INTERNATIONAL JOURNAL OF ENGINEERING AND MANAGEMENT SCIENCES

www.scienceandnature.org

PRODUCTIVITY AND PROFITABILITY ANALYSIS OF BANKING SECTOR IN INDIA: IN THE POST RE-FORM PERIOD

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ABSTRACT
The present study is an attempt to examine the total productivity and profitability growth in Indian banking sector during 1991-1992 to 2010-2011. The data of four bank groups (SBI group, nationalized bank group, private sector bank group and foreign bank group) for twenty years has been collected from the official website of reserve bank of India, financial analysis of banks, performance high lights of different category of banks, IBA etc.. The productivity index data analyses are being used to measure the productivity and profitability in four sectors banks over the years.

The empirical result show that the profitability analysis of the four sample bank groups have been undertaken by dividing the twenty year period under study into two distinct phases; the first phase covering ten years and second phase comprising the latter ten years. The analysis has been done through an analytical framework so as to find out the factors affecting profitability. This framework splits the income and expenditure statement to find out the relation between different components of income and expenditure and its impact on profitability. Basically, spread, difference between interests earned and interest paid and burden play major role in determining the profitability of a commercial bank. Both spread and burden are treated as primary on first associate factor. Factors which determine this primary factor are treated as secondary factor. Factors which determine their secondary factors are known as tertiary factor. The factors which influence this tertiary factor are termed as fourth associate factors. The framework adopted for the purpose of analysis have spread, burden and its components are to be related to a common denominator, volume of business (V) and to convert these into ratio. Establishment ratio is derived by dividing payout per employee (M_1) by volume of business per employee (M_2).

Analysis of total sample (average of all four sample groups) during second phase reveals that fall in establishment expenses, fall in other expenses and rise in other income ratio are the major determinant and main contributors to profitability. However, fall in spread ratio had a negative impact on profitability. So, increase in volume of business, control over other expenses and increase in fee-based business of banking sector have a positive impact on the profitability of the banking sector during the post reform era. Sample group wise, S.B.I. bank group has improved profitability ratio due to fall in establishment ratio, fall in other expenses ratio. In this case, spread and other income have made negative contribution to the profitability ratio. Here the key to profitability is volume of business, check on other expenses and increase in commission based income. Analysis of nationalized bank group indicates that both establishment ratio and other expenses ratio declined in the second phase. Over the same period other income ratio also increased. Contrary to expectations, spread influenced negatively to the profitability ratio. Profitability of nationalized bank group improved in the second phase only due to positive contribution by burden ratio. So, increased volume of business, check on other expenses and increase non-fund based business are the main contributors to the profitability ratio of nationalized bank group.

Analysis undertaken for sample private sector bank group depicts that decrease in establishment ratio and increase in other income ratio made it possible to improve profitability for this group in the second phase despite negative support by spread and other expenses ratio. So, volume of business and fee-based income are main determinants of profitability in case of sample private sector banks. Perusal of framework for analysis of foreign bank group indicates that spread and establishment expenses contributed negatively to the profitability in the second phase. But decrease in other expenses and increase in other income ratio are the main factors which improved profitability ratio of foreign bank group in the second phase of our study. Despite negative contribution by establishment expenses ratio, burden ratio decreased in the second phase due to support of other expenses and income ratio and profitability improved in a situation where spread, the interest income, went down to create negative contribution on profitability. So, key to profitability in case of foreign bank group is proper handling of burden ratio.

Comparative study of all four groups reveals that in- spite of fall in spread ratio in the entire sample four bank groups in the second decade of the study period, profitability had improved in the second phase. None of the four sample bank groups deepened on spread ratio which is widely considered as the main determinant of profitability ratio of a bank. All the sample bank groups, alternatively stressed on the proper management of burden to increase profitability. Thus it is revealed that when compulsive reasons does not allow enhancement of the spread volume by the banks, profitability can be improved with proper handling and managing of burden. So under Indian financial environment burden management seems to be an important strategy for enhancing profitability along with successful discharge of social responsibility.

Keywords: Productivity and Profitability, Private and Public Sector Bank.

INTRODUCTION

A sound financial infrastructure is a pre-requisite for economic development. Commercial banks are the most important segment of the financial system. Financial sector plays a very crucial role in the economic growth of a country. The importance of this sector's contribution is more in a developing economy like India. Indian banking sector is like fuel provider to the Indian economy and is contributing so much towards overall growth of the economy. This sector has envisaged tremendous growth overtimes and gets a completely different and advanced look in present times. International access, increased no. of banks, improved technology like e-banking, m-banking and t-banking itself tells the changing story of Indian banking sector. At present, different kind of banks like public sector banks, private sector banks and foreign banks are operating efficiently in the country. The era of globalization has also altered the structure and functioning of banking sector in India. Soundness of the banking sector is synonymous with efficiency, productivity, profitability, stability and a shock free environment of economy. According to RBI, Banks lubricate the wheels of the real economy, are the conduits of monetary policy transmission and constitute the economy's payment and settlement system.

After Independence, the banking sector in India was not in a very good position. There was need to revive the whole economy and it was not possible without a strong and competent banking sector. The banking sector has passed through different phases in India. 1969 was the era of Nationalization when major banks of India were nationalized. The Government also faced the balance of payment crisis in 1991 – 92 following which a stabilisation programme was initiated with the help of International Monetary Fund (IMF) which specially included reform of the Indian Financial System (IFS). After that, Government of India set up a Committee under the Chairmanship of M. Narashimham popularly known as Narashimham Committee who submitted its report in 1992. The report primarily aimed at enhancing the productivity, efficiency and profitability of the banking system in the country. Hence the committee recommended far-reaching reforms in both structural and functional approach of the Indian banking system in order to enhance their efficiency, productivity and profitability. The Narashimham Committee recommendations ware aimed at ensuring a degree of operational flexibility, internal autonomy for the public sector banks in their decision making process and greater degree of professionalism in banking operations. Accordingly, the overall functioning of the banking industry, administrative, asset management, investment human resources and so on has been undergoing in metamorphosis in recent years. In the emerging financial scenario, competition, productivity, profits are no longer a taboo for the commercial banks in India.

Further, the second phase of reform introduced in 1998 was based on the recommendation of the Committee on the Banking Sector Reform and, Shri M. Narasimham was the Chairman of this Committee. This phase of reform focused mainly on structural measure and improvement of disclosure standard and level of transparency so as to align Indian standards with the internationally recognized best practices. All the above changes have added significantly to the performance of Indian banking sector. Both the committee reports have been accepted and are being implement in a phased manner, the main thrust being strengthening the Indian banking sector and make it globally competitive.. Presently new and improved techniques and research are used and the same has entirely changed the functioning of Indian Banking Sector.

PRODUCTIVITY IN BANKING SECTOR

Productivity is one of the very important indicators to assess the economic performance of an economy. In simple terms productivity is the ratio of output to input which means output per unit produced for every unit of input used. Productivity is the relationship between physical outputs of one or more physical inputs used in production (Kopleman).

$$\text{Productivity} = \text{total output} / \text{total input}$$

When productivity is studied related to one factor is termed as factor productivity. Like labour productivity or capital productivity. When all the factors are together studied it is termed as total factor productivity. Inputs and Outputs are different in banking sector as compared to other sectors because banks are mainly service providers. The products in the banking sector are different than other sectors and include deposits, borrowings, Interest etc. So study of productivity in banking sector is different as it is studied in other sectors of the economy.

REVIEW OF LITERATURE

The present research is an attempt to analyse the comparative efficiency and competitiveness of Indian commercial banks. As a matter a matter of fact, the efficiency of the banking sector is one of the important economic agenda for governments all over the world. The main impulsion for this study has been the recommendation and implementation of the Narashimham Committee reports of 1991 and 1998 by the Government of India in the banking sector reforms so as to strengthen the Indian banking system and make it globally competitive. This clearly requires that the relative efficiency of the banking sector in India is examined. The present study therefore examines that efficiency of the banking sector by using the popular productivity and profitability analysis of commercial banks on India covering the post-reform period of twenty years spanning over 1991-92 to 2010-11. This study aims to examine the relative efficiency of various commercial bank groups like State Bank of India Group, (SBI Group) Nationalised Bank Group, Private Sector Bank Group (PB Group) and Foreign Bank Group (FB Group) which are operating in India. The reason that the period 1991-92 to 2010-11 is chosen for this study is that the current banking sector reforms were initiated in 1991 and being continuously pursued in a phased manner. Thus the sample period of twenty years which is further divided in to two phases of ten years each is good enough to provide sufficient insight regarding the impact of reforms on Indian banking sector. In this study, the productivity and profitability parameters for the two phases; namely first phase covering 1991-92 to 2000-01 and second phase spanning 2001-2002 to 2010-11 have been calculated, analysed, compared and contrasted in evaluating the relative efficiency of commercial banks in India; both in aggregate and in groups.

RESEARCH METHODOLOGY

A) Research objectives

i) To assess the overall profitability and productivity of the banking sector in the post reform period.

ii) To examine the relative profitability performance of each bank group – State Bank of India group, Nationalized Bank group, Private Sector Bank group and Foreign Bank group.

iii) To evaluate the relative productivity performance of each bank group during the study period.

iv) To study the influence of different factors contributing to the productivity and profitability trends of the banking sector.

v) To indicate the extent to which reforms in the financial sector have contributed to improve the productivity and profitability of the banking sector.

B) Research Hypothesis

I. The operational productivity of Indian banking sector has increased during the post reform period.

II. Bank productivity is the cornerstone of profitability.

III. Ownership and management of commercial banks is a major determinant of productivity.

IV. ‘Spread’ continues to be the major determinant of commercial bank productivity.

V. ‘Burden’ being an ‘outgo’ is a negative determinant of bank profitability.

VI. In the changing financial environment, diversification of bank business is the key to bank profitability.

VII. Volume of business is the contributing factor to the bank profitability.

C) Selection of input and output

Productivity and profitability of different banks group are measured by relevant parameters such as deposit, advances, income, expenditure , profit to working fund, etc.

D) Research Methodology

The commercial banking sector in India which includes the State Bank of India and its associated banks, nationalised banks, major private sector banks and foreign banks operating in India. Thus, the Indian banking sector have been broadly divided into four groups for the analysis of profitability and productivity during the post – reform period. More specifically the period of 20 years beginning from the year 1991- 92 to 2010 – 11 has been covered under this study. The study period has been divided into two distinct phases. The reform process started with the implementation of Narashimham Committee reported in 1991. Thus the first phase covered the initial ten years covering 1991-92 to 2000-2001. Further intensification of reforms took place after the implementation of second report of Narashimham Committee in 1998. Thus, the second phase of the study covers the second decade of the reform period i.e. 2001-02 to 2010-11. Thus, the study encompasses the whole of the reform period. Performance of banks can be measured by a number of indicators. Productivity and profitability are the most important and reliable indicator of the banking performance. For the purpose of the present study, both the performance parameters have been used.

Banking profitability has been examined through the following indicators:

i) Interest earned as percentage of working fund
ii) Interest paid as percentage of working fund
iii) Ratio of total income to working fund
iv) Ratio of spread to working fund
v) Ratio of non – interest expenditure to working fund
vi) Other income as percentage of working fund
vii) Ratio of burden to working fund

Banking productivity has been examined through the following indicators:

i) Cost of deposit
ii) Business per employee
iii) Interest income to working fund
iv) Non-interest income to working fund
v) Spread as percentage of working fund

EMPIRICAL ANALYSIS (productivity)

A) EMPLOYEE PRODUCTIVITY

Table-3.1, Table-3.2, Table-3.3, and Table-3.4 present the employee productivity indices (year wise) of SBI group, nationalised bank group, private sector bank group and foreign bank group respectively for the study period, covering 1991-92 to 2010-11. The employee productivity parameters are represented by eight indices which are as follows.

I. Business Per Employee (BPE)
II. Deposit Per Employee (DPE)
III. Advance Per Employee (APE)
IV. Interest Income Per Employee (IIPE)
V. Non Interest Income Per Employee (NIIPE)
VI. Interest Expended Per Employee (IEPE)
VII. Spread Per Employee (SPE)
VIII. Profit Per Employee (PPE)

Table – 3.1 Employee Productivity State Bank of India Group (SBI)

Rs in Crore

Year	BPE	INDEX	DPE	INDEX	APE	INDEX	IIPE	INDEX	NIIPE	INDEX	IEPE	INDEX	SPE	INDEX	PPE	INDEX
1991-92	0.436	100	0.255	100	0.181	100	0.040	100	0.006	100	0.025	100	0.015	100	0.003	100
92-93	0.473	108.5262	0.279	109.7255	0.193	106.8386	0.040	101	0.006	106	0.028	111	0.012	84	0.001	32
93-94	0.473	108.5067	0.307	120.7026	0.165	91.34419	0.037	93	0.006	112	0.025	101	0.012	79	0.001	38
94-95	0.595	136.6531	0.379	148.7675	0.216	119.6054	0.047	118	0.007	126	0.029	119	0.017	117	0.003	98
95-96	0.644	147.8369	0.393	154.1368	0.252	138.9715	0.055	139	0.011	200	0.035	141	0.020	137	0.003	89
96-97	0.722	165.7036	0.455	178.4836	0.267	147.7192	0.064	163	0.011	195	0.041	167	0.023	156	0.005	185
97-98	0.878	201.5410	0.562	220.7146	0.316	174.5594	0.069	174	0.012	214	0.045	181	0.024	161	0.008	277
98-99	1.064	244.3187	0.712	279.6584	0.352	194.5874	0.082	206	0.014	247	0.055	222	0.026	180	0.005	166
99-2000	1.259	288.9956	0.837	328.6252	0.422	233.2275	0.095	241	0.016	284	0.065	262	0.030	206	0.009	304
2000-01	1.610	369.5649	1.087	426.6201	0.524	289.2749	0.118	300	0.019	336	0.080	321	0.039	263	0.008	269
	370		**427**		**290**		**300**		**336**		**321**		**263**		**269**	
2001-02	1.829	419.7322	1.245	488.8778	0.584	322.4281	0.137	348	0.021	385	0.094	380	0.043	294	0.012	426
2002-03	2.062	473.2876	1.390	545.6157	0.672	371.5049	0.145	367	0.028	512	0.097	390	0.049	330	0.016	558
2003-04	2.480	569.1902	1.646	646.1412	0.834	460.9022	0.155	392	0.041	744	0.096	387	0.059	400	0.021	738
2004-05	2.996	687.7069	1.917	752.6113	1.079	596.3712	0.167	422	0.036	647	0.094	380	0.073	494	0.022	749
2005-06	3.519	807.5882	2.088	819.8914	1.430	790.2747	0.189	478	0.038	679	0.107	431	0.082	557	0.023	798
2006-07	4.177	958.7057	2.371	930.8981	1.806	997.8374	0.211	533	0.029	526	0.127	511	0.084	571	0.025	856
2007-08	5.982	1373.0778	3.385	1329.1057	2.597	1434.957	0.308	779	0.052	931	0.209	843	0.099	672	0.039	1371
2008-09	6.980	1602.0467	4.024	1580.0445	2.956	1633.009	0.356	902	0.064	1157	0.247	995	0.110	744	0.048	1654
2009-2010	7.119	1633.9304	4.012	1575.3258	3.107	1716.401	0.355	897	0.067	1200	0.240	966	0.115	780	0.045	1567
2010-11	7.931	1820.2418	4.411	1731.8040	3.520	1944.683	0.389	984	0.068	1227	0.237	956	0.152	1030	0.042	1461
	434		**354**		**603**		**283**		**319**		**252**		**351**		**343**	
	1820		**1732**		**1945**		**984**		**1227**		**956**		**1030**		**1461**	

Source: 1) Financial Analysis of Banks 2) Performance highlights of different banks

Table – 3.2 Employee Productivity Nationalised Banks Group (NB)

Rs. in Crore

Year	**BPE**	**INDEX**	**DPE**	**INDEX**	**APE**	**INDEX**	**IIPE**	**INDEX**	**NIIPE**	**INDEX**	**IEPE**	**INDEX**	**SPE**	**INDEX**	**PPE**	**INDEX**
1991-92	0.458	100	0.293	100	0.165	100	0.035	100	0.004	100	0.025	100	0.010	100	0.003	100
92-93	0.488	107	0.319	109	0.169	103	0.035	101	0.004	103	0.028	111	0.008	77	-0.006	-219
93-94	0.508	111	0.349	119	0.160	97	0.035	101	0.005	127	0.026	106	0.009	90	-0.008	-277
94-95	0.615	134	0.416	142	0.200	121	0.042	121	0.005	142	0.029	115	0.014	139	0.000	16
95-96	0.660	144	0.432	148	0.227	138	0.052	149	0.006	172	0.035	141	0.016	167	-0.002	-71
96-97	0.742	162	0.501	171	0.241	146	0.060	171	0.007	188	0.041	165	0.018	187	0.003	86
97-98	0.912	199	0.628	214	0.285	172	0.066	191	0.009	233	0.046	184	0.020	208	0.005	153
98-99	1.073	234	0.740	252	0.333	202	0.079	226	0.009	247	0.055	219	0.024	243	0.003	108
99-2000	1.270	277	0.865	295	0.405	245	0.090	260	0.012	318	0.064	256	0.027	272	0.004	149
2000-01	1.628	355	1.098	374	0.530	321	0.114	329	0.014	384	0.078	312	0.036	372	0.004	143
	355		**374**		**321**		**329**		**384**		**312**		**372**		**143**	
2001-02	1.972	431	1.305	445	0.667	404	0.131	377	0.022	595	0.090	361	0.041	418	0.010	349
2002-03	2.224	485	1.460	498	0.764	463	0.141	405	0.028	753	0.090	362	0.050	513	0.017	562
2003-04	2.604	568	1.714	585	0.890	539	0.148	425	0.037	989	0.087	349	0.061	621	0.023	799
2004-05	3.053	666	1.941	662	1.112	674	0.156	449	0.029	789	0.088	352	0.068	697	0.020	685
2005-06	3.737	816	2.269	774	1.468	889	0.179	515	0.026	706	0.102	409	0.077	784	0.022	752
2006-07	4.933	1077	2.937	1002	1.996	1209	0.235	676	0.027	719	0.142	571	0.093	945	0.029	1001
2007-08	6.256	1365	3.684	1257	2.571	1558	0.309	888	0.044	1190	0.215	861	0.094	957	0.040	1354
2008-09	7.833	1710	4.578	1562	3.255	1972	0.396	1140	0.057	1519	0.279	1116	0.118	1201	0.050	1692
2009-10	10.257	2239	5.987	2043	4.270	2587	0.482	1387	0.071	1891	0.338	1352	0.144	1474	0.062	2116
2010-11	11.785	2572	6.776	2312	5.009	3035	0.556	1599	0.062	1660	0.356	1424	0.200	2043	0.072	2437
	598		**519**		**751**		**424**		**279**		**395**		**489**		**698**	
	2572		**2312**		**3035**		**1599**		**1660**		**1424**		**2043**		**2437**	

Source: 1) Financial Analysis of Banks 2) Performance highlights of different banks

Table – 3.3 Employee Productivity Private Sector Banks Group (PB)

Rs. in Crore

Year	BPE	INDEX	DPE	INDEX	APE	INDEX	IIPE	INDEX	NIIPE	INDEX	IEPE	INDEX	SPE	INDEX	PPE	INDEX
1991-92	0.355	100	0.233	100	0.122	100	0.026	100	0.003	100	0.015	100	0.011	100	0.003	100
92-93	0.438	124	0.289	124	0.150	123	0.031	120	0.004	141	0.022	142	0.010	89	0.001	36
93-94	0.546	154	0.367	158	0.179	147	0.038	144	0.006	200	0.025	164	0.013	115	0.002	77
94-95	0.776	219	0.506	217	0.270	221	0.050	192	0.012	422	0.035	229	0.015	141	0.007	222
95-96	0.968	273	0.584	251	0.384	314	0.073	278	0.016	586	0.054	350	0.019	175	0.009	303
96-97	1.273	359	0.786	338	0.487	399	0.109	416	0.017	601	0.078	512	0.030	279	0.012	371
97-98	1.684	475	1.115	479	0.569	466	0.127	484	0.025	901	0.095	619	0.032	293	0.014	432
98-99	1.896	535	1.329	571	0.567	465	0.160	610	0.023	834	0.125	818	0.035	318	0.011	360
99-2000	2.306	650	1.737	747	0.569	466	0.188	719	0.036	1303	0.142	928	0.046	425	0.019	621
2000-01	3.012	849	2.007	863	1.005	823	0.215	820	0.031	1117	0.158	1034	0.056	518	0.017	550
	849		**863**		**823**		**820**		**1117**		**1034**		**518**		**550**	
2001-02	3.911	1103	2.318	996	1.593	1306	0.226	864	0.058	2096	0.167	1092	0.059	541	0.025	803
2002-03	4.445	1253	2.660	1143	1.784	1463	0.315	1205	0.094	3366	0.240	1568	0.075	693	0.038	1215
2003-04	5.272	1487	3.222	1385	2.050	1681	0.306	1171	0.091	3282	0.210	1374	0.096	885	0.042	1337
2004-05	5.336	1505	3.383	1454	1.953	1601	0.283	1081	0.069	2463	0.175	1145	0.108	990	0.039	1234
2005-06	6.820	1923	3.941	1694	2.879	2360	0.324	1238	0.074	2659	0.198	1293	0.126	1162	0.045	1450
2006-07	7.031	1982	4.011	1724	3.020	2475	0.360	1377	0.090	3222	0.239	1561	0.121	1118	0.050	1584
2007-08	7.544	2127	4.267	1834	3.277	2686	0.450	1718	0.107	3833	0.307	2003	0.143	1317	0.060	1926
2008-09	7.344	2071	4.120	1771	3.224	2643	0.477	1822	0.101	3629	0.319	2086	0.157	1449	0.061	1944
2009-10	7.973	2248	4.508	1937	3.465	2840	0.454	1734	0.112	4022	0.281	1833	0.173	1594	0.072	2298
2010-11	8.233	2321	4.586	1971	3.647	2989	0.443	1692	0.095	3406	0.261	1707	0.182	1672	0.081	2592
	211		**198**		**229**		**196**		**163**		**156**		**309**		**222**	
	2321		**1971**		**2989**		**1692**		**3406**		**1707**		**1672**		**2592**	

Source: 1) Financial Analysis of Banks 2) Performance highlights of different banks

ISSN 2229-600X

Table – 3.4 Employee Productivity Foreign Banks Group (FB)

Rs in crore

Year	BPE	INDEX	DPE	INDEX	APE	INDEX	IIPE	INDEX	NIIPE	INDEX	IEPE	INDEX	SPE	INDEX	PPE	INDEX
1991-92	1.995	100	1.292	100	0.703	100	0.211	100	0.064	100	0.137	100	0.074	100	0.046	100
92-93	2.330	117	1.554	120	0.777	110	0.270	128	0.023	36	0.187	137	0.083	112	-0.067	-146
93-94	2.874	144	1.984	154	0.890	127	0.256	121	0.057	88	0.149	108	0.107	145	0.039	84
94-95	3.277	164	2.116	164	1.161	165	0.267	126	0.085	132	0.161	118	0.105	142	0.043	93
95-96	3.984	200	2.242	174	1.742	248	0.373	177	0.114	177	0.257	187	0.116	157	0.059	129
96-97	4.761	239	2.742	212	2.019	287	0.467	221	0.106	164	0.295	215	0.172	233	0.050	110
97-98	4.700	236	2.792	216	1.908	271	0.442	209	0.125	194	0.275	201	0.167	226	0.041	89
98-99	4.902	246	2.998	232	1.904	271	0.507	240	0.120	186	0.335	245	0.172	232	0.034	75
99-2000	5.817	292	3.378	261	2.439	347	0.560	265	0.147	229	0.341	249	0.218	296	0.066	145
2000-01	7.731	388	4.477	347	3.254	463	0.716	339	0.190	295	0.436	318	0.280	378	0.071	156
	388		**347**		**463**		**339**		**295**		**318**		**378**		**156**	
2001-02	9.461	474	5.394	418	4.067	578	0.811	384	0.273	423	0.506	369	0.305	412	0.125	272
2002-03	10.278	515	5.864	454	4.414	628	0.757	359	0.261	405	0.428	312	0.330	446	0.155	338
2003-04	12.572	630	7.160	554	5.412	770	0.813	385	0.364	565	0.387	282	0.427	577	0.203	443
2004-05	12.240	614	6.543	507	5.697	810	0.694	329	0.292	454	0.306	223	0.388	525	0.150	327
2005-06	12.581	631	6.772	524	5.809	826	0.729	345	0.310	481	0.307	224	0.422	571	0.064	139
2006-07	14.503	727	7.891	611	6.611	940	0.943	447	0.363	564	0.399	291	0.544	737	0.240	524
2007-08	19.389	972	10.503	813	8.886	1264	1.340	635	0.582	905	0.582	424	0.758	1025	0.363	792
2008-09	22.647	1135	12.878	997	9.770	1390	1.824	864	0.896	1392	0.771	562	1.053	1424	0.452	986
2009-10	19.001	953	11.155	864	7.846	1116	1.268	601	0.478	743	0.430	313	0.839	1135	0.228	498
2010-11	15.597	782	8.606	666	6.991	994	1.020	483	0.392	609	0.380	277	0.640	866	0.276	603
	165		**160**		**172**		**126**		**144**		**75**		**210**		**221**	
	782		**666**		**994**		**483**		**609**		**277**		**66**		**603**	

Source: 1) Financial Analysis of Banks 2) Performance highlights of different banks

B) BRANCH PRODUCTIVITY

In order to have wider and deeper understanding of the level of productivity, all the parameters of employee level productivity indices of business, deposit, advance, interest income, interest expended, non – interest income, spread and profit per branch have been presented and analyzed in the following paragraphs. The productivity parameter of all the four sample bank groups; namely, SBI Group, NB Group, PB group and FB Group are presented in Table - 3.5,Table- 3.6,Table-3.7 and Table-3.8 respectively, over the study period of 1991-92 to 2010-11.The branch level productivity indices are presented as follows :

I. Business Per Branch (BPB)
II. Deposits Per Branch (DPB)
III. Advances Per Branch (APB)
IV. Interest Income Per Branch (IIPB)
V. Non Interest Income Per Branch (NIIPB)
VI. Interest Expended Per Branch (IEPB)
VII. Spread per Branch (SPB)
VIII. Profit Per Branch (PPB)

Table – 3.5 Branch Productivity State Bank of India Group (SBI)

Rs in crore

Year	BPB	INDEX	DPB	INDEX	APB	INDEX	IIPB	INDEX	NIIPB	INDEX	IEPB	INDEX	SPB	INDEX	PPB	INDEX
1991-92	10.504	100	6.140	100	4.363	100	0.953	100	0.134	100	0.598	100	0.355	100	0.069	100
92-93	11.451	109	6.768	110	4.683	107	0.967	101	0.143	107	0.669	112	0.298	84	0.022	32
93-94	11.962	114	7.779	127	4.183	96	0.929	97	0.157	117	0.633	106	0.295	83	0.028	40
94-95	13.787	131	8.774	143	5.013	115	1.079	113	0.162	121	0.681	114	0.398	112	0.066	95
95-96	15.393	147	9.382	153	6.011	138	1.317	138	0.266	199	0.837	140	0.480	135	0.061	88
96-97	17.073	163	10.750	175	6.323	145	1.519	159	0.256	191	0.978	163	0.542	153	0.126	182
97-98	20.518	195	13.136	214	7.382	169	1.605	168	0.277	207	1.052	176	0.553	156	0.186	268
98-99	24.549	234	16.427	268	8.122	186	1.882	197	0.316	236	1.272	213	0.610	172	0.110	158
99-2000	28.597	272	19.010	310	9.587	220	2.165	227	0.358	268	1.476	247	0.689	194	0.199	287
2000-01	34.111	325	23.019	375	11.092	254	2.509	263	0.395	295	1.689	282	0.820	231	0.164	237
	325		**375**		**254**		**263**		**295**		**282**		**231**		**237**	
2001-02	37.932	361	25.827	421	12.105	277	2.850	299	0.443	331	1.954	327	0.897	253	0.254	366
2002-03	42.596	406	28.706	468	13.890	318	3.000	315	0.587	439	1.997	334	1.003	283	0.331	478
2003-04	47.927	456	31.806	518	16.122	369	2.994	314	0.798	597	1.857	310	1.138	321	0.410	591
2004-05	57.187	544	36.586	596	20.601	472	3.187	334	0.685	512	1.797	300	1.389	391	0.411	593
2005-06	65.557	624	38.907	634	26.649	611	3.523	370	0.703	525	1.995	333	1.528	431	0.427	617
2006-07	78.970	752	44.826	730	34.144	783	3.986	418	0.552	412	2.396	401	1.591	448	0.465	671
2007-08	88.033	838	49.815	811	38.218	876	4.533	476	0.761	569	3.078	514	1.456	410	0.580	837
2008-09	107.005	1019	61.695	1005	45.311	1038	5.464	573	0.985	736	3.784	633	1.680	473	0.729	1052
2009-10	108.106	1029	60.931	992	47.176	1081	5.386	565	1.011	756	3.642	609	1.744	492	0.684	987
2010-11	119.004	1133	66.188	1078	52.816	1210	5.835	612	1.022	764	3.560	595	2.274	641	0.630	910
	314		**256**		**436**		**205**		**231**		**182**		**254**		**248**	
	1133		**1078**		**1210**		**612**		**764**		**595**		**641**		**910**	

Source: 1) Financial Analysis of Banks 2) Performance highlights of different banks

Table – 3.6 Branch Productivity Nationalised Bank Group (NB)

Rs in crore

Year	BPB	INDEX	DPB	INDEX	APB	INDEX	IIPB	INDEX	NIIPB	INDEX	IEPB	INDEX	SPB	INDEX	PPB	INDEX
1991-92	8.449	100	5.405	100	3.044	100	0.641	100	0.069	100	0.460	100	0.181	100	0.054	100
92-93	9.300	110	6.072	112.3402	3.228	106	0.671	105	0.073	107	0.528	115	0.143	79	-0.123	-227
93-94	9.693	115	6.650	123.0279	3.043	100	0.671	105	0.091	132	0.502	109	0.169	94	-0.155	-286
94-95	11.338	134	7.661	141.7439	3.677	121	0.778	121	0.098	142	0.527	115	0.251	139	0.009	16
95-96	11.991	142	7.862	145.4551	4.129	136	0.939	146	0.117	169	0.641	139	0.298	165	-0.038	-70
96-97	13.365	158	9.024	166.946	4.341	143	1.074	168	0.127	184	0.743	161	0.331	183	0.046	84
97-98	16.225	192	11.165	206.5568	5.061	166	1.181	184	0.155	225	0.819	178	0.362	200	0.080	148
98-99	18.657	221	12.871	238.1279	5.786	190	1.365	213	0.161	233	0.951	207	0.414	229	0.055	102
99-2000	21.517	255	14.663	271.2907	6.854	225	1.533	239	0.202	293	1.082	235	0.451	250	0.074	137
2000-01	24.768	293	16.703	309.0248	8.065	265	1.739	271	0.219	317	1.184	257	0.555	307	0.064	118
	293		**309**		**265**		**271**		**317**		**256**		**307**		**118**	
2001-02	28.466	337	18.839	348.5363	9.627	316	1.890	295	0.321	466	1.299	282	0.591	327	0.148	273
2002-03	31.648	375	20.778	384.4078	10.871	357	2.002	312	0.401	581	1.287	280	0.715	396	0.235	434
2003-04	36.119	428	23.774	439.8416	12.345	406	2.051	320	0.512	744	1.208	262	0.843	467	0.325	601
2004-05	42.421	502	26.965	498.8758	15.456	508	2.170	339	0.410	595	1.221	265	0.949	525	0.280	516
2005-06	50.247	595	30.510	564.4744	19.737	648	2.406	375	0.355	515	1.374	298	1.032	571	0.297	549
2006-07	61.499	728	36.616	677.4352	24.883	818	2.930	457	0.335	486	1.776	386	1.154	639	0.367	677
2007-08	72.511	858	42.707	790.1339	29.804	979	3.577	558	0.516	748	2.491	541	1.086	601	0.461	851
2008-09	86.691	1026	50.669	937.425	36.022	1184	4.387	684	0.628	912	3.085	670	1.302	721	0.550	1015
2009-10	101.848	1205	59.446	1099.814	42.402	1393	4.786	747	0.702	1018	3.352	728	1.434	794	0.617	1139
2010-11	118.617	1404	68.203	1261.836	50.414	1656	5.594	873	0.624	906	3.580	777	2.014	1115	0.721	1330
	417		**362**		**524**		**296**		**194**		**275**		**341**		**487**	
	1404		**1262**		**1656**		**873**		**906**		**777**		**1115**		**1330**	

Source: 1) Financial Analysis of Banks 2) Performance highlights of different banks

Table – 3.7 Branch Productivity Private Sector Bank Group (PB)

Rs in crore

Year	BPB	INDEX	DPB	INDEX	APB	INDEX	IIPB	INDEX	NIIPB	INDEX	IEPB	INDEX	SPB	INDEX	PPB	INDEX
1991-92	4.866	100	3.192	100	1.674	100	0.359	100	0.038	100	0.210	100	0.149	100	0.043	100
92-93	5.979	123	3.939	123	2.040	122	0.428	119	0.053	140	0.296	141	0.132	89	0.015	36
93-94	7.420	153	4.986	156	2.434	145	0.512	143	0.076	198	0.342	163	0.170	114	0.033	76
94-95	9.886	203	6.448	202	3.439	205	0.641	179	0.150	392	0.446	213	0.195	131	0.088	206
95-96	13.089	269	7.901	248	5.189	310	0.983	274	0.220	578	0.725	345	0.257	173	0.128	299
96-97	16.682	343	10.297	323	6.385	381	1.425	397	0.219	575	1.027	489	0.398	267	0.152	354
97-98	22.505	463	14.905	467	7.601	454	1.692	471	0.335	877	1.266	603	0.426	286	0.181	421
98-99	25.179	517	17.646	553	7.533	450	2.120	591	0.308	807	1.662	792	0.458	308	0.150	349
99-2000	30.283	622	22.815	715	7.467	446	2.472	689	0.476	1247	1.865	888	0.607	407	0.255	594
2000-01	39.883	820	26.578	833	13.305	795	2.841	792	0.411	1078	2.095	998	0.746	500	0.228	531
	820		**833**		**795**		**792**		**1078**		**998**		**500**		**531**	
2001-02	53.826	1106	31.904	1000	21.922	1310	3.110	866	0.803	2103	2.301	1096	0.809	543	0.345	805
2002-03	63.023	1295	37.723	1182	25.300	1512	4.471	1245	1.328	3479	3.403	1621	1.068	717	0.539	1256
2003-04	74.991	1541	45.828	1436	29.164	1742	4.359	1214	1.299	3403	2.991	1425	1.367	917	0.594	1386
2004-05	80.473	1654	51.019	1598	29.454	1760	4.264	1188	1.034	2708	2.641	1258	1.622	1089	0.582	1356
2005-06	115.010	2364	66.457	2082	48.553	2901	5.464	1522	1.248	3268	3.336	1589	2.128	1428	0.764	1782
2006-07	138.321	2843	78.914	2472	59.408	3549	7.087	1974	1.764	4620	4.698	2238	2.389	1603	0.974	2271
2007-08	154.615	3178	87.456	2740	67.159	4013	9.215	2567	2.186	5726	6.283	2993	2.932	1968	1.234	2877
2008-09	143.777	2955	80.658	2527	63.119	3771	9.332	2600	1.977	5179	6.249	2977	3.082	2068	1.189	2774
2009-10	139.231	2862	78.722	2466	60.509	3615	7.923	2207	1.954	5119	4.899	2334	3.023	2029	1.254	2926
2010-11	150.012	3083	83.556	2618	66.456	3971	8.068	2248	1.727	4525	4.759	2267	3.309	2221	1.476	3442
	279		**262**		**303**		**259**		**215**		**207**		**409**		**427**	
	3028		**2618**		**3971**		**2248**		**4525**		**2267**		**2221**		**3442**	

Source: 1) Financial Analysis of Banks 2) Performance highlights of different banks

Table – 3.8 Branch Productivity Foreign Sector Group (FB)

Rs. in Crore

Year	BPB	INDEX	DPB	INDEX	APB	INDEX	IIPB	INDEX	NIIPB	INDEX	IEPB	INDEX	SPB	INDEX	PPB	INDEX
1991-92	187.727	100	121.568	100	66.158	100	19.863	100	6.058	100	12.906	100	6.957	100	4.309	100
92-93	223.621	119	149.100	123	74.521	113	25.914	130	2.214	37	17.971	139	7.943	114	-6.421	-149
93-94	260.465	139	179.840	148	80.625	122	23.201	117	5.160	85	13.465	104	9.736	140	3.493	81
94-95	287.821	153	185.848	153	101.974	154	23.417	118	7.470	123	14.166	110	9.252	133	3.742	87
95-96	299.877	160	168.760	139	131.117	198	28.082	141	8.573	142	19.339	150	8.743	126	4.433	103
96-97	358.591	191	206.540	170	152.051	230	35.170	177	7.949	131	22.193	172	12.977	187	3.778	88
97-98	396.500	211	235.566	194	160.934	243	37.269	188	10.516	174	23.198	180	14.071	202	3.456	80
98-99	417.632	222	255.418	210	162.214	245	43.187	217	10.214	169	28.571	221	14.615	210	2.912	68
99-2000	469.287	250	272.508	224	196.779	297	45.171	227	11.890	196	27.547	213	17.624	253	5.348	124
2000-01	538.374	287	311.789	256	226.584	342	49.847	251	13.232	218	30.363	235	19.484	280	4.974	115
	287		**256**		**342**		**251**		**218**		**235**		**280**		**115**	
2001-02	583.211	311	332.531	274	250.680	379	50.000	252	16.804	277	31.206	242	18.794	270	7.691	178
2002-03	672.933	358	383.944	316	288.989	437	49.589	250	17.072	282	28.006	217	21.583	310	10.122	235
2003-04	640.382	341	364.705	300	275.677	417	41.429	209	18.535	306	19.687	153	21.742	313	10.341	240
2004-05	716.031	381	382.765	315	333.265	504	40.575	204	17.102	282	17.881	139	22.695	326	8.770	204
2005-06	855.490	456	460.506	379	394.984	597	49.538	249	21.049	347	20.850	162	28.688	412	4.324	100
2006-07	1034.071	551	562.660	463	471.410	713	67.235	338	25.884	427	28.414	220	38.821	558	17.112	397
2007-08	1280.438	682	693.634	571	586.804	887	88.482	445	38.464	635	38.438	298	50.043	719	23.960	556
2008-09	1289.353	687	733.137	603	556.216	841	103.842	523	50.993	842	43.894	340	59.949	862	25.716	597
2009-10	1275.352	679	748.706	616	526.645	796	85.129	429	32.100	530	28.832	223	56.297	809	15.294	355
2010-11	1367.486	728	754.511	621	612.975	927	89.411	450	34.395	568	33.298	258	56.113	807	24.197	562
	234		**227**		**245**		**179**		**205**		**107**		**299**		**315**	
	728		**621**		**927**		**450**		**568**		**258**		**807**		**562**	

Source: 1) Financial Analysis of Banks 2) Performance highlights of different banks

C) OPERATIONAL PRODUCTIVITY

In addition to the per employee and per branch productivity of the four sample bank groups, the analysis of operational productivity is attempted in the following paragraphs. The main object is to get additional insight to the productivity of all the four bank groups. Operational productivity refers to how efficiently a bank manages the business. Basically five indicators are selected for the operational analysis of sample bank groups. They are:

I. Interest Income to Working Fund (IIWF)
II. Non- Interest Income to Working Fund (NIIWF)
III. Spread to Working Fund (SWF)
IV. Cost of Deposit (COD)
V. Return on Working Fund (ROWF)

Table – 3.9
Operational Productivity State Bank of India Group (SBI)

Rs. In Per cent

Year	IIWF	NIIWF	SWF	COD	ROWF
1991-92	10.233	1.436	3.810	9.742	0.744
92-93	9.767	1.443	3.010	9.880	0.225
93-94	8.448	1.425	2.685	8.143	0.253
94-95	8.867	1.334	3.269	7.763	0.539
95-96	9.167	1.849	3.343	8.916	0.424
96-97	9.749	1.641	3.476	9.094	0.807
97-98	9.112	1.573	3.138	8.009	1.056
98-99	9.149	1.538	2.965	7.745	0.533
99-2000	8.766	1.450	2.790	7.764	0.804
2000-01	8.441	1.329	2.758	7.338	0.551
	9.1699	**1.5018**	**3.1244**	**8.4394**	**0.5936**
2001-02	8.624	1.339	2.713	7.564	0.768
2002-03	8.274	1.619	2.766	6.958	0.914
2003-04	7.457	1.988	2.833	5.837	1.020
2004-05	7.024	1.510	3.062	4.913	0.905
2005-06	7.099	1.416	3.080	5.127	0.861
2006-07	6.991	0.968	2.789	5.345	0.815
2007-08	6.966	1.169	2.237	6.178	0.891
2008-09	6.967	1.255	2.142	6.134	0.929
2009-2010	6.936	1.302	2.246	5.977	0.880
2010-11	6.874	1.204	2.680	5.379	0.743
	7.3212	**1.377**	**2.6548**	**5.9412**	**0.8726**
	8.24555	**1.4394**	**2.8896**	**7.1903**	**0.7331**

Source: 1) Financial Analysis of Banks
2) Performance highlights of different banks

Table – 3.10 Operational Productivity Nationalised Banks Group (NB)

Rs. in Per cent

Year	IIWF	NIIWF	SWF	COD	ROWF
1991-92	10.169	1.093	2.865	8.519	0.859
92-93	9.528	1.042	2.029	8.699	-1.743
93-94	8.648	1.168	2.176	7.557	-1.999
94-95	8.489	1.068	2.735	6.883	0.097
95-96	9.222	1.146	2.924	8.153	-0.373
96-97	9.658	1.138	2.975	8.238	0.411
97-98	9.093	1.193	2.785	7.335	0.617
98-99	8.939	1.052	2.711	7.390	0.362
99-2000	9.071	1.193	2.670	7.376	0.440
2000-01	9.087	1.142	2.900	7.088	0.334
	9.19041	**1.1235**	**2.677**	**7.7238**	**-0.0995**
2001-02	8.776	1.491	2.743	6.898	0.688
2002-03	8.382	1.677	2.992	6.195	0.984
2003-04	7.434	1.857	3.055	5.082	1.179
2004-05	6.912	1.305	3.022	4.529	0.891
2005-06	6.733	0.993	2.888	4.503	0.832
2006-07	6.889	0.787	2.713	4.851	0.862
2007-08	7.159	1.032	2.174	5.833	0.922
2008-09	7.459	1.068	2.214	6.089	0.935
2009-10	6.869	1.007	2.058	5.639	0.886
2010-11	6.939	0.774	2.499	5.249	0.894
	7.3552	**1.1991**	**2.6358**	**5.4868**	**0.9073**
	8.2728	**1.1613**	**2.6564**	**6.6053**	**0.4039**

Source: 1) Financial Analysis of Banks
2) Performance highlights of different banks

Table – 3.11 Operational Productivity Private Sector Banks Group (PB)

Rs. In Per cent

Year	IIWF	NIIWF	SWF	COD	ROWF
1991-92	10.849	1.154	4.504	6.577	1.296
92-93	9.389	1.169	2.901	7.516	0.337
93-94	9.057	1.337	3.012	6.851	0.576
94-95	8.395	1.960	2.556	6.919	1.156
95-96	9.286	2.084	2.432	9.180	1.212
96-97	10.570	1.627	2.951	9.974	1.127
97-98	9.735	1.927	2.451	8.493	1.039
98-99	8.928	1.297	1.930	9.417	0.630
99-2000	8.990	1.731	2.207	8.175	0.927
2000-01	8.873	1.285	2.329	7.884	0.711
	9.4072	**1.5571**	**2.7273**	**8.0986**	**0.9011**
2001-02	9.747	2.516	2.537	7.211	1.082
2002-03	11.851	3.520	2.830	9.021	1.428
2003-04	6.954	2.073	2.181	6.528	0.948

2004-05	6.136	1.488	2.335	5.177	0.837
2005-06	6.162	1.407	2.400	5.020	0.862
2006-07	6.654	1.656	2.243	5.954	0.914
2007-08	7.566	1.794	2.407	7.184	1.013
2008-09	8.272	1.752	2.732	7.748	1.054
2009-10	7.196	1.775	2.746	6.223	1.139
2010-11	6.925	1.482	2.840	5.696	1.267
	7.7463	**1.9463**	**2.5251**	**6.5762**	**1.0544**
	8.57675	**1.7517**	**2.6262**	**7.3374**	**0.97775**

Source: 1) Financial Analysis of Banks
2) Performance highlights of different banks

Table – 3.12 Operational Productivity Foreign Sector Banks Group (FB)

Rs. In Per cent

Year	**IIWF**	**NIIWF**	**SWF**	**COD**	**ROWF**
1991-92	11.202	3.416	3.923	10.617	2.430
92-93	11.617	0.993	3.561	12.053	-2.879
93-94	9.997	2.223	4.195	7.487	1.505
94-95	9.372	2.990	3.703	7.622	1.498
95-96	10.124	3.091	3.152	11.460	1.598
96-97	11.078	2.504	4.088	10.745	1.190
97-98	10.389	2.932	3.923	9.848	0.963
98-99	10.266	2.428	3.474	11.186	0.692
99-2000	9.873	2.599	3.852	10.109	1.169
2000-01	9.312	2.472	3.640	9.738	0.929
	10.323	**2.564**	**3.7511**	**10.0865**	**0.9095**
2001-02	8.653	2.908	3.253	9.384	1.331
2002-03	7.674	2.642	3.340	7.294	1.566
2003-04	6.723	3.008	3.528	5.398	1.678
2004-05	6.837	2.882	3.824	4.671	1.478
2005-06	6.296	2.675	3.646	4.528	0.550
2006-07	6.481	2.495	3.742	5.050	1.650
2007-08	6.686	2.906	3.781	5.542	1.811
2008-09	6.781	3.330	3.915	5.987	1.679
2009-10	6.062	2.286	4.009	3.851	1.089
2010-11	5.803	2.232	3.642	4.413	1.570
	6.799	**2.736**	**3.668**	**5.6118**	**1.4402**
	8.561	**2.647**	**3.709**	**7.3491**	**1.17485**

Source: 1) Financial Analysis of Banks
2) Performance highlights of different banks

The above analysis of bank productivity indicated that, business per employee productivity improved during the study period of all four sample bank groups. However, business per branch has decreased in three bank groups except nationalized bank group. This indicates that SBI, PB and FB groups must concentrate on both deposits and advance pattern to increase the interest income. It is observed that deposit per employee of SBI, PB, and EB except NB declined which coincide with deposit per branch productivity in which only NB has been able to increase the deposit rate in the second phase and all other three groups have recorded a declining trend of deposit per branch. On the other hand advance per employee (APE) of three bank groups; SBI, NB and PB witnessed an upward movement in the second phase except FB. Similarly APB

(Advance per Branch) increased for SBI and NB groups but PB and FB groups experienced a negative productivity. SBI, PB bank groups have concentrated more on advance and loans and less on deposits resulting in a decrease in business per branch productivity. These banks should emphasise more on the deposit to increase their business per branch productivity. Further, FB group has given stress on deposits and less attention on advance. In order to increase business productivity FB must focus on advances in order to increase business productivity and to earn more interest income.

It is seen from the analysis that interest income per employee has increased for SBI, NB, PB groups. But FB group has experienced low productivity in IIPE the net result of low productivity both in APE and APB components. FB can recover by giving more emphasis on advance and investments. Interest income per branch has declined for all except NB group since all the other three bank groups have opened either more branches than required or have some unviable branches which need to be addressed by the management. Merger of branches can resolve the matter to a great extent.

The productivity analysis of NIIPE and NIIPB revealed that both have moved different direction for all the four sample bank groups. NIIPE of the entire sample bank group have a growth in productivity but NIIPB has a negative productivity for all bank groups. This indicates that banks have earned more from diversified business. But NIIPB decreased because of the problem of more branches or unviable branches. So it should either close some unviable branches or take steps for merger of branches.

Interest expanded per employee (IEPE) and branch (IEPB) indices of productivity points out that SBI, PB and FB groups have positive growth of productivity. But NB group has negative productivity indicating a high cost of fund.

The productivity analysis of spread to per employee and per branch showed a positive trend for SBI, NB and FB groups. PB has not able to improve it because it mostly comes under pressure due to differential pricing policy to meet the competition. PB should be more vigilant on mobilising deposits, borrowing and on expanding advances and investments. If PB continue with this trend of productivity it may find difficult in enhancing profitability. The ratio of interest income / working fund for all of the four sample bank groups had a negative growth almost for the entire study period. Low productivity of interest income always affects spread. Because severe competition in the banking industry it becomes difficult for the entire bank group to increase interest income. However, banks should concentrate in this main business of the bank to improve the growth rate interest income. Interest income/working fund of the entire four bank group have not increased. NB, PB, and FB groups have increased this ratio but SBI groups failed to improve the productivity in the second phase. It is to be considered that in the present banking environment it is necessary to improve non interest productivity as spread sparingly contribute to profitability. So all the bank groups in general and SBI is particular must concentrate on increasing productivity.

The spread/ working fund were negative for the entire four banks group and a decaling trend in the second phase. The spread of the sample bank groups is coming under pressure due to competition among banks. The cost of fund becoming high and at the same time priority sector lending factoring a low rate of interest income. In spite of these difficulties in order to be in the industry the bank should try to increase the spread productivity by reducing dependence on term deposit in order to reduce the cost of fund and at the same time concentrate on reducing reverse requirement to allocate their resources in efficient manner. The cost of deposit of the entire four bank group should a positive sign. As all bank group have been able to lowering the cost of deposit in the second phase indicating their effort to improve productivity as well as productivity. The bank should keep up this effort to improve speed.

Empirical analysis (profitability)

ANALYTICAL FRAME-WORK

The framework adopted for the purpose of analysis is chiefly based on the income and expenditure results in profit. There is definite relationship between income and expenditure which need to be carefully splitted and analysed, to derive their relative impact on profitability. At this juncture, it is important to mention the various assumptions of the analytical framework. The interest earned and interest paid are purely the prices of the funds lent and funds borrowed by banks. Manpower and all other expenses of a bank are incurred in order to provide services to different customers including the borrowers and depositors. In other words, conceptually, a borrower pays interest only as the price for the funds put at his disposal. Lending by bank involves many other activities, i.e. processing of proposal, day to day operations in the accounts, or follow up of the accounts, all involving costs to the bank. Conceptually, these are services, and, it is a different matter whether the bank charges for them separately or it provides the same free of cost.

The key entities in income and expenditure statement of a bank and their relationship are presented in Table-4.1 which presents the income and expenditure flows.

Table - 4.1 Income and Expenditure Flows

Part	Expenditure	Income	Difference
I.	K Interest Paid	R Interest Earned	S Spread
II.	M = Manpower or Establishment	C = Non-Interest Income	S=R-K B Burden B = M+O-C
Expenses	O = Other Expenses M+O = Non-Interest Expenses		
III.	E = Total Expenses	I = Total Income	P = Profit P = S-B P = I-E

As is evinced, the aforesaid table is divided into three parts. Part I is defined as 'spread,' the difference between interests earned (R) and interest paid (K). The difference between non-interest expenses (M+O) and non-interest income (C) in Part - II is defined as 'burden'. Non-interest expenses constitute manpower or establishment expenses (salary, taxes, provident fund, etc.) and other expenses (rent, insurance, publicity, stationery, etc.) and other expenses (rent, insurance, publicity, stationery, printing, etc.). On the other hand, non-interest income implies income other than interest income (commission, exchange and brokerage, other receipts, etc.). So the difference between spread (S) and burden (B) determines the profit (or loss) of a bank. Part III defines the profit (or loss) either the difference between spread and burden or the difference between total income (I) and total expenditure (E). The above theoretical formulation can be presented in the form of an equation which is as follows; P=S-B or P=R-K-(M+O-C).

Thus, in the analytical framework two elements, the spread and the burden play the key role. So, spread and burden are termed as primary or first associate factors. But these two primary factors are determined by several other underlying factors. These underlying factors are termed as secondary or second associate factor. Say for example, spread is the primary factor. But spread is the difference between other two underlying factors. i.e., interest earned and interest paid. So, interest earned and interests paid are called secondary or second associate factors.

Again, factors which influence and determine the secondary factors are termed as tertiary or third associate factors. Further, the factors which influence the tertiary or third associate factor are termed as the fourth associate factors, and so on. Interest earned and interest paid, termed as secondary factors, are influenced and affected by changes in interest rate and cash management, composition of interest-earning assets and interest paying liabilities. These are, therefore, third associate factors or tertiary factors. National policies like fiscal, monetary, etc. and decision within bank both in the banking industry and the particular bank influence the tertiary factor, Hence, these are termed as fourth associate factors and so on. In this regard, a model table has been constructed (Table – 4.2). The table clearly indicates some of the linkages which affect profitability of a bank. Once these factors are clearly understood, it is quite easy to develop appropriate strategies to enhance the profitability of a bank. Factor that affect profitability can broadly be classified into two, namely; controllable and uncontrollable. The factors which cannot be controlled are treated as constraints. So, banks have to work under such constraints. On the other hand, factors which are controllable may be endogenous or exogenous. The factors which are exogenous can be changed at the national level by the Reserve Bank of India (RBI) or the Ministry of Finance. Factors identified as endogenous can be changed and influenced through collective action by the banking industry, in general and the individual banks, in particular.

Table - 4.2 Linkage between Factors Affecting Bank Profitability

Variables to be controlled	Primary Factors	Secondary Factors	Tertiary Factors	Fourth Associate Factors
		Interest earned	1. Total earning Assets	1.Govt. and RBI Policies
			2. Composition of earning assets	2. Competition and co-operation among banks
	Spread		3.Yield on each type of assets	3.Quality of Asset management decision
		Interest paid	1.Total Int. paying liabilities	1. Govt. and RBI policies
			2. Composition of earning assets	2.Competition and co-operation among banks
			3. Interest rates on each components	3. Quality of liability management decision
Profit		Non Interest Income	1. Range and Volume of service	1. Competition among banks
			2. Service Charges	2. Discretionary power to manager
				3. Cost of services
	Burden	Manpower expenses plus	1. Number, Seniority and composition of employees	1. Recruitment, promotion And placement policies
			2. Salary Structure	2. Wage agreement and policies
		Other Exps. equal non-interest Exp.	1.Nature and Volume of Business	1.Quality of expenditure decision
			2. System and procedure	2.Budgeting and cost control,

EMPIRICAL ANALYSIS

In this section, data collected for the present study in respect sample bank groups are analysed with the help of the framework already mentioned in the earlier section. First, all India trends in bank (on the basis of the average of the four groups) are analysed. Subsequently, the four groups of banks, namely, SBI group, public sector bank group, private sector bank group, and foreign bank group are examined. Before switching over to framework analysis, it is relevant to explain the equation which forms the basis for the present framework.

We know

$$P=(S-B) \text{ or } P=(R-K)-[(M+O)-C]$$

Where S=Spread
B=Burden
R=Total interest earned
K=Total interest paid
M=Total manpower or establishment expenses
O=Total other expenses
C=Total non-interest or other income
P=Profit

If we relate both sides of the above equation to a common denominator V(where V means total volume of business or working fund), we get –

$$P/V= (R/V-K/V)-(M/V+O/V-C/V)$$

Using small letters to represent relative quantities, we get

$$P=(r-k)-(m + o -c)$$

Above equation indicates that -

Interest earned ratio $\mathbf{r} = \frac{\text{Total Interest Earned}}{\text{Volume of Business}}$

Interest paid ratio $\mathbf{k} = \frac{\text{Total Interest Paid}}{\text{Volume of Business}}$

Establishment expenses ratio

$$\mathbf{m} = \frac{\text{Total Establishment Expenses}}{\text{Volume of Business}}$$

Other expenses ratio $\mathbf{O} = \frac{\text{Other Expenses}}{\text{Volume of Business}}$

Other income ratio $\mathbf{C} = \frac{\text{Non-interest Income}}{\text{Volume of Business}}$

Profitability Ratio $\mathbf{p} = \frac{\text{Profit}}{\text{Volume of Business}}$

It is worth nothing that m= $\mathbf{M1/M_2}$
Where,

M_1 (Payout per employee ratio)
= Total Establishment Expenses

Total Number of Employees

M_2 (Volume of business per employee ratio)

= Volume of Business / Total Number of Employees

Thus, the profit equation can be rewritten as follows;

$$P=(r-k)-(M_1/M_2+o-c)$$

It is apparent from the aforesaid equation that for increasing profitability, a bank has to aim at widening the gap between interest earned ratio and interest paid ratio so as to increase spread ratio and lowering the burden ratio. Increasing the magnitude of spread ratio can be achieved by increasing the interest earned ratio (r) higher than the interest paid ratio (k). Lowering the burden ratio can be achieved by reducing manpower or establishment expenses (m), other expenses (o), and increasing other income ratio (c). Again, lowering (m) ratio can be possible by increasing volume of business per employee ratio (M_2) faster than payout per employee ratio (M_1). So, with the help of these indicators, analysis of profitability have been done for the all the sample bank groups in the following sections.

EMPIRICAL ANALYSIS RESULT –TOTAL SAMPLE (AVERAGE OF FOUR GROUP)

For the purpose of empirical analysis, the twenty year period under study have been divided into two distinct phases on the basis of profitability trend of the four sample bank groups. From 1991 - 92 to 2000 - 01, the profitability trend was inconsistent throughout, witnessing up and down-swings. This decade constitute the first phase for undertaking the empirical analysis. From 2001-02 to 2010-11, the profitability ratio of all four group increased almost continuously and display a fair degree of consistency. This ten year period comprise the second phase for our study. Deliberately the study period begin from 1991 – 92 because Narashimham Committee submitted its report for the Reform of the financial sector in the year 1991-92 and financial reformation began from 1991-92 onwards in the banking industry.

Table – 4.3 presents the various ratios relating to profitability for the total sample (average of all four sample groups) in two phases. As is seen in the said table, interest earned ratio (r) decreased by 2.21 percent in the second phase (2001 - 02 to 2010 - 11) from a level of 9.52 percent in the first phase (1991 - 92 to 2000 - 01) to 7.31 in the second phase. Interest paid ratio (k) also witnessed a similar trend of decline as it went down to 4.41 percent in the second phase from 6.45 percent in the first phase thereby recording a decline of 2.01 percent in the second phase.

Table - 4.3 Key Indicators for All India Average Commercial Banks

(in Rs. Per Rs. 100 f V *)

Indicators	First Phase (1991-92 to 2000-2001)	Second Phase (2001-02 to 2010-11)
r	9.52	7.31
k	6.45	4.44
S(r-k)	3.07	2.87
m	1.54	1.10
o	2.64	2.52
c	1.69	1.82
B(Burden)(m+o-c)	2.49	1.80
P(S-B)	0.58	1.07
M_1(Rs. in Crores)	0.020	0.077
M_2(Rs. in Crores)	1.647	7.53

* V = Volume of Business

Both interest earned ratio and interest paid ratio of the total sample banks declined in the second phase. However, the decline in interest earned ratio in the second phase has been more than that of interest paid ratio and resulted in a fall in spread ratio by 20 paisa per Rs.100 of banking business from a level of Rs.3.07 in the first phase to Rs.2.87 in second phase. Establishment expenses came down in the second phase because faster rise of M_2 (volume of business per employee) more than rise of M_1 (payout per employee) in the second phase as M_1 increased by 385 percent but M_2 enhanced by 457 percent in the second phase.

Other expenses ratio went down by 12 paisa per Rs.100 business from Rs.2.64 to Rs.2.52 in the first phase and second phase respectively. Other income, on the other hand increased by 13 paisa per Rs.100 business from Rs.1.69 in first phase to Rs.1.82 in second phase.

Thus, 44 paisa fall in manpower expenses ratio, 12 paisa fall in other expenses ratio and 13 paisa increase in other income ratio in the second phase of the study contributed an aggregate fall of 69 paisa (44+12+13) per Rs.100 of business in burden ratio. Profitability ratio increased by 49 paisa per Rs.100 business in the second phase from (58 paisa in the first phase to Rs. 1.07 in the second phase). The growth of profit is calculated as 84.48 percent in the second phase for the aggregate sample banks over the first phase of the study period.

It is inferred from Table- 4.3 that rise in the profitability ratio of the sample banks in the second phase was only due to fall in burden ratio i.e. fall in both establishment ratio and other expenses ratio and rise in other income ratio. It is observed that spread ratio which is regarded as the main contributor to the profitability ratio, made a negative impact on profitability ratio due to fall of 20 paisa per Rs.100 business. Despite the negative contribution by sprea, sample commercial banks could earn more profit due to good management of burden which was responsible for rise in profit. The burden ratio (m+o-c) made positive impact on profit because decline in establishment ratio which became possible due to faster rise in volume of business (M_2) than payment per employee (M_1) ratio. Other expenses ratio, another constituent of burden ratio also could make a positive impact on profitability of commercial banks because of fall of other expenses ratio.

Other income ratio of all the commercial banks also increased in the second phase and made favorable impact on profit. The other income based on non-fund based business like commission based business such as guarantees, foreign exchange business, remittance of fund and other service rendered to the customer have positive impact on profitability ratio. So combine establishment ratio, other expenses ratio and other fee-based business otherwise known as other income ratio can play a key role in improving the profitability ratio even if there is a decline in spreads, as witnessed from the above table. Hence we can conclude that increase in volume of business, increase in non-fund business and control over non-interest expenses (combine regarded as good management of burden) can have positive impact on profitability of commercial banks. This can even negate the negative impact by spread.

EMPIRICAL ANALYSIS RESULTS: GROUP-WISE

The foregone analysis broadly explains the profitability of total sample banks and the factor influencing for the twenty year period under study. In this section profitability through empirical analysis has been undertaken for the four sample bank groups i.e. S.B.I. group, nationalised bank group, private sector bank group and foreign bank group operating in India Such an analysis would help to reach at a tentative conclusion about the various factors that influences the profitability of sample bank groups. Besides, it would also indicate whether all the four bank groups under analysis have been influenced identically or otherwise by the various factors of profitability.

Table – 4.4 Key Indicators for S.B.I. Group

(in Rs. per Rs. 100 of V)

Indicators	First Phase (1991-92 to 2000-2001)	Second Phase (2001-02 to 2010-11)
r	9.17	7.32
k	6.04	4.67
S(r-k)	3.13	2.65
m	1.98	1.31
o	2.06	1.85
c	1.50	1.38
B(Burden)(m+o-c)	2.54	1.78
P(S-B)	0.59	0.87
M_1(Crores)	0.014	0.041
M_2(Crores)	0.711	3.358

V Indicates Volume of business

Table - 4.5 Key Indicators for Nationalised Bank Group

(in Rs. per Rs. 100 of V)

Indicators	First Phase (1991-92 to 2000-2001)	Second Phase (2001-02 to 2010-11)
r	9.19	7.36
k	6.51	4.72
S(r-k)	2.68	2.64
m	1.92	1.25
o	1.98	1.68
c	1.12	1.20
B(Burden)(m+o-c)	2.78	1.73
P(S-B)	-0.10	0.91
M_1(Rs. in crores)	0.013	0.014
M_2(Rs. in crores)	0.658	3.767

V Indicates Volume of business

Table - 4.6 Key Indicators for Private Sector Bank Group

(in Rs. per Rs. 100 of V)

Indicators	First Phase (1991-92 to 2000-2001)	second Phase (2001-02 to 2010-11)
r	9.41	7.75
k	6.68	5.22
S(r-k)	2.73	2.53
m	1.37	0.81
o	2.01	2.61
c	1.56	1.95
B(Burden)(m+o+c)	1.82	1.47
P(S-B)	0.91	1.06
M_1(Rs in crores)	0.013	0.054
M_2(Rs in crores)	0.950	6.824

V Indicates Volume of business

Table - 4.7 Key Indicators for Foreign Bank Group

(in Rs. per Rs. 100 of V)

Indicators	First Phase (1991-92 to 2000-01)	second Phase (2001-02 to 2010-11)
r	10.32	6.80
k	6.57	3.13
S(r-k)	3.75	3.67
m	0.89	1.04
o	4.51	3.93
c	2.56	2.74
B(Burden)(m+o-c)	2.84	2.23
P(S-B)	0.91	1.44
M_1(Rs. in Crores)	0.038	0.173
M_2(Rs. in Crores)	4.269	16.162

V- Indicates Volume of business

The above tables profitability analysis of the four sample bank groups have been undertaken by dividing the twenty year period under study into two distinct phases; the first phase covering ten years and second phase comprising the latter ten years. The analysis has been done through an analytical framework so as to find out the factors affecting profitability. This framework splits the income and expenditure statement to find out the relation between different components of income and expenditure and its impact on profitability. Basically, spread, difference between interests earned and interest paid and burden play major role in determining the profitability of a commercial bank. Both spread and burden are treated as primary on first associate factor. Factors which determine this primary factor are treated as secondary factor. Factors which determine their secondary factors are known as tertiary factor. The factors which influence this tertiary factor are termed as fourth associate factors. The framework adopted for the purpose of analysis have spread, burden and its components are to be related to a common denominator, volume of business (V) and to convert these into ratio. Establishment ratio is derived by dividing payout per employee (M_1) by volume of business per employee (M_2).

Analysis of total sample (average of all four sample groups) during second phase reveals that fall in establishment expenses, fall in other expenses and rise in other income ratio are the major determinant and main contributors to profitability. However, fall in spread ratio had a negative impact on profitability. So, increase in volume of business, control over other expenses and increase in fee-based business of banking sector have a positive impact on the profitability of the banking sector during the post reform era.

Sample group wise, S.B.I. bank group has improved profitability ratio due to fall in establishment ratio, fall in other expenses ratio. In this case, spread and other income have made negative contribution to the profitability ratio. Here the key to profitability is volume of business, check on other expenses and increase in commission based income.

Analysis of nationalized bank group indicates that both establishment ratio and other expenses ratio declined in the second phase. Over the same period other income ratio also increased. Contrary to expectations, spread influenced negatively to the profitability ratio. Profitability of nationalized bank group improved in the second phase only due to positive contribution by burden ratio. So, increased volume of business, check on other expenses and increase non-fund based business are the main contributors to the profitability ratio of nationalized bank group.

Analysis undertaken for sample private sector bank group depicts that decrease in establishment ratio and increase in other income ratio made it possible to improve profitability for this group in the second phase despite negative support by spread and other expenses ratio. So, volume of business and fee-based income are main determinants of profitability in case of sample private sector banks.

Perusal of framework for analysis of foreign bank group indicates that spread and establishment expenses contributed negatively to the profitability in the second phase. But decrease in other expenses and increase in other income ratio are the main factors which improved profitability ratio of foreign bank group in the second phase of our study. Despite negative contribution by establishment expenses ratio, burden ratio decreased in the second phase due to support of other expenses and income ratio and profitability improved in a situation where spread, the interest income, went down to create negative contribution on profitability. So, key to profitability in case of foreign bank group is proper handling of burden ratio.

Comparative study of all four groups reveals that in- spite of fall in spread ratio in the entire sample four bank groups in the second decade of the study period, profitability had improved in the second phase. None of the four sample bank groups deepened on spread ratio which is widely considered as the main determinant of profitability ratio of a bank. All the sample bank groups, alternatively stressed on the proper management of burden to increase profitability. Thus it is revealed that when compulsive reasons does not allow enhancement of the spread volume by the banks, profitability can be improved with proper handling and managing of burden. So under Indian financial environment burden management seems to be an important strategy for enhancing profitability along with successful discharge of social responsibility.

COMPARATIVE ANALYSIS OF THE FOUR SAMPLE BANK GROUPS

Table - 4.8 summaries study of the four sample bank groups as well as of the total sample (average of four groups) with the magnitude of rise in spread ratio rise non-interest expenses (establishment plus other expenses) and rise in other income ratio.

Table - 4.8Comparative Study of Profitability Performance of All Bank Groups
(In paisa per Rs.100 of Business)

	Rise in Spread	Rise in non-interest expenses (m+o)	Rise in other Income(C)	Rise in Profitability in 1st phase	Rise in Profitability in 2nd Phase	Rise in Profitability
	1	2	3	4	5	6
Total sample average of four Group	(-20)	(-56)	13	58	107	49
S.B.I. Group	(-48)	(-88)	(-12)	59	87	28
Nationalized Bank Group	(-04)	(-97)	08	(-10)	91	101
Private Bank Group	(-20)	04	39	91	106	15
Foreign Bank Group	(-08)	(-43)	18	91	144	53

(Figure in parenthesis indicates fall)

A close observation of Table- 4.8 reveals that all the four sample bank groups, namely SBI group, nationalized bank group, private bank group, foreign bank group have improved their profitability despite negative contribution by spread. However the rise in profitability of the four sample bank groups has not remained uniform during the study period of two decades covering 1991-92 to 2010-11. SBI Group has witnessed highest fall in spread as much as 48 paisa per Rs.100 of business. Against such odd, this group could able to increase profit in the second phase because of fall in non-interest expenditure. The main contributors to the profit of SBI group in the second phase are fall in non- interest expenses like establishment expenses (due to rise in volume of business) and other expenses ratio. Interestingly, though there has been fall in both interest and non-interest income in the second phase, SBI group has increased profit. This has been possible only because significant contribution by burden ratio of 76 paisa (-88+12) per Rs.100 of business. Stated otherwise, the profitability of SBI group has been possible because of increase in volume of business and cost control over other non-interest expenses. So it can be safely concluded that if proper control can be made on non-interest expenses and increasing volume of business, banks can increase profit even if they are unable to improve both its interest and non-interest income. Nationalised bank group which incurred loss in the first phase improved its ability to become the only bank group under study recording highest growth (101 paisa) in the second phase only due to proper burden management. It has highest fall of 97 paisa per Rs.100 of business in m+o ratio. It has also concentrated on improving other non-fund based income. So, it is inferred that proper burden management is the key in improving profitability despite the fall in interest income (spread) as seen in case of NB and SBI groups. Private sector bank group depended mainly on other income ratio to improve profitability in the second phase though spread and other non - interest expenses have negative impact on profitability. PB group have been successful in lowering the establishment expenses by 56 paisa per Rs.100 of business by the increasing the volume of business and control over manpower expenses but unsuccessful in lowering m+o ratio because of sharp rise in other expenses ratio. It is observed that private sector bank groups have given less attention on controlling other expenses ratio in comparison to establishment ratio. As a result, fall in establishment expenses could not compensate the rise in other expenses ratio in the second phase. But despite all these negative contribution by spread and other expenses, PB group improved its profitability mainly depending on improving non-fund based and commission based income. So, it is concluded that banks can earn profit by concentrating on other income if it fail to earn interest income and to control non-interest expenses. In this case, the key to profitability is non-interest income. Foreign bank group has been able to improve its profitability ratio in the second phase depending mainly on other income through increasing 18 paisa per Rs.100 of business and lowering m+o ratio of 43 paisa per Rs.100 of business. As it has succeeded in improving other income and controlling non-interest expenses, it became highest profit earner in the second phase even by the negative contribution of spread. It can be said otherwise that efficient burden management is not the only determinant to improve the profitability ratio. So, control over other expenses and improving non-interest income can also be the key to improving profitability as observed in case of foreign bank group in India.

Contemporary commercial banking system is highly complex and are discharging a number of responsibilities in any economy often conflicting in nature. Their role is heightened in countries like India where banks are now considered as catalyst for social change. Priority sector lending, financing agriculture and small business in the rural areas, rise in NPA are some of the problem areas which affect the interest earning of commercial banks adversely. Obligation like SLR, CRR requirements, etc. have continuously hindered the earning of banks. No doubt, in the post financial reform period the banking sector are given operational flexibility and financial autonomy to some extend regarding fixing rate of interest. However, at the same free time entry of banks, both Indian and foreign, into the banking industry are inviting wide competition among banks. As a result, banks have practically little freedom to change the rate of interest in the fear of loss of existing customers to competitors.

Under such a highly competitive financial environment, banks enjoy little freedom to increase gap between interest earned and interest paid so as to increase the spread volume. Consequently, the only option left for the banking industry where spread is unlikely to be extended, is the proper management of burden. Introduction of labor saving devices, increasing volume of business, adoption of modern technology are significant steps to control establishment expenses. Likewise, other expenses can be controlled through proper training of the staff about the various cost element and cost centre and improving their skill to keep controllable cost at the minimum. Further, other income can be improved through improving fee-based and commission based business. In short, proper management of burden can independently play positive role in improving profitability of commercial banks in the Indian financial environment. This has been proved through the analysis undertaken in the earlier part of this chapter. Thus, the widely accepted myth that social responsibility and profit cannot go hand in hand is exploded through the foregone analysis undertaken. Banks can earn handsome profit even after meeting the various social obligatory responsibilities. Therefore the key to profit and profitability of commercial banks in the Indian financial environment are - high volume of business (in total as well as per employee), check on the various controllable expenditure through cost awareness drive among the staff and improving non-fund based business. It is also concluded that apt management of spread comparatively contributes less than the efficient management of burden to improve profitability. Stated otherwise, though spread is crucial for profits and profitability, but in case of financial compulsions proper burden management can also be an important instrument to improve upon profits and profitability.

FINDINGS OF THE STUDY

i) Analysis of productivity

Productivity is a vital indicator of economic performance. In a service sector industry like banking which operate under highly competitive conditions, productivity acquires considerable significance. The productivity parameters for the present study are employee productivity, branch productivity and operational productivity over the two phases of all the four sample bank groups.

ii) Analysis of profitability

The analysis of productivity is supplemented and complemented by the analysis of profitability since profitability is the net outcome of efficiency and productivity. As in case of productivity, the profitability analysis of the four sample banks groups have been done by dividing the post reform twenty years period into to distinct phases of ten tears each. Broadly, the primary factors of commercial bank profitability are spread and burden. Secondary factors are those which influence the primary factors and factors which impact the secondary factors are termed as tertiary factors and so on. The total sample analysis (average of the four sample bank group) during the second phase of reforms reveal that the decline in establishment expenses, other expenses and increase in other income components are the main determinants of profitability. Decline in spread remained a drag on profitability on banks.

Among the four sample bank group, SBI group's improved profitability is the net outcome of fall in establishment expenses as well as other expenses coupled with increase in other income. In case of nationalised bank group, the key to higher profitability is decline of establishment expenses other expenses as well as burden during the study period. Analysis of private sector bank group depicts that decline of establishment ratio, an increase of other income, are the major contributor to profitability. Foreign bank group's analysis of profitability discerns that increase in other income and decrease in other expenses is the main factors improving the profitability. In other words, proper handling of the burden ratio by this group has been the main contributor of profitability. One of the interesting observation regarding Indian banking sector profitability in the post reform era is that despite a fall in the 'spread' component, which is considered under the normal circumstances as the primary profitability determinant, improvement of profitability is observed. As a matter of fact, none of the four sample bank groups depended upon 'spread' to improve their profitability. Alternatively, all the four sample groups judiciously managed the 'burden' component which contributed to their increased profitability. Specially, "burden management" emerged as a more appropriate financial strategy for the banking sector to increase profitability than enhancing the 'spread' volume which is firmly associated with several socio-economic compulsions. In other words, the Indian banking system seems to be coming of age since it could manage to increase its profitability by an efficient management of the burden component, a major determinant of profitability. This trend is also crucial since higher profitability through burden management is achieved by the banking sector during the second decade of the reform era when the reform process deepened and intensified.

LIMITATIONS AND SCOPE OF FUTURE RESEARCH

Since the data of the present study have been collected mainly from secondary sources it has its own limitations. Similarly, to bring uniformity in the data and analysis procedure, some approximations are made which has got its own limitations. Only selected banks for which data are available throughout the study period have been included in the present study. Various analytical tools which are used in the present study have their own limitations. Despite all these limitations, the finding and conclusions of the study of this kind without doubt provide on empirical basis to the studies undertaken in the area of banking profitability and productivity. Therefore the significance of such empirical studies can hardly be overemphasized.

Within available time and resources, the present study have been attempted to be more intensive and comprehensive. The finding of the present study no doubt will throw new light on productivity and profitability studies undertaken for the banking sector. Besides, the research gaps that exist provide a new dimension for future research work in the era of profitability and productivity. Qualitative dimensions of profitability and productivity can be explored in future research studies by including social profitability and social productivity dimensions in to such studies. It is hoped that the analysis done, interpretations made and conclusions derived in the present study will act as a springboard to the future research endeavors in the years to come.

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