Significant Determinants of Profitability of Banking Sector in India

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INTRODUCTION:

Banking is an important segment of the territory sector and acts as a backbone of economic progress. The banks render vital services to the masses belonging to the various sector of the economy like agriculture, industry, whether small scale or large scale. Banks act as a development agency and are the source of hope and aspirations for the masses. The poor people in the country are in large number, so there is a need for the agencies to collect and invest savings of the masses and invest them in the most productive purposes. According to Narkese, low income leads to low savings, which in turn leads to low capital formation. People of under developed/developing countries have low incomes. The banks induce them to save by introducing variety of deposit schemes to suit the needs of the people and then channelise them into productive investments. This helps in the capital formation of a developing country. Commercial banks also finance the industrial sector in many ways. They provide short-term, medium term and long term loans to industry. Banks play wider revival of a sick unit by providing not only adequate working capital facilities but also by preventing and detecting sickness in its early stages. The commercial banks help in developing both internal and external trade of a country. They also finance both import and export of developing countries by providing foreign exchange facilities. The commercial banks also help the agriculture sector by providing financial assistance for the modernization and mechanization of farms, for the marketing of their produce, for animal husbandry, dairy farming, sheep breeding, poultry farming and horticulture. The banks also help in raising the standard of living of the people by providing loans to consumers. Further, the funds collected in advanced regions through deposit may be channelised for investments in the underdeveloped regions of the country, which brings more balanced regional development.

In recent years the Indian banking system has evolved an environment of liberalization of financial markets and de-administration of interest rates and has thus started getting out of cozy cocoons that were protected by regulatory regime. Increased liberalization and globalization have not only intensified the competition to be faced by the Indian banks in both international and domestic market but also put a demand on them to provide services of different types to suit the diverse customer groups located all over the world. With the system opened out for wider competition and with the gradual introduction of global standards in banking, the banking system is exposed to newer forms of risks such as interest rate risk, capital risk, exchange risk, liquidity risk and market risk. The best strategy in such an environment would not be risk aversion, which would be an obvious recipe for facing extinction, but of managing risk in such a fashion as to gain from it. Successful banks will strike a fine balance between sound banking and profitable banking and will evolve appropriate risk management, while those that are unable to do so will have difficulty in surviving.

Keeping in view the above stated facts, the present paper aims at studying the prime discriminations of profitability in the banking sector in India with the help of discriminant analysis.

NEED AND SCOPE OF THE STUDY:

Commercial banks are supposed to play an important role in achieving the objective of economic development by providing effective institutional credit support to various regions/sectors/sections. Banking has been viewed as backbone of the economy. The Indian banking industry is going through a period of intense change due to introduction of liberalization, privatization and globalization. With the growing competition due to liberalization, privatization and globalization, customer centric approach i.e. survival of the fittest has become the order of the day in banking industry. The global banking system in recent times has not only stimulated competition but has exposed banks world-wide to credit and market risks in view of deposits and investments. Though risks are inherent in banking business, but in recent times they have become more volatile and complex due to

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problems in resource mobilization and allocation in the context of new banking policy pursued recently in India. Thus, the present paper attempts to identify the significant determinants of profitability of banking sector in India. The determinants which measure the performance of banking sector such as cash deposit ratio, credit deposit ratio, investment deposit ratio, ratio of priority sector advances to total advances, ratio of net interest margin to total assets, ratio of wage bill to total expenditure, ratio of burden to total assets, return on advances, return on investment, business per employee, profit per employee and ratio of operating profit to total assets have been included in the present study.

The scope of the present study is restricted to scheduled commercial banks. The study includes eight banks of State Bank of India and its associates, nineteen Nationalized Banks, twenty-nine Private Banks and nineteen Foreign Banks. Further, the study has been confined to the years 2000-01 to 2004-05.

OBJECTIVES OF THE STUDY:

The paper attempts to achieve the following objectives:

1. To examine the liquidity position, operating efficiency, return performance and management of deposits and advances of the high and low profitable Banks.
2. To identify significant determinants of profitability in banking sector in India.

HYPOTHESIS:

Return on Assets is not affected by any of the indicator used for measuring performance of banks.

RESEARCH METHODOLOGY:

The present study is mainly based on the secondary data, collected from statistical table relating to various commercial banks in India, The data collected have been classified and arranged in table in one or more forms according to the requirement of analysis.

In this study, banks' profitability is measured by the net returns generated out of the total resources deployed. This is given by return on Assets, i.e. net profits as percentage of total assets. Thus, return on assets i.e., dependent variable has been viewed as position or status in qualitative terms and hence measured on non-metric scale. For this purpose, those banks, which showed return on Assets (ROA) of above 1 percent, have been a priori assigned into high profitable group and those with ROA less than 1 percent are grouped as low profitable banks.

TOOLS OF ANALYSIS:

For analysis of data, various accounting ratios like credit deposit ratio, investment deposit ratio, ratio of priority sector advances to total advances, return on advances, ratio of net interest margin to total assets, ratio of burden to total assets, return on assets, ratio of intermediation cost to total assets, ratio of operating profit to total assets, ratio of wage bills to total expenses, cost of borrowing ratio, cost of funds ratio, return on investment, return on equity, business per employee and profit per employee have been computed. Further statistical techniques like mean and coefficient of variation have been applied to compute the average of these ratios for each group of banks and to measure the dispersion. For testing the hypothesis, discriminant analysis has been used to reach to the conclusion. Discriminant Analysis involves deriving the linear combination of the two or more variables that will discriminate between the priori defined groups. It examines whether significant differences exist among the groups, in terms of the predictor variables and determine which predictor variables contribute to most of the inter-group differences.

RESULTS AND DISCUSSION:

The results of the study have been discussed in the subsequent paragraphs under the different heads:

OPERATING RATIOS - DISCRIMINANT ANALYSIS

Operating ratio analysis refers to all ratios like cost of deposit ratio, cost of borrowings ratio, cost of funds ratio, ratio of burden to total assets, ratio of intermediation cost to total assets and ratio of wage bills to total expenses. The lower the ratio, the greater is the profitability and vice-versa. Table -1 depicts the mean, coefficient of variation and discriminant analysis of various operating ratios for both high profitable and low profitable banks under study. It is clear from the table that the - mean value of ratio of intermediation cost to total assets has been found higher for low profitable banks as against high profitable banks except the year 2001-02. This ratio has experienced a mixed trend for both categories of banks during the period under study. Further, no consistency is found in this ratio for both categories of banks as is indicated by the calculated values of coefficient of variation. Discriminant analysis leads to conclude that intermediation cost to total assets has no significant impact on the profitability of banking sector in India.

Ratio of wage bills to total expenditures of banks shows how much amount has been spent on the wage bills out of total expenditure. It is clear from the table that means score of this ratio remained high for low profitable banks as against high profitable banks throughout the study period. High variation in this ratio has been registered for both categories of banks. The table further reveals slight change in the ratio during the period under study for poor performing banks. On the other hand, this ratio has recorded an increase from 9.109 percent in 2000-01 to 14.635 percent in 2004-05 for high profitable banks. The above analysis leads to conclude that high profitable banks are also increasing the share of wages to total expenditure but at the same time these banks are enhancing the productivity of labour, which ultimately has positive impact on the profitability of banks. This ratio has been found significant determinant of profitability during the year 2000-01 and 2001-2002.

As far as ratio of burden to total assets is concerned, it is recorded higher for low profitable banks as against high profitable banks. However, declining trend is observed regarding this ratio for both categories of banks. Burden is the difference between total non-interest expenditure and total non-interest income. Hence, higher burden will lead to lower profitability of the bank concerned. It is evident from Table -1 that high profitable banks are generating more and more income from miscellaneous services other than interest income and putting proper check on non-interest expenditure. On the other hand, low profitable banks are lagging quite behind in this direction. Thus, these banks require more efforts in this direction to improve their profitability to survive in the global market. This ratio has been found prime discriminator of profitability during the years 2003-04 and 2004-05.

Table-1 further reveals various statistical values of cost of deposit ratio for different years under study. This ratio has been found slightly higher for poor performing banks as compared to good performing banks except the year 2000-2001. However, this ratio has shown declining trend for both categories of banks. It might be on account of decrease in bank rate. The calculated values of coefficient of variation are matter of great concern, which are showing significant variation in the cost of deposit ratio for different banks of each category inspite of same bank rate for all the banks. On applying discriminant analysis, this ratio did not differ significantly for both categories of banks over the period under study and has no significant impact on the profitability of banks.

As far as cost of borrowings and cost of funds are concerned, there is slight difference in these ratios for both categories of banks during the majority years under study. However, lot of variation has been observed for different banks of each category with regard to cost of borrowing ratio. In nutshell, it is observed from Table-1 that low cost of borrowings and low cost of funds alone cannot affect the profitability of any bank but it is the efficient utilization of funds, which ultimately improve the profitability of any bank. Thus, it is essential for every bank to make proper investment of available funds in order to meet out the challenges of competition.

PROFITABILITY RATIOS - DISCRIMINANT ANALYSIS

The primary objective of banking business is to earn profit. A business needs profits not only for its existence but also for expansion and diversification. The investors want an adequate return on their investment, workers want higher wages, creditors want higher security for their interest and loan and so on. The present paper makes a profitability analysis by computing different ratios such as ratio of net interest margin to total assets, return on equity, return on advances, return on investment and ratio of operating profit to total assets. Higher the individual ratio, the greater is the profitability and vice-versa. It is evident from Table-2 that the mean score of net margin to total assets ratio has been found higher for high profitable banks as compared to low profitable banks during the period under study. Similarly, return on equity has been found almost double for good performing banks as against poor performing banks. Further, variation within group banks has been

Table-1 : Statistical Analysis of Various Operating Ratios

Year	Name of Ratios														
	Ratio of Intermediation Cost to Total Assets					Ratio of Wage Bills to Total Expenses					Ratio of Burden to Total Assets				
	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis
	Mean	C.V.	Mean	C.V.		Mean	C.V.	Mean	C.V.		Mean	C.V.	Mean	C.V.	
2000-01	2.360	28.95	3.530	116.78	X	9.109	46.42	16.521	45.83	✓	0.334	279.01	2.082	191.25	X
2001-02	3.733	6.72	2.753	25.33	X	12.093	49.14	17.358	40.32	✓	0.550	289.05	1.202	75.08	X
2002-03	2.626	35.18	2.919	50.11	X	13.147	41.41	16.698	51.99	X	0.444	257.63	1.403	94.16	X
2003-04	2.423	38.37	2.563	31.48	X	14.259	36.21	16.008	47.44	X	-2.232	500.17	0.591	164.62	✓
2004-05	2.582	39.63	2.677	44.09	X	14.635	39.44	15.873	49.86	X	-3.136	67.62	0.492	203.49	✓

Continued ....

Continued Table-1

Year	Name of Ratios														
	Cost of Deposit Ratio					Cost of Borrowings Ratio					Cost of Funds Ratio				
	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis
	Mean	C.V.	Mean	C.V.		Mean	C.V.	Mean	C.V.		Mean	C.V.	Mean	C.V.	
2000-01	9.286	17.87	8.989	24.82	X	8.724	65.92	9.045	114.49	✓	9.151	17.40	8.631	14.85	X
2001-02	7.948	20.59	8.176	13.63	X	11.779	134.25	8.261	88.19	X	8.021	20.06	8.072	13.09	X
2002-03	7.201	26.11	7.826	16.29	X	11.453	150.96	17.309	250.02	X	10.021	31.84	8.607	24.63	X
2003-04	6.854	29.71	7.343	18.85	X	8.709	97.84	11.196	146.74	X	6.909	27.16	7.528	16.42	X
2004-05	6.259	23.31	6.836	22.72	X	8.812	244.83	5.729	109.98	X	6.282	21.86	6.768	13.84	X

Note : (✓) tick implies significant determinant whereas (x) tick implies insignificant determinant of profitability.

Source: Data Collected from Statistical Tables relating to various Commercial Banks in India.

Table-2 : Statistical Analysis of Various Profitability Ratios

Year	Name of Ratios														
	Ratio of Net Interest Margin to Total Assets					Return on Equity					Return on Advances				
	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis
	Mean	C.V.	Mean	C.V.		Mean	C.V.	Mean	C.V.		Mean	C.V.	Mean	C.V.	
2000-01	3.242	34.71	2.873	29.80	✓	18.974	40.04	9.311	134.09	✓	14.389	17.36	13.526	16.53	X
2001-02	3.359	31.51	2.798	24.95	✓	18.375	40.61	9.015	211.59	✓	13.152	17.93	12.275	12.85	X
2002-03	3.735	45.59	2.783	26.53	✓	18.611	47.85	8.589	159.597	✓	9.898	33.04	11.108	18.21	X
2003-04	3.132	44.01	2.542	34.94	X	19.988	42.98	11.703	102.07	✓	11.328	20.98	10.856	12.11	X
2004-05	3.179	36.99	2.439	33.21	X	20.738	43.98	8.502	242.19	✓	12.669	120.05	10.337	14.91	X

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Continued Table-2

Year	Name of Ratios									
	Return on Investment Ratio					Ratio of Operating Profit to Total Assets				
	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis
	Mean	C.V.	Mean	C.V.		Mean	C.V.	Mean	C.V.	
2000-01	11.960	10.05	12.392	8.3862	X	3.614	83.88	0.879	450.73	✓
2001-02	11.988	13.07	11.852	10.47	X	2.713	60.77	1.5898	53.62	✓
2002-03	11.452	14.22	11.444	12.63	X	3.291	68.70	1.378	98.88	✓
2003-04	10.957	12.29	10.309	16.91	X	3.383	39.51	1.953	43.31	✓
2004-05	9.717	12.87	9.547	18.50	X	3.148	58.63	1.946	61.84	✓

Note : (✓) tick implies significant determinant whereas (x) tick implies insignificant determinant of profitability.

Source: Data Collected from Statistical Tables relating to various Commercial Banks in India.

Table-3 : Statistical Analysis of Various Efficiency Ratios

Year	Name of Ratios									
	Business per Employee (In Rs. Lakh)					Profit per Employee (In Rs. Lakh)				
	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis
	Mean	C.V.	Mean	C.V.		Mean	C.V.	Mean	C.V.	
2000-01	498.55	67.64	258.695	115.86	✓	7.622	87.07	4.633	174.05	✓
2001-02	482.176	80.50	285.415	133.78	✓	6.996	99.98	2.253	488.09	✓
2002-03	506.464	100.75	388.485	116.87	✓	8.775	92.96	1.064	1018.31	✓
2003-04	605.681	129.71	418.738	117.11	✓	8.881	126.47	2.246	142.84	✓
2004-05	494.472	89.49	513.341	104.35	X	9.639	188.54	0.242	4487.25	✓

Note: (✓) tick implies significant determinant whereas (x) tick implies insignificant determinant of profitability.

Source: Data Collected from Statistical Tables relating to various Commercial Banks in India.

Table-4 : Statistical Analysis of Deposit and Investment Management

Year	Name of Ratios																			
	Cash Deposit Ratio					Credit Deposit Ratio					Investment Deposit Ratio					Ratio of Priority Sector Advance to Total Advances				
	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis	High Profitable Banks ROA>1		Low Profitable Banks ROA<1		Discriminant Analysis
	X	C.V.	X	C.V.		X	C.V.	X	C.V.		X	C.V.	X	C.V.		X	C.V.	X	C.V.	
2000-01	9.733	30.45	10.97	28.65	X	62.201	35.76	54.542	45.18	X	52.276	54.19	48.561	28.00	✓	28.428	44.04	31.729	30.66	X
2001-02	9.283	33.40	9.388	33.92	X	60.391	44.26	51.979	49.09	X	52.212	47.37	47.025	37.26	✓	29.923	40.84	29.916	30.86	X
2002-03	7.315	34.91	7.896	39.34	X	61.883	49.30	53.523	39.93	X	51.329	35.81	50.474	58.46	X	28.386	45.44	28.658	33.61	X
2003-04	6.317	34.49	7.004	33.04	X	65.315	47.94	51.763	37.65	X	52.341	53.84	51.333	60.75	X	27.707	52.51	41.331	374.93	✓
2004-05	6.29	28.11	7.252	67.76	X	66.397	58.23	60.133	75.95	X	63.633	147.54	62.846	103.51	X	27.795	44.84	28.476	39.26	X

Note: (✓) tick implies significant determinant whereas (x) tick implies insignificant determinant of profitability.

Source: Data Collected from Statistical Tables relating to various Commercial Banks in India.

observed quite high for low profitable banks. The table further depicts the mean score for return on advances, which is little bit higher for high profitable banks during the majority years under study. As far as return on investment ratio is concerned, it is recorded higher for high profitable banks except for the year 2000-2001. However, no significant difference has been observed in the mean score of this ratio for both groups of banks. Further, declining trend in this ratio for both groups of banks is a matter of great concern, which needs due attention in portfolio management. Ratio of operating profit to total assets has been worked out higher for high profitable banks as compared to low profitable banks for the entire study period. It indicates efficiency of high profitable banks in generating residual income and controlling the cost. On applying discriminant analysis, ratio of net interest margin to total assets, return on equity and ratio of operating profit to total assets have been found prime discriminators of profitability in banking sector. It is worth mentioning that the management of poor performing banks requires special attention to control the cost and improve portfolio management.

EFFICIENCY RATIOS - DISCRIMINANT ANALYSIS

These ratios are calculated to measure the efficiency with which the human resource of different groups of banks has been employed. The two ratios namely business per employee and profit per employee have been included in the present study to measure the efficiency. Higher the ratio, the greater is the efficiency and vice-versa. The efficiency analysis of two groups of banks has been presented in Table-3. The table revels that the mean score of business per employee has been found higher for high profitable banks except the year 2004-05. The calculated values of coefficient of variation reveal significant difference in the performance of employees of each category of banks. The table further reveals higher mean score of profit per employee for high profitable banks as compared to low profitable banks. The mean score of this indicator has shown declining trend for poor performing banks. On the other hand, high profitable banks have registered an increasing trend as far as profit per employee is concerned. Further, the calculated values of coefficient of variation reveal lot of variation in the profit per employee of different banks of each category. However, more dispersion is recorded within banks of low profitable category. This shows that some of the banks of low profitable category are running at losses and the amount of losses is increasing year after year. On applying discriminant analysis, this indicator has been found to be a significant determinant of measuring performance of banking sector with regard to return on total assets.

DEPOSIT AND INVESTMENT RATIOS - DISCRIMINANT ANALYSIS

In order to study the management of deposits and investments in each category of banks, various ratios namely cash deposit ratio, credit deposit ratio, investment deposit ratio and ratio of priority sector advances to total advances have been computed. These ratios along with their statistical values have been presented in Table-4. The mean score for cash deposit ratio has been found slightly higher for low profitable banks as compared to high profitable banks throughout the study period. Although the ratio has shown declining trend for both groups of banks but it remained comparatively lower for high profitable banks. As far as coefficient of variation is concerned, its calculated values have been found more or less similar for both categories of banks except the year 2004-05. It is clear from the analysis of cash deposit ratio that profitability of banking sector is least affected by cash retention after providing credit and making investment because at the same level of this ratio, some banks are earning good profit whereas other are not. On the other hand, credit deposit ratio is the variant of cash deposit ratio. Table-4 also depicts the mean score for credit deposit ratio, which has been found significantly higher for high profitable banks as compared to low profitable banks. The mean score of this ratio has been found between 60.391 and 66.397 for high profitable banks whereas it lies between 51.763 and 60.133 for low profitable banks. Further, coefficient of variation has been found higher for poor performing banks as compared to good performing banks, which leads to conclude that low profitable banks are less consistent with regard to credit deployment. On applying discriminant analysis, this ratio has not been found a significant determinant to affect profitability of banking sector in India. The analysis of Table-4 further reveals different statistical values of investment deposit ratio. The mean score of this ratio has been found significantly. higher for high profitable banks as compared to low profitable banks during the period under study. However, more variation has been found in this ratio for banks of high profitable category during the majority years under study. On applying discriminant analysis, this ratio has been found prime discriminator of profitability during the years 2000-2001 and 2001-2002. Thus, it can be inferred that higher the investment deposit ratio, higher will be the profitability of banks and vice-versa. As far as ratio of priority sector advances to total advances is concerned, its mean score has been found more or less similar for both categories of banks except in the year 2003-04. Further, more variation in this ratio has been found for high profitable banks except in the year 2002-03. It leads to conclude that there is a lot of difference in the policies of good performing banks regarding their contribution towards priority sector advances. On applying discriminant analysis, this ratio has been found a significant determinant of profitability during the year 2003-04. The analysis of Table-4 further supports the fact that on account of subsidized credit and due to growing problem of non-performing assets in priority sector lending, the concerned bank's profitability may be adversely affected. But at the same time, higher is the ratio; higher is the priority sector lending, which means that higher is the contribution of the bank concerned in the social development and poverty eradication.

CONCLUSION:

The findings of the study can be successfully analyzed in order to make commercial banking more viable, profitable and service oriented. Operating cost of poor performing banks is quite high and they need steps to control this cost because one of the crucial factors in maintaining profitability of banks is its ability to control cost of operations. The cost of income generation should be kept at minimum possible levels, reducing - overheads as on going basis but without adversely affecting the quality of services. A cautious approach to the branch expansion policy, reducing staff costs through adoption of technology and improving their productivity etc., will go a long way in cutting overheads in this inflationary environment. To expand their business with consequential increase in profitability, there is a need for banks to intensify their role in the provision of para banking facilities. There should be a shift in operations from traditional banking to fee-based services. Business per employee and profit per employee also reveal that banks will have needs to formulate suitable human resources development strategy in new competitive environment. Quality of manpower employed in the banks will be a deciding factor for profit and growth in the future.

In a competitive situation, survival of the firm largely depends on how far its management is effective in both forward looking and innovative. Each bank will, therefore, have to assess its strengths and weaknesses and draw up plans for market segmentation and product differentiation. Banks should draw up a strategic plan based on futuristic vision for the purpose of business diversification, product differentiation, market segmentation and technological up-gradation. The profitability of a bank in the new millennium largely depends on its ability to efficiently manage the various risks, to which they are exposed in the changed scenario. Credit risk, liquidity risk, capital risk, market risk, exchange rate etc. are the various risk faced by the banks. The management of these risks in gardening the level of profitability is of utmost importance. Information technology has emerged as a strategic tool for profit generation and increasing operational efficiency in banks. The banks making use of modern technology pass on the benefit of lower cost to the customers, which ultimately enhance customer satisfaction. The level of customer satisfaction mainly depends upon speed, accuracy, efficiency and courtesy in dealing with them. Further, the banks will have to be on their toes all the time to understand the ever-changing needs of the public. They should offer varied and innovative services to suit the convenience of the customers. Keeping in view wide network of branches, all this can be managed effectively if the banks, particularly Indian banks, go for full scale computerization/networking and bring high efficiency levels among staff by updating them regarding latest technology.

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