not for nationalised and private generally. This is because the nationalised banks together have a different category of assets and private banks have a different as well. This difference in risk exposure as well as different risk appetite leaves this ratio redundant for the broad category of banks. However, the same ratio holds much importance when compared for individual banks in each category.

Spearman's Rank Correlation		
Criterion	**Strength & Directionof Correlation**	**Nature of Correlation**
Credit-Deposit Ratio	0.655	Strong Positive Correlation
Investment-Deposit Ratio	0.882	Strong Positive Correlation
Ratio of Interest Margin to Total Assets	-0.927	Strong Negative Correlation
Return on Assets	-0.264	Weak negative Correlation
Cost of Deposits	0.973	Strong Positive Correlation
Cost of Funds	0.945	Strong Positive Correlation
Return on Advances	0.573	Strong Positive Correlation
Business per employee (Rs lakh)	-0.591	Strong Negative Correlation
Ratio of Net NPA to Net Advances	0.30	Weak Positive Correlation
Ratio of Burden to Total Assets	0.209	Weak Positive Correlation

Oriental Bank of Commerce

The businesses of Oriental Bank of Commerce has increased from Rs 35756.84 crore in 2000-01 to Rs 234962.48 crore in 2010-11 at a CAGR of 18.66 percent. The total business of the bank went up by 6.57 times in eleven years' period. The annual variation in 2004-05 was highest and it was 32.15% .The annual average variation was 20.93% with 35.66% Coefficient of Variation. The deposits of OBC Bank have increased from Rs 24680.43 crore in 2000-01 to 139054.26 crore in 2010-11 at a CAGR of 17.03 percent. Total deposits of the bank rose by 5.63 times in eleven years period. The annual variation in 2004-05 was highest and it was 34.13% .The annual average variation was 19.22% with 49.12% Coefficient of Variation. Advances have increased from Rs 11076.41 crore in 2000-01 to Rs 95908.22 crore in 2010-11 at a CAGR of 21.68 percent. Total advances of the bank increased by 8.66 times in eleven years' period. The annual variation in 2004-05 was highest and it was 32.72% .The annual average variation was 24.27% with 28.64% Coefficient of Variation. Higher credit-deposit ratio has aided in boosting Return on Assets over the period 2001 to 2011. During this period the C/D ratio increased from 44.68% to 68.97% in 2010-11; the average C/D ratio was 60.84% with 16% Coefficient of Variation. During the same period the Return on Assets averaged 1.2% with 31.06%Coefficient of Variation.

HDFC Bank

The businesses of HDFC Bankhas increased from Rs 16294.77 crore in 2000-01 to Rs 368569.08 crore in 2010-11 at a CAGR of 32.8 percent. Total business of the bank rose by 22.62 times in eleven years period. The annual variation in 2001-02 was highest and it was50.16% .The annual average variation in total business was 36.96% with 28.12%Coefficient of Variation. The deposits of HDFC Bankhave increased from Rs 11658.11 crore in 2000-01 to 208586.41 crore in 2010-11 at a CAGR of 29.99 percent. Total deposits of the HDFC Bankrose by 17.89 times in eleven years period. The annual variation in 2005-06 was highest and it was 53.48% .The annual average variation in deposits was 34.06% with 40.30%Coefficient of Variation. Advances have increased from Rs 4636.66 crore in 2000-01 to Rs 159982.67 crore in 2010-11 at a CAGR of 38 percent. Total advances of the bank increased by 15.99 times in eleven years period. The annual variation in 2002-03 was highest and it was 72.52% .The annual average variation was 43.09 with 32.8%Coefficient of Variation. . Higher credit-deposit ratio has aided in boosting Return on Assets over the period 2001 to 2011.

During this period the C/D ratio increased from 39.77% to 76.7% in 2010-11; the average C/D ratio was 61.4% with21.2% Coefficient of Variation. During the same period the Return on Assets averaged 1.45% with 7.66% Coefficient of Variation.

Data interpolation & Analysis

A. Interpretation and Analysis

B. Calculation of Rank Correlation between the Profitability and Productivity parameters of HDFC Bank and Oriental Bank of Commerce

Calculation: To further understand and compare the Efficiency and Profitability of Nationalised and Private Sector Banks (New), we have chosen one bank in each category for comparison. The reason for this choice is that, both the banks are on an average representative of their respective category of banks. Both banks have been compared on the basis of the following ten parameters:

1. Credit Deposit Ratio
2. Investment Deposit Ratio
3. Ratio of net interest margin to Total Assets
4. Return on Assets
5. Cost of Deposits
6. Cost of Funds
7. Ratio of Burden to Total Assets
8. Return on Advances percent
9. Business per Employee
10. Ratio of Net NPA to Net Advances

Credit-Deposit Ratio (CDR): Credit-Deposit Ratio of a bank denotes the quantum of loan disbursed out of the total deposits in a particular period, say a year. The correlation between the two is 0.655, highly positive correlation. The CDR of the HDFC Bankwas 39.8% in 2000-01 and since then it has been on the rise and in 20011 it peaked at 76.7%. However, the nationalised bank, the OBC, has shown the rising trend till 2007 at 70% and since 2008 it hovered around 69% till 2011. Since 2002-03 the CDR of HDFC Bank (Private Bank) has been more than that of the OBC (Nationalised Bank). This shows the aggressive attitude of the private banks, resulting in operational efficiency.

Investment-Deposit Ratio (IDR): Investment- Deposit Ratio of HDFC Bank and OBC are positively correlated at 0.882.This shows that the trend of IDR has been almost similar for both the categories of banks. HDFC Bankregistered a high in 2002 at 68% and then has been regularly decreasing and then settling at 34% in 2011. OBC has shown declining trend ever since 2002 and settled at 30 in 2011.For OBC the IDR peaked in 2001 itself at 49.83%. Both the banks have reduced their investments as a ratio of their respective deposits. Nevertheless, the Private Bank, the HDFC Bank, has managed to register higher IDR through the eleven Year period exhibiting its higher risk taking attitude and ability.

Ratio of Net Interest Margin to Total Assets (NIM/TA): There is negative correlation between HDFC Bankand OBC for this ratio of Net Interest Margin to Total Assets. As regards Net Interest Margin to Total Assets, the ratio of OBC, the Nationalised Bank, has been less than that of HDFC Bank, the Private Bank, over the eleven year period under consideration. The trend exhibited by the ratio over eleven years is opposite for both the categories. In other words, the ratio of HDFC Bank is decreasing till 2006 and is then increasing marginally reaching approximately 2.2 in 2006, 2007 and 2008.On the other hand, the Nationalised Bank has registered a marginal decrease in the ratio throughout the field , settling at approximately 2.8 in 2011. This shows that OBC has been able to maintain higher ratio than that of HDFC Bank, this difference is due to the different operating model of both the banks. The extensive reach and government backing of OBC enables it to score over HDFC Bankin respect of this ratio.

Return on Assets (ROA): Both HDFC Bankand OBC have registered similar ROA over the period under analysis, resulting in a high positive correlation of 0.76. This is due to the similar economic pressures on both the banks. The year 2005 saw the highest ROA for both the banks at 2.1% for OBC and 1.59% for HDFC Bank. Since 2005 it has been falling and for OBC it is 1.03% in 2011 and for HDFC Bankit is 1.35% in 2011. The trend of the movement of ROA for both the banks has almost been same. This shows the efficiency of the Private Banks and also the efforts of the Nationalised banks to keep pace with the changing environment and face the tough competition of the Private Banks.

Cost of Deposits: The cost of deposits refers to the cost at which banks accept deposits. There is a strong positive correlation 0.973 between the two banks .The cost of deposits for Nationalised Banks has always been more than that of the Private Banks. As per trend noticeable in the above table, HDFC Bankhas managed a lower cost due to increasingly large number of branches as compared to OBC; and consequently more deposits, this led to lower cost of deposit.

Cost of Funds: There is a strong positive correlation 0.945 between HDFC Bank and OBC for their Cost of Funds. In the initial years OBC had a high Cost of Funds, whereas HDFC Bankcould manage at lower costs. However, on an average Public Sector Banks are able to register lower Cost of funds, but not enough to match the lower cost of funds of the HDFC Bank. Apart from this, it has always had a lower cost of funds in the subsequent years, lower than the Public Sector Bank-OBC. In the year 2008 and 2009 the cost of funds in both the cases went up. In 2008 for HDFC the cost of funds increased by 14% while for the OBC it increased by 19%. However in 2009 the reverse happened.

Return on Advances: There is a strong positive correlation 0.571 between HDFC Bank and OBC for their Return on Advances. Since 2005 HDFC Bankhas maintained the return on advances between 8% and 9%, while the OBC did it between 8% and 10 percent. The strong correlation in their figures is due to the consistency in their returns over eleven year period.

Both the HDFC Bank and the OBC have maintained their respective returns on advances in all the eleven year period of analysis.

Business per Employee: It indicates the operational efficiency of the banks. There is StrongNegative correlation between the HDFC Bankand the OBC for this ratio. This makes it crystal clear that OBC is inefficient in the matter of operational efficiency, though it surpassed the HDFC Bankin the last two years (2009-2011).

Ratio of NetNPA to Net Advances: The ratio of NPA to Net Advances has a positive correlation of 0.491. This is so because in both the cases the Net NPAs to Net Advances have been falling from their respective peaks. The Net NPAs toNet Advances of the OBC has always been less than that of the HDFC Bank. This indicates 'No High Risk' attitude of Public Sector Banks, having low exposure to risky loan disbursements and hence lower figure of NPAs during the period under consideration. The over exposure of Private Sector Banks in riskier investments increase their NPAs to a great extent.

Observations and Suggestions:

1. The access to retail banking deposits is today the biggest driver of retail banking profitability; in fact Public Sector Banks enjoy remarkable ROE of about 35% on their retail banking portfolios. Private Sector Banks are investing heavily in building large scale retail franchises. For the study period the average ROE of the HDFC Bank, the Private Sector Bank, is 18.8% with10.8C.V, while the figure for the OBC is 16.8 with 40% C. V. Since 2006-07the ROE of the OBC has always been less than that of the HDFC Bank. However, during the period 2002-03 to 2005-06, the ROE of the OBC has been more than that of the HDFC Bank; the reason may be negligible or negative burden ratio.
2. Productivity and Profitability are interrelated. Though productivity is not the sole factor, it is an important factor influencing profitability. The key to increase profitability is increased productivity. Low productivity, and High burden Ratio are the major factors influencing the profitability of the Public Sector Banks.
3. The positive correlation for seven out of ten parameters is observed. Only in two cases the correlation is lowly positive. The parameter showing negative is Ratio of Net interest Margin to Total Assets, Business per Employee and ROA. This difference is probably due to different short term strategies followed by New Private and Public Sector Banks.

Three-point-Programme is suggested to improve the profitability of the PSBs:

(i) Overstaffing is to be reduced. Though public sector banks have been trying to reduce the number of staff employed and has been successful in reducing the number by more than one lakh employees, but they need to improve further. They should go for a second round of VRS (Golden Shake Hand) to rationalize the staff number.

(ii) They should have strategic tie up with the rural regional banks for reaching the farfetched areas instead of opening branches themselves in the areas which cannot provide them break even business.

(iii) They should embrace latest technology and make it working intensively. The public sector banks have a unique advantage over their competitors in terms of their branch network and the large customer base, but it is the intensive use of the technology that will enable PSBs to build on their strengths. New Private sector and Foreign banks have embraced technology right from their inception and they have better adapted themselves to the changes in technology. The Public sector banks and Old Private banks have been quite slow in keeping pace with the changing technology, which is regarded as one of the major reasons affecting their profitability and productivity.

(iv) The Commercial banks need to devise ways of augmenting their incomes and more importantly their fee incomes so as to raise efficiency and productivity levels. For this new products have to be introduced to meet the needs of the specific category of customers i.e. customer-centric products.

REFERENCES

1. HDFC Bank, Annual Report 2010-11
2. HDFC Bank, Annual Report (Various Issues)
3. OBC Bank, Annual Report 2010-11
4. OBC Bank, Annual Report (Various Issues)
5. Kusum W. Ketkar&Suhas L. Ketkar, Vanderbilt University, Nashville, TN 37235 Performance and Profitability of Indian Banks in the Post liberalisation Period. – presented at The 2008 World Congress on National Accounts and Economic Performance measures for nations, May 13-17, 2008, Washington DC.
6. Manish Mittal, Daly College Business School, Indore &ArunaDhade, Institute of Business Management & Research – Profitability and Productivity in Indian Banks: A Comparative study.
7. RBI: Statistical Tables Relating to Banks (Annual Issues) (Various Issues)
8. RBI: Report on Trend and Progress of Banking in India (Annual Issues) (Various Issues)
9. Gupta S. P.: Statistical Methods, 8th Edition, 2009.