

Profitability Performance of Public Sector Banks In India

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INTRODUCTION

The banking industry, one of the most important instruments of the national development, occupies a unique place in a nation's economy. Profit is the main reason for the continued existence of every commercial organization and profitability depicts the relationship of the absolute amount of profit with various other factors. The main source of operating income of a commercial bank are- interest and discount earned, commission, brokerage, income from non-banking assets and profit from sale of or dealing with such assets and other receipts. The expenditure broadly consists of – interest paid on deposits and borrowings and non interest cost or charges incurred on staff salary, stationery, rent, law charges, postage, telegram, telephone etc. In this context, some attempts have already been made at individual as well as at the official level and various aspects of commercial banking profitability have been discussed. A brief review of these studies is given hereunder.

REVIEW OF LITERATURE

Verghese, S.K. (1983) has measured the profitability of commercial banks (public sector banks, private sector banks and foreign banks) in terms of gross profit, net profit, operating margin, gross yield on assets, spread and spread ratios. Vashisht, A.K. (1987) evaluated the performance of public sector banks on the basis of branch expansion, deposits, credit, priority sector advances, DRI advances and net profit. For the study, the researcher ranked the banks as excellent, good, fair and poor using composite weighted growth index. In their study, Bhatia, S. and Verma, S. (1999) determined the factors influencing the profitability of public sector banks in India by making use of ratio of net profits as percentage of working funds. They concluded that spread and burden play a major role in determining the profitability of commercial banks. Chandan, C.L. and Rajput, P.K. (2002) measured the performance of banks on the basis of profitability analysis. Sangmi, M. (2002) in his study has suggested that the position of operating cost can be improved with the introduction of high level technology as well as by improving the per employee productivity. Qamar, F. (2003) in his paper examined commercial banks in terms of endowment factors, risk factors, revenue diversification, profitability and efficiency parameters. Sudan, M. and Bali, M. (2004) have made an attempt to find out the major determinants of profitability in banks. Kohli, H. and Chawla, A.S. (2006) made an attempt to analyze the emerging trends in profits and profitability of four banks, two each from Public Sector and Private Sector Banks. The variables like interest income, interest expenditure, non-interest income, non-interest expenditure, total assets, operating expenditure, deposits and advances have been used and Trend analysis and ratio analysis have been employed. Rajkumar, P.K. (2007) used the data relating to Income, Expenditure and Profits. He calculated the ratios relating to interest, expenditure, income and operating profit to examine the profitability of private sector banks. Uppal, R.K. and Kaur, R. (2007) emphasized that cost should be properly managed to improve the profitability of banks because the net profits were affected by the increase or decrease in operating cost. In the light of existing studies, the present paper aimed at the following objectives:

OBJECTIVES OF THE STUDY

The study is aimed to achieve the following objectives:

1. To analyze the profitability of public sector banks in India.
2. To identify the factors responsible for good or poor profitability performance.

DATA AND METHODOLOGY

The study has been conducted with reference to the data related to all public sector banks (SBI and its associates and nationalized banks) operating in India. The public sector banks have been studied with the belief that they hold the largest market share of banking business in India. The reference period for the analysis of the data has been taken from 1997-98 to 2006-07. The data for the study purpose has been taken mainly from 'Statistical Tables Relating to Banks in India' published by Reserve Bank of India. Ratio analysis has been used to evaluate the profitability performance of public sector banks and following ratios have been calculated:

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- Interest Income to Total Assets.
- Interest Expended to Total Assets.
- Spread to Total Assets.
- Non Interest Income to Total Assets.
- Non Interest Expenditure to Total Assets.
- Burden to Total Assets.
- Net Profits to Total Assets.

ANALYSIS OF DATA

The following statistical tools have been used for analyzing the data:

1. $\bar{X} = \Sigma X / N$
2. $\sigma = \sqrt{(\Sigma X^2 / N)}$
3. $C.V. = (\sigma / \bar{X}) * 100$

TABLE 1.1: INTEREST INCOME TO TOTAL ASSETS (%)

S.N	BANKS	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	MEAN	S.D.	C.V.
1	SBI	8.84	8.59	8.49	8.24	8.56	8.27	7.47	7.05	7.28	6.97	7.98	0.71	8.85
2	SBBJ	9.98	9.42	8.95	9.14	8.73	7.97	7.77	7.43	7.14	7.26	8.38	0.99	11.87
3	SBH	9.74	9.30	9.56	9.23	8.67	7.91	7.22	6.66	6.77	7.11	8.22	1.22	14.84
4	SBIIn	9.95	9.98	8.92	8.63	8.83	8.67	8.02	6.57	6.39	6.96	8.29	1.29	15.56
5	SBM	10.45	10.14	9.66	9.72	9.38	9.15	7.68	7.09	6.96	6.73	8.70	1.42	16.38
6	SBP	9.75	9.38	9.51	9.38	8.68	8.28	7.02	6.77	5.97	6.68	8.14	1.41	17.29
7	SBS	9.66	9.41	9.25	8.95	8.99	8.32	7.62	7.52	7.12	7.10	8.39	0.98	11.72
8	SBT	10.75	9.34	9.32	9.08	8.82	8.32	7.25	6.96	7.21	7.45	8.45	1.23	14.54
9	ALLB	9.27	9.15	9.36	9.37	9.18	9.16	7.69	7.06	6.81	7.22	8.43	1.09	12.88
10	AB	9.92	9.11	9.12	9.20	9.69	8.89	8.25	6.97	6.58	6.97	8.47	1.21	14.33
11	BOB	9.10	9.23	8.91	9.09	8.40	7.98	7.22	6.79	6.22	6.44	7.94	1.18	14.87
12	BOI	8.49	8.51	8.45	8.93	8.03	7.74	6.83	6.35	6.26	6.48	7.61	1.03	13.52
13	BOM	9.30	9.31	9.64	8.96	9.31	8.35	6.84	7.20	7.93	6.98	8.38	1.08	12.83
14	CB	8.87	9.75	8.92	8.46	8.82	8.11	7.04	6.86	6.56	6.85	8.02	1.11	13.88
15	CBI	9.31	9.29	9.04	9.03	8.85	8.88	7.99	7.59	7.21	6.70	8.39	0.94	11.22
16	COB	9.16	9.05	9.57	9.16	8.24	8.00	7.55	6.63	6.48	6.51	8.04	1.20	14.91
17	DB	9.92	10.05	9.42	9.58	9.07	8.79	7.83	7.18	6.63	6.74	8.52	1.32	15.47
18	IB	7.53	7.58	8.07	7.88	7.58	7.16	6.81	6.54	7.06	7.63	7.38	0.48	6.48
19	IOB	9.26	9.40	9.07	9.22	8.95	8.47	7.93	7.78	7.42	7.09	8.46	0.84	9.97
20	OBC	9.86	9.97	10.02	10.19	9.42	9.69	8.05	6.61	6.99	6.99	8.78	1.45	16.57
21	PSB	9.35	9.30	9.50	9.23	9.20	8.86	8.52	7.94	6.82	7.86	8.66	0.87	10.03
22	PNB	10.04	9.60	9.52	9.23	9.12	8.68	7.60	6.70	6.60	7.10	8.42	1.30	15.40
23	SB	8.69	9.45	8.97	9.89	9.08	8.35	6.53	7.21	6.63	6.77	8.16	1.26	15.46
24	UBI	7.78	8.16	8.39	8.32	8.10	8.00	7.07	6.50	7.04	7.10	7.65	0.66	8.64
25	UntBI	9.72	9.19	9.48	9.58	9.05	8.43	7.74	6.86	6.58	7.19	8.38	1.20	14.29
26	UCB	9.28	8.44	8.70	8.99	8.93	8.73	8.02	7.33	7.10	6.74	8.23	0.88	10.74
27	VB	8.58	9.01	9.36	9.51	9.53	8.76	8.06	7.15	7.33	6.66	8.40	1.04	12.44
	MEAN	9.35	9.23	9.15	9.12	8.86	8.44	7.54	7.01	6.86	6.97	8.25		
	S.D.	0.73	0.58	0.46	0.50	0.48	0.52	0.50	0.40	0.43	0.34			
	C.V.	7.86	6.29	4.98	5.53	5.44	6.16	6.69	5.77	6.25	4.84			

Table 1.1 exhibits the ratio of interest income as a percentage of total assets during the period 1998 -2007 for all the public sector banks. This ratio is an indicator of the rate at which a commercial bank earns income by lending the funds to the public. The higher ratio is an indicator of efficient management of banks' total assets. The table also reveals the standard deviation (S.D.) and co-efficient of variance (C.V.) for each nationalized banks over the study period and also for each year across the 27 banks. They measure the degree of variability of the ratio. Bank wise statistical analysis shows that the maximum average ratio is in the case of OBC i.e. 8.78% followed by

SBM i.e.8.70% while the ratio was minimum for IB i.e.7.38% followed by BOI i.e.7.61%. The ratio in terms of dispersion was more variable in the case of SBP i.e. 17.29% followed by OBC i.e. 16.57%. Year wise the average ratio which was 9.35% in 1998 became 6.97% in 2007. The ratio in terms of dispersion has moved from 7.86% in 1998 to 4.84% in 2007.

TABLE 1.2: INTEREST EXPENDED TO TOTAL ASSETS (%)

S.N.	BANKS	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	MEAN	S.D.	C.V.
1	SBI	5.83	5.86	5.84	5.63	5.95	5.62	4.73	4.02	4.13	4.14	5.17	0.82	15.86
2	SBBJ	6.30	6.19	5.95	5.85	5.58	4.92	4.23	3.72	3.54	4.16	5.04	1.06	21.04
3	SBH	6.13	5.77	6.21	5.90	5.74	5.05	4.48	3.90	4.07	4.35	5.16	0.89	17.32
4	SBIIn	6.09	6.05	5.93	5.79	5.92	5.44	4.54	3.60	3.77	4.58	5.17	0.97	18.68
5	SBM	6.50	6.56	6.26	6.39	6.33	5.74	4.38	3.76	3.80	4.07	5.38	1.22	22.60
6	SBP	6.07	5.85	5.65	5.16	4.89	4.58	3.96	3.67	3.55	4.34	4.77	0.90	18.94
7	SBS	6.03	5.92	6.05	6.02	6.01	5.38	4.47	4.15	4.22	4.65	5.29	0.82	15.55
8	SBT	7.81	7.16	7.06	6.35	6.24	5.58	4.40	3.85	4.22	4.47	5.71	1.41	24.73
9	ALLB	6.44	6.34	6.50	6.29	6.23	5.92	4.56	4.03	3.96	4.63	5.49	1.06	19.26
10	AB	6.56	6.20	6.49	6.74	6.95	5.84	4.87	3.71	3.70	3.99	5.51	1.31	23.80
11	BOB	6.19	6.22	5.98	6.03	5.75	5.23	4.20	3.65	3.42	3.79	5.05	1.15	22.85
12	BOI	5.72	5.90	6.14	6.15	5.40	5.08	4.24	4.00	3.92	4.05	5.06	0.93	18.34
13	BOM	5.80	6.02	6.57	6.03	6.57	5.64	4.44	4.52	4.81	4.17	5.46	0.90	16.43
14	CB	6.37	6.51	6.28	5.62	6.30	5.39	4.34	4.01	3.86	4.42	5.31	1.06	19.94
15	CBI	6.20	6.32	6.08	5.96	5.93	5.56	4.64	4.13	4.02	4.04	5.29	0.97	18.25
16	COB	5.70	6.53	6.84	6.21	5.59	4.99	4.24	3.30	3.46	3.89	5.08	1.29	25.46
17	DB	6.44	7.09	6.94	7.08	6.72	5.97	5.16	4.32	3.91	4.02	5.76	1.30	22.55
18	IB	6.95	6.66	6.45	6.05	5.83	4.84	3.96	3.57	3.89	4.30	5.25	1.28	24.35
19	IOB	6.95	7.09	6.61	6.31	6.21	5.50	4.55	4.12	3.94	3.98	5.53	1.27	23.01
20	OBC	6.48	6.87	7.11	7.27	6.41	6.15	4.50	3.79	4.27	4.70	5.75	1.30	22.64
21	PSB	6.72	6.91	7.15	6.72	6.90	6.20	5.23	4.30	3.51	4.37	5.80	1.33	22.97
22	PNB	6.79	6.03	6.54	6.02	5.97	5.06	4.06	3.53	3.39	3.71	5.11	1.33	25.95
23	SB	5.84	6.51	5.94	6.01	5.59	4.84	3.51	3.96	3.55	4.36	5.01	1.11	22.15
24	UBI	5.84	6.01	6.05	5.90	5.77	5.47	4.34	3.92	4.51	4.84	5.27	0.79	14.99
25	UntBI	6.55	6.52	6.74	6.45	6.04	5.50	4.77	4.01	3.92	4.47	5.50	1.12	20.30
26	UCB	6.51	6.44	6.59	6.60	6.29	5.77	5.00	4.18	4.03	3.96	5.54	1.13	20.41
27	VB	5.82	6.15	6.33	6.28	6.52	5.38	4.58	3.78	4.25	4.13	5.32	1.04	19.61
	MEAN	6.32	6.36	6.38	6.18	6.06	5.43	4.46	3.91	3.91	4.24	5.33		
	S.D.	0.48	0.41	0.41	0.45	0.47	0.42	0.37	0.27	0.34	0.29			
	C.V.	7.52	6.41	6.47	7.26	7.71	7.65	8.36	7.03	8.78	6.87			

Table 1.2 presents the ratio of interest expended as a percentage of total assets over the period 1998 to 2007 for all the public sector banks. Interest Expended to Total Assets Ratios shows the rate at which a commercial bank incurs expenditure by borrowing funds. Interest expenses by banks refer to fund based expenditure which consists of interest paid on total deposits (time deposit plus saving deposit plus demand deposit) and interest paid on external borrowings (debt). Lesser the ratio, greater is the profit margin and efficiency of a bank. Bank wise statistical analysis shows that the maximum average ratio is in the case of PSB i.e. 5.80% followed by DB i.e.5.76%, while the ratio was minimum for SBP i.e. 4.77% followed by SB i.e. 5.01%. The ratio in terms of dispersion was more variable in the case of PNB i.e. 25.95% followed by COB i.e.25.46%. Year wise, the average ratio which was 6.32% in 1998 became 4.24% in 2007. The ratio in terms of dispersion has moved from 7.52% in 1998 to 6.87% in 2007.

TABLE 1.3 :SPREAD TO TOTAL ASSETS (%)

S.N.	BANKS	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	MEAN	S.D.	C.V.
1	SBI	3.01	2.72	2.65	2.61	2.61	2.65	2.74	3.03	3.16	2.83	2.80	0.20	7.03
2	SBBJ	3.68	3.23	3.00	3.29	3.15	3.06	3.54	3.71	3.61	3.10	3.34	0.27	8.19
3	SBH	3.61	3.53	3.35	3.33	2.94	2.86	2.75	2.76	2.69	2.76	3.06	0.36	11.72
4	SBIIn	3.86	3.92	2.99	2.84	2.91	3.23	3.48	2.97	2.61	2.38	3.12	0.51	16.21
5	SBM	3.94	3.58	3.39	3.33	3.04	3.41	3.30	3.33	3.16	2.66	3.32	0.34	10.12

6	SBP	3.68	3.53	3.86	4.22	3.79	3.71	3.06	3.10	2.42	2.34	3.37	0.63	18.55
7	SBS	3.63	3.49	3.20	2.93	2.99	2.94	3.15	3.37	2.90	2.45	3.11	0.34	11.06
8	SBT	2.94	2.18	2.27	2.73	2.57	2.75	2.85	3.10	3.00	2.98	2.74	0.31	11.36
9	ALLB	2.82	2.82	2.86	3.09	2.95	3.24	3.13	3.02	2.85	2.59	2.94	0.19	6.44
10	AB	3.37	2.91	2.63	2.45	2.75	3.05	3.37	3.27	2.87	2.98	2.97	0.31	10.40
11	BOB	2.91	3.01	2.92	3.06	2.65	2.75	3.02	3.15	2.80	2.64	2.89	0.17	6.03
12	BOI	2.77	2.61	2.31	2.78	2.64	2.66	2.59	2.36	2.34	2.43	2.55	0.18	6.91
13	BOM	3.50	3.29	3.07	2.93	2.73	2.71	2.40	2.68	3.11	2.80	2.92	0.33	11.12
14	CB	2.49	3.24	2.64	2.83	2.52	2.72	2.69	2.86	2.70	2.43	2.71	0.23	8.58
15	CBI	3.11	2.97	2.96	3.07	2.92	3.32	3.35	3.46	3.19	2.66	3.10	0.24	7.73
16	COB	3.46	2.52	2.73	2.95	2.65	3.02	3.31	3.33	3.03	2.61	2.96	0.33	11.12
17	DB	3.48	2.97	2.48	2.51	2.35	2.82	2.67	2.86	2.72	2.72	2.76	0.31	11.41
18	IB	0.57	0.92	1.61	1.84	1.75	2.32	2.85	2.97	3.17	3.33	2.13	0.95	44.67
19	IOB	2.31	2.31	2.46	2.91	2.74	2.97	3.38	3.65	3.48	3.11	2.93	0.48	16.46
20	OBC	3.38	3.10	2.90	2.92	3.01	3.54	3.55	2.82	2.72	2.29	3.02	0.39	12.95
21	PSB	2.63	2.38	2.35	2.51	2.30	2.67	3.29	3.64	3.31	3.49	2.86	0.52	18.13
22	PNB	3.25	3.57	2.99	3.21	3.15	3.62	3.54	3.17	3.21	3.40	3.31	0.21	6.35
23	SB	2.85	2.94	3.04	3.87	3.49	3.51	3.03	3.25	3.08	2.41	3.15	0.41	12.93
24	UBI	1.94	2.15	2.35	2.42	2.33	2.53	2.73	2.58	2.53	2.26	2.38	0.23	9.61
25	UntBI	3.17	2.66	2.74	3.13	3.01	2.93	2.98	2.85	2.66	2.72	2.89	0.19	6.51
26	UCB	2.77	2.00	2.10	2.39	2.64	2.97	3.02	3.15	3.07	2.78	2.69	0.40	14.98
27	VB	2.76	2.86	3.03	3.23	3.01	3.37	3.48	3.36	3.08	2.53	3.07	0.30	9.76
	MEAN	3.03	2.87	2.77	2.94	2.80	3.01	3.08	3.10	2.94	2.73	2.93		
	S.D.	0.69	0.63	0.46	0.47	0.39	0.36	0.33	0.33	0.31	0.34			
	C.V.	22.86	21.88	16.44	16.05	14.07	11.93	10.75	10.64	10.50	12.37			

Table 1.3 shows the ratio of spread as a percentage of total assets over the period of 1998 to 2007 for all the public sector banks. This ratio is the difference between interest earned from lending the funds by bank and the interest paid on deposits and borrowings. Bank wise statistical analysis shows that the maximum average ratio is in the case of SBP i.e.3.37% followed by SBBJ i.e.3.34% while the ratio was minimum for IB i.e. 2.13% followed by UBI i.e. 2.38%. The ratio in terms of dispersion was more variable in the case of IB i.e. 44.67% followed by SBP i.e. 18.55%. Year wise, the average ratio which was 3.03% in 1998 became 2.73% in 2007. The ratio in terms of dispersion has moved from 22.86% in 1998 to 12.37% in 2007.

TABLE 1.4: NON INTEREST INCOME TO TOTAL ASSETS (%)

S.N.	BANKS	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	MEAN	S.D.	C.V.
1	SBI	1.57	1.48	1.36	1.27	1.20	1.53	1.87	1.55	1.51	1.02	1.43	0.23	16.31
2	SBBJ	1.91	1.60	1.76	1.72	1.93	1.88	2.43	2.06	0.90	1.05	1.73	0.45	26.32
3	SBH	1.60	1.44	1.72	1.57	1.65	1.77	2.31	1.21	1.13	0.93	1.53	0.39	25.24
4	SBIIn	1.77	1.79	2.14	1.98	2.73	2.65	2.77	1.05	1.18	0.88	1.89	0.70	36.79
5	SBM	1.65	1.75	1.98	1.82	2.25	2.59	2.47	2.30	1.74	1.20	1.97	0.43	21.76
6	SBP	1.02	1.22	1.34	1.19	1.53	1.62	2.34	1.13	0.84	0.71	1.29	0.46	35.83
7	SBS	1.79	1.43	1.51	1.31	1.85	1.98	2.38	0.88	0.64	0.60	1.44	0.59	41.14
8	SBT	1.63	1.40	1.57	1.34	1.40	1.58	1.96	1.41	1.10	0.58	1.40	0.36	25.93
9	ALLB	1.45	1.20	1.31	1.10	1.55	1.87	2.16	1.42	0.87	0.56	1.35	0.46	34.31
10	AB	1.26	1.27	1.47	1.00	1.45	2.45	2.51	2.30	0.96	0.94	1.56	0.62	39.82
11	BOB	1.19	1.11	1.09	1.12	1.40	1.65	2.02	1.38	0.99	0.82	1.28	0.35	27.42
12	BOI	1.25	1.06	1.40	1.45	1.58	2.14	2.11	1.22	1.05	1.10	1.44	0.40	27.98
13	BOM	0.87	0.88	1.21	1.17	1.43	1.45	1.44	1.17	0.17	0.68	1.05	0.41	38.81
14	CB	1.41	1.31	1.54	1.38	1.98	1.84	2.08	1.40	0.99	0.87	1.48	0.39	26.68
15	CBI	1.12	0.99	1.05	0.99	1.14	0.97	1.52	1.34	0.71	0.51	1.04	0.29	27.66
16	COB	1.29	1.32	1.62	1.48	1.62	2.02	1.77	1.66	1.17	1.07	1.50	0.29	19.49
17	DB	1.50	1.03	1.26	1.11	1.87	2.17	2.79	1.30	1.65	1.24	1.59	0.55	34.49
18	IB	1.02	0.93	1.17	1.19	1.66	1.48	1.91	1.30	0.97	1.31	1.29	0.31	24.32
19	IOB	0.97	1.03	0.96	1.00	1.50	1.26	1.57	1.57	0.91	0.47	1.12	0.35	31.17

20	OBC	0.94	0.92	0.90	0.99	1.47	1.59	1.76	0.93	0.94	0.82	1.13	0.34	30.34
21	PSB	1.28	1.06	1.30	1.24	1.66	2.12	1.70	1.63	0.63	1.04	1.37	0.42	30.97
22	PNB	1.60	1.18	1.34	1.23	1.34	1.45	1.82	1.33	0.88	0.64	1.28	0.34	26.31
23	SB	1.13	1.24	1.13	1.00	0.87	1.44	1.64	1.13	0.92	0.69	1.12	0.28	24.75
24	UBI	1.03	0.90	1.06	1.09	1.86	1.75	1.43	0.94	0.60	0.59	1.13	0.43	38.21
25	UntBI	0.81	0.84	0.85	0.80	1.12	1.61	1.43	1.06	0.55	0.67	0.97	0.33	34.26
26	UCB	0.98	0.67	0.72	0.77	1.73	1.76	1.96	1.64	1.31	0.76	1.23	0.51	41.37
27	VB	0.86	0.98	0.91	1.10	1.17	1.81	2.18	1.20	0.90	0.65	1.18	0.47	39.93
	MEAN	1.29	1.19	1.32	1.24	1.59	1.79	2.01	1.39	0.97	0.83	1.36		
	S.D.	0.32	0.28	0.34	0.29	0.38	0.39	0.40	0.37	0.33	0.24			
	C.V.	24.79	23.48	25.90	23.42	23.86	21.70	19.67	26.59	34.32	28.47			

Table 1.4 shows the ratio of non- interest income as a percentage of total assets over the period 1998 to 2007 for all the public sector banks. Non interest income of banks represents income earned by way of commission, brokerage, service charges and other miscellaneous receipts. Efforts should be made to closely monitor this ratio so that the burden can be reduced and bank profitability can be increased. In the year 2007, this ratio was maximum in case of IB i.e. 1.31% and minimum was in case of CBI i.e. 0.51%. Bank wise statistical analysis shows that the maximum average ratio is in the case of SBM i.e. 1.97% followed by SBI i.e. 1.89% while the ratio was minimum for UntBI i.e. 0.97% followed by CBI i.e. 1.04%. The ratio in terms of dispersion was more variable in the case of UCB i.e.41.37% followed by SBS i.e.41.14%. Year wise, the average ratio which was 1.29% in 1998 became 0.83% in 2007. The ratio in terms of dispersion has moved from 24.79% in 1998 to 28.47% in 2007.

TABLE 1.5: NON – INTEREST EXPENDITURE TO TOTAL ASSETS (%)

S.N.	BANKS	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	MEAN	S.D.	C.V.
1	SBI	2.63	2.65	2.41	2.63	2.07	2.11	2.27	2.19	2.37	2.09	2.34	0.23	9.90
2	SBBJ	3.29	3.24	2.85	3.08	2.57	2.50	2.60	2.66	2.76	2.18	2.77	0.35	12.61
3	SBH	2.52	2.90	2.42	2.46	1.88	1.73	1.74	1.92	2.01	1.65	2.12	0.42	19.89
4	SBIIn	3.41	3.40	3.07	2.72	2.24	2.18	2.16	1.94	1.92	1.67	2.47	0.64	25.71
5	SBM	3.43	3.57	3.41	3.68	3.03	2.89	2.69	2.89	2.63	2.09	3.03	0.50	16.35
6	SBP	2.53	2.41	2.35	2.62	2.06	1.86	1.67	1.52	1.48	1.39	1.99	0.47	23.52
7	SBS	3.13	3.00	2.56	2.88	2.48	2.28	2.00	1.69	1.87	1.73	2.36	0.53	22.61
8	SBT	2.38	2.20	2.37	2.48	2.02	1.93	1.88	1.74	1.98	1.70	2.07	0.27	13.26
9	ALLB	2.78	2.67	2.72	2.98	2.86	3.27	2.76	2.37	1.87	1.52	2.58	0.53	20.39
10	AB	2.95	2.83	2.27	2.24	2.17	2.44	2.44	2.53	2.11	1.96	2.39	0.31	13.02
11	BOB	2.34	2.31	2.22	2.54	2.20	2.16	2.12	2.09	2.10	1.78	2.19	0.20	9.04
12	BOI	2.52	2.37	2.49	2.93	2.19	2.15	2.06	2.03	1.88	1.84	2.25	0.33	14.82
13	BOM	3.21	3.06	2.76	2.84	2.23	2.07	1.74	2.19	2.11	1.91	2.41	0.51	21.18
14	CB	2.34	2.56	2.48	2.51	2.21	2.13	1.91	1.91	1.77	1.55	2.14	0.35	16.18
15	CBI	3.05	3.11	3.00	3.06	2.72	2.67	2.46	2.46	2.30	1.81	2.66	0.42	15.67
16	COB	2.05	1.81	1.81	1.73	1.63	1.79	1.97	1.97	1.84	1.52	1.81	0.16	8.78
17	DB	2.75	2.54	2.44	3.24	2.44	2.54	2.25	2.56	2.11	1.94	2.48	0.36	14.31
18	IB	2.67	2.61	2.68	2.79	2.40	2.13	2.71	2.08	2.27	2.22	2.46	0.27	10.79
19	IOB	2.55	2.75	2.74	2.89	2.50	2.30	2.14	2.28	2.13	1.69	2.40	0.36	15.16
20	OBC	2.03	1.97	1.74	1.94	1.64	1.71	1.57	1.47	1.64	1.35	1.71	0.22	12.98
21	PSB	2.80	2.57	2.82	2.98	2.77	2.85	3.99	3.63	2.54	2.38	2.93	0.50	17.13
22	PNB	2.84	2.97	2.82	2.95	2.47	2.39	2.32	2.60	2.08	2.05	2.55	0.34	13.41
23	SB	3.29	3.41	3.13	3.81	3.24	3.15	2.44	2.43	2.35	1.55	2.88	0.67	23.24
24	UBI	2.89	2.87	2.65	2.73	2.67	2.48	1.99	1.99	1.90	1.59	2.38	0.46	19.55
25	UntBI	2.62	2.51	2.47	2.62	2.18	1.99	1.86	1.74	1.57	1.44	2.10	0.44	21.09
26	UCB	2.60	2.40	2.39	2.52	3.33	2.44	2.60	2.42	2.45	1.84	2.50	0.36	14.50
27	VB	2.95	2.80	2.97	3.07	2.61	2.92	2.07	1.84	1.98	1.54	2.47	0.56	22.74
	MEAN	2.76	2.72	2.59	2.78	2.40	2.34	2.24	2.19	2.08	1.78	2.39		
	S.D.	0.38	0.43	0.37	0.44	0.42	0.42	0.48	0.46	0.31	0.27			
	C.V.	13.80	15.65	14.31	15.93	17.68	17.89	21.65	21.06	15.04	15.24			

Table 1.5 shows the ratio of non-interest expenditure as a percentage of total assets over the period of 1998 to 2007 for all the public sector banks. Non interest expenditure of a bank represents manpower expenses, establishment charges and other contingent expenses. This ratio was maximum in case of PSB i.e. 2.38% in the year 2007 and minimum was in case of OBC i.e. 1.35%. Bank wise statistical analysis shows that the maximum average ratio is in the case of SBM i.e. 3.03% followed by PSB i.e. 2.93% while the ratio was minimum for OBC i.e. 1.71% followed by COB i.e. 1.81%. The ratio in terms of dispersion was more variable in the case of SBIIn i.e. 25.71% followed by SBP i.e. 23.52%. Year wise, the average ratio which was 2.76% in 1998 became 1.78% in 2007. The ratio in terms of dispersion has moved from 13.80% in 1998 to 15.24% in 2007.

TABLE 1.6 :BURDEN TO TOTAL ASSETS (%)

S.N.	BANKS	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	MEAN	S.D.	C.V.
1	SBI	1.06	1.17	1.04	1.36	0.87	0.59	0.40	0.64	0.87	1.07	0.91	0.29	32.31
2	SBBJ	1.38	1.64	1.09	1.35	0.64	0.61	0.17	0.59	1.86	1.13	1.05	0.53	50.85
3	SBH	0.92	1.46	0.70	0.89	0.22	-0.04	-0.56	0.71	0.88	0.72	0.59	0.57	96.93
4	SBIIn	1.64	1.61	0.93	0.74	-0.50	-0.47	-0.60	0.89	0.74	0.79	0.58	0.83	143.65
5	SBM	1.78	1.83	1.43	1.87	0.78	0.30	0.21	0.60	0.90	0.90	1.06	0.63	59.19
6	SBP	1.52	1.19	1.01	1.44	0.53	0.23	-0.67	0.39	0.64	0.68	0.70	0.65	93.22
7	SBS	1.34	1.57	1.05	1.58	0.63	0.30	-0.38	0.80	1.23	1.13	0.92	0.61	66.11
8	SBT	0.75	0.80	0.80	1.14	0.63	0.36	-0.07	0.33	0.88	1.11	0.67	0.38	55.95
9	ALLB	1.32	1.48	1.41	1.88	1.30	1.40	0.60	0.95	1.00	0.96	1.23	0.36	29.08
10	AB	1.68	1.56	0.80	1.23	0.72	-0.01	-0.07	0.23	1.15	1.02	0.83	0.62	74.44
11	BOB	1.15	1.20	1.13	1.42	0.80	0.51	0.10	0.72	1.11	0.96	0.91	0.39	42.77
12	BOI	1.27	1.31	1.09	1.48	0.61	0.01	-0.05	0.82	0.83	0.74	0.81	0.52	63.83
13	BOM	2.33	2.18	1.55	1.67	0.80	0.62	0.30	1.02	1.94	1.23	1.36	0.68	50.11
14	CB	0.93	1.25	0.95	1.13	0.23	0.29	-0.18	0.51	0.78	0.67	0.66	0.45	68.02
15	CBI	1.93	2.12	1.94	2.07	1.58	1.70	0.94	1.12	1.59	1.30	1.63	0.41	24.97
16	COB	0.76	0.48	0.20	0.25	0.01	-0.23	0.20	0.30	0.67	0.45	0.31	0.30	96.23
17	DB	1.25	1.51	1.18	2.13	0.57	0.37	-0.53	1.27	0.46	0.70	0.89	0.74	82.84
18	IB	1.65	1.68	1.51	1.60	0.74	0.65	0.80	0.79	1.29	0.91	1.16	0.42	36.37
19	IOB	1.59	1.73	1.77	1.90	1.00	1.04	0.58	0.71	1.21	1.22	1.27	0.46	35.92
20	OBC	1.10	1.05	0.84	0.95	0.17	0.12	-0.19	0.54	0.70	0.53	0.58	0.43	74.26
21	PSB	1.52	1.52	1.52	1.74	1.11	0.73	2.29	2.00	1.91	1.34	1.57	0.45	28.72
22	PNB	1.24	1.79	1.47	1.72	1.13	0.94	0.49	1.27	1.20	1.41	1.27	0.38	29.80
23	SB	2.16	2.17	2.01	2.82	2.37	1.72	0.79	1.29	1.43	0.86	1.76	0.66	37.62
24	UBI	1.86	1.97	1.59	1.64	0.81	0.74	0.56	1.04	1.30	1.00	1.25	0.49	39.42
25	UntBI	1.81	1.67	1.62	1.82	1.05	0.38	0.43	0.68	1.02	0.77	1.12	0.56	50.16
26	UCB	1.63	1.73	1.67	1.75	1.60	0.67	0.65	0.78	1.13	1.08	1.27	0.46	36.05
27	VB	2.08	1.81	2.05	1.98	1.44	1.11	-0.12	0.64	1.08	0.89	1.30	0.72	55.30
	MEAN	1.47	1.54	1.27	1.54	0.81	0.54	0.23	0.80	1.10	0.95	1.02		
	S.D.	0.42	0.40	0.44	0.50	0.57	0.53	0.62	0.37	0.39	0.25			
	C.V.	28.46	25.82	34.83	32.80	69.86	98.48	273.90	46.80	35.01	25.99			

Table 1.6 shows the ratio of burden as a percentage of total assets over the period of 1998 to 2007 for all the public sector banks. This ratio is an indicator of the difference between the previously computed two ratios namely non interest expenditure as a percentage of total assets and non-interest income as percentage of total assets of a bank. Bank wise statistical analysis shows that the maximum average ratio is in the case of SBI i.e. 1.76% followed by CBI i.e. 1.63%, while the ratio was minimum for COB i.e. 0.31% followed by OBC i.e. 0.58%. The ratio in terms of dispersion was more variable in the case of SBIIn 143.65% followed by SBH i.e. 96.93%. Year wise, the average ratio which was 1.47% in 1998 became 0.95% in 2007. The ratio in terms of dispersion has moved from 28.46% in 1998 to 25.99% in 2007.

TABLE 1.7: NET PROFITS TO TOTAL ASSETS (%)

S.N.	BANKS	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	ME	S.D.	C.V.
1	SBI	1.04	0.46	0.78	0.51	0.70	1.51	0.90	0.94	0.89	0.80	0.85	0.30	34.57
2	SBBJ	1.06	0.90	0.97	0.76	1.06	1.77	1.49	0.88	0.53	0.89	1.03	0.36	34.78
3	SBH	0.91	0.85	0.82	0.82	1.02	1.17	1.24	0.72	1.05	1.03	0.96	0.17	17.46
4	SBIIn	0.68	0.63	0.72	0.78	1.24	1.46	1.73	0.79	0.67	0.77	0.95	0.39	41.01

5	SBM	0.86	0.49	0.58	0.27	0.64	2.19	1.28	1.25	1.12	0.93	0.96	0.55	56.75
6	SBP	1.48	0.93	1.06	1.12	1.34	1.23	1.60	0.91	0.74	0.77	1.12	0.29	26.23
7	SBS	1.50	0.40	1.15	0.16	0.88	1.42	1.38	0.27	0.36	0.46	0.80	0.53	65.94
8	SBT	0.69	0.40	0.53	0.67	0.73	1.42	1.02	0.86	0.81	0.86	0.80	0.28	34.87
9	ALLB	0.85	0.77	0.35	0.18	0.32	1.83	1.34	1.20	1.28	1.11	0.92	0.53	56.99
10	AB	0.82	0.78	0.76	0.59	0.97	1.61	1.72	1.59	1.19	1.13	1.12	0.40	36.04
11	BOB	1.00	0.81	0.86	0.43	0.77	1.48	1.14	0.70	0.73	0.72	0.86	0.29	33.02
12	BOI	0.79	0.37	0.31	0.42	0.73	1.47	1.19	0.36	0.62	0.79	0.71	0.38	54.02
13	BOM	0.53	0.43	0.59	0.24	0.68	1.42	0.95	0.54	0.16	0.70	0.62	0.36	57.84
14	CB	0.47	0.47	0.43	0.43	1.03	1.42	1.34	1.01	1.01	0.86	0.85	0.38	44.68
15	CBI	0.57	0.41	0.36	0.10	0.31	2.08	0.98	0.52	0.34	0.54	0.62	0.56	90.14
16	COB	1.49	1.28	1.39	1.33	1.31	0.97	1.73	1.19	1.10	1.02	1.28	0.23	17.76
17	DB	0.86	0.74	0.37	-1.49	0.06	1.82	1.04	0.25	0.27	0.64	0.46	0.85	185.55
18	IB	-1.55	-3.63	-1.81	-1.03	0.11	1.63	1.04	0.93	1.06	1.35	-0.19	1.74	(911.36)
19	IOB	0.53	0.23	0.15	0.38	0.65	1.75	1.08	1.28	1.32	1.23	0.86	0.54	63.24
20	OBC	1.42	1.23	1.14	0.75	0.99	1.02	1.67	1.34	0.95	0.79	1.13	0.29	25.76
21	PSB	0.72	0.57	0.52	0.10	0.17	2.17	0.06	-0.45	0.57	0.99	0.54	0.70	129.77
22	PNB	1.20	0.80	0.75	0.73	0.77	1.71	1.08	1.12	0.99	0.95	1.01	0.30	29.37
23	SB	0.42	0.65	0.79	0.83	0.79	2.47	0.92	0.77	0.88	0.80	0.93	0.56	59.66
24	UBI	-0.52	-0.33	0.16	0.12	0.52	1.98	0.99	0.63	0.32	0.42	0.43	0.70	162.83
25	UntBI	0.97	0.51	0.29	0.40	0.71	1.35	1.22	0.99	0.76	0.82	0.80	0.34	42.78
26	UCB	0.07	0.09	0.16	0.09	0.52	1.98	1.22	1.03	0.62	0.63	0.64	0.62	97.04
27	VB	0.25	0.27	0.41	0.50	0.81	2.25	1.71	1.30	0.40	0.78	0.87	0.68	77.87
	MEAN	0.71	0.43	0.54	0.38	0.73	1.65	1.22	0.85	0.77	0.84	0.81		
	S.D.	0.64	0.88	0.57	0.57	0.34	0.38	0.36	0.42	0.33	0.22			
	C.V.	89.99	205.81	106.13	151.09	46.32	23.00	29.39	49.90	42.36	25.79			

Table 1.7 shows the ratio of Net Profits as a percentage of total assets over the period of 1998 to 2007 for all the public sector banks. Net profit implies the balance of profit as per Profit & Loss account. This ratio indicates the efficiency with which a bank deploys its total assets in order to increase its profitability and serves as an index to the degree of asset utilization by banks. Bank wise statistical analysis shows that the maximum average ratio is in the case of COB i.e. 1.28% followed by OBC i.e. 1.13%, while the ratio was minimum for IB i.e. -0.19% followed by UBI i.e. 0.43%. The ratio in terms of dispersion was more variable in the case of DB i.e. 185.55% followed by UBI i.e. 162.83%. Year wise, the average ratio which was 0.71% in 1998 became 0.84% in 2007. The ratio in terms of dispersion has moved from 89.99% in 1998 to 25.79% in 2007.

OVERALL PROFITABILITY PERFORMANCE

In order to judge the overall profitability performance of various public sector banks, the following seven indices have been applied:

1. Index of Interest Income to Total Assets.
2. Index of Interest Expended to Total Assets.
3. Index of Spread to Total Assets.
4. Index of Non Interest Income to Total Assets.
5. Index of Non Interest Expenditure to Total Assets.
6. Index of Burden to Total Assets.
7. Index of Net Profit to Total Assets.

To compute these indices, first of all, the respective ratios have been calculated over the period 1998- 2007, then these ratios have been averaged bank wise and the respective indices have been computed by the method given below:

$$\text{Index} = \frac{\text{Average Ratio for the concerned public sector bank}}{\text{Average Ratio for aggregate of all public sector banks}}$$

Once these indices have been obtained, their average (\bar{X}) and Standard Deviation (σ) have also been calculated. Further, with these profitability indices, banks have been classified in four performance levels viz., excellent, good, fair and poor. Excellent level includes banks with top 25% of normal distribution i.e., where growth index value is greater than ($\bar{X} + 0.6745\sigma$). Good category stands for banks whose growth index value is lying between 50- 75% area of normal curve i.e., where growth index value is between \bar{X} to ($\bar{X} + 0.6745\sigma$). Fair category includes banks with growth index between 25- 50 % area under normal distribution i.e. where growth index is between ($\bar{X} - 0.6745\sigma$) to \bar{X} . Poor performance level includes banks with bottom 25% under normal curve i.e. banks lying below ($\bar{X} - 0.6745\sigma$). In this way, the various indices of profitability parameters have been calculated. For expenditure indices (interest paid index, non-interest expenditure index and burden index), these performance levels had been reversed (the banks lying at the top 25 per cent area are ranked 'poor', lying between 50 to 75 per cent are area ranked 'good' and the banks lying at the bottom 25 per cent of the normal distribution are ranked 'excellent'). This is because these are the expenses for the banks and lower the volume, the higher is the performance measured in profitability.

Table 1.8 highlights the indices of profitability parameters. Mean and Standard Deviation have also been calculated for each profitability parameter. Table 1.9 presents the profitability performance levels of the PSBs over the period under study.

TABLE 1.8: INDICES OF PROFITABILITY PARAMETERS OVER THE PERIOD – 1998-2007

S.N.	BANKS	Int. Earned to Total Assets	Int. Paid to Total Assets	Spread to Total Assets	Non Int. Expenditure to Total Assets	Non Int. Income to Total Assets	Burden to Total Assets	Net Profits to Total Assets
1	SBI	0.97	0.97	0.96	0.98	1.05	0.89	1.05
2	SBBJ	1.02	0.95	1.14	1.16	1.27	1.03	1.27
3	SBH	1.00	0.97	1.04	0.89	1.13	0.58	1.19
4	SBIIn	1.01	0.97	1.06	1.03	1.39	0.57	1.17
5	SBM	1.05	1.01	1.13	1.27	1.45	1.04	1.19
6	SBP	0.99	0.90	1.15	0.83	0.95	0.68	1.38
7	SBS	1.02	0.99	1.06	0.99	1.06	0.91	0.99
8	SBT	1.02	1.07	0.93	0.87	1.03	0.66	0.99
9	ALLB	1.02	1.03	1.00	1.08	0.99	1.21	1.14
10	AB	1.03	1.03	1.01	1.00	1.15	0.81	1.38
11	BOB	0.96	0.95	0.99	0.91	0.94	0.89	1.07
12	BOI	0.92	0.95	0.87	0.94	1.06	0.79	0.87
13	BOM	1.02	1.02	1.00	1.01	0.77	1.34	0.77
14	CB	0.97	1.00	0.93	0.89	1.09	0.64	1.04
15	CBI	1.02	0.99	1.06	1.11	0.76	1.60	0.77
16	COB	0.97	0.95	1.01	0.76	1.11	0.30	1.58
17	DB	1.03	1.08	0.94	1.04	1.17	0.87	0.56
18	IB	0.90	0.98	0.73	1.03	0.95	1.14	-0.24
19	IOB	1.03	1.04	1.00	1.00	0.83	1.25	1.06
20	OBC	1.06	1.08	1.03	0.71	0.83	0.57	1.39
21	PSB	1.05	1.09	0.98	1.23	1.00	1.54	0.67
22	PNB	1.02	0.96	1.13	1.07	0.94	1.24	1.25
23	SB	0.99	0.94	1.07	1.21	0.82	1.73	1.15
24	UBI	0.93	0.99	0.81	0.99	0.83	1.23	0.53
25	UntBI	1.02	1.03	0.98	0.88	0.72	1.10	0.99
26	UCB	1.00	1.04	0.92	1.05	0.90	1.25	0.79
27	VB	1.02	1.00	1.05	1.03	0.87	1.27	1.07
	MEAN	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	S.D.	0.04	0.05	0.10	0.13	0.18	0.35	0.36

Index Performance	Int. Earned to Total Assets	Int. Paid to Total Assets	Spread to Total Assets	Non Int. Expenditure to Total Assets	Non Int. Income to Total Assets	Burden to Total Assets	Net Profits to Total Assets
Excellent	SBM	SBBJ	SBBJ	SBH	SBBJ	SBH	SBBJ

	OBC PSB	SBP BOB BOI COB PNB SB	SBM SBP ALLB PNB	SBP SBT CB COB OBC UntBI	SBH SBIn SBM AB DB PSB	SBP SBT CB COB OBC	AB COB OBC PNB
Good	SBBJ SBH SBIn SBS SBT ALLB AB BOM CBI DB IOB PNB UntBI UCB VB	SBI SBH SBIn SBS CBI IB UBI VB	SBH SBIn SBS AB BOM CBI COB IOB OBC SB VB	SBI SBS BOB BOI UBI	SBI SBS SBT BOI CB COB	SBI SBS AB BOB BOI DB	SBI SBH SBIn SBM ALLB BOB CB IOB SB VB
Fair	SBI SBP CB COB SB	SBM ALLB AB BOM CB UntBI	SBI SBT BOB CB DB PSB UntBI	SBIn ALLB AB BOM DB IB IOB PNB UCB VB	SBP ALLB BOB IB PNB UCB	SBBJ SBM ALLB IB PNB UBI UntBI	SBS SBT BOI BOM CBI UntBI UCB
Poor	BOB BOI IB UBI	SBT DB IOB OBC PSB UCB	BOI IB UBI UCB	SBBJ SBM CBI PSB SB	BOM CBI IOB OBC SB UBI UntBI VB	BOM CBI IOB PSB SB UCB VB	DB IB PSB UBI

It is very much clear from the table that three banks namely SBM, OBC and PSB achieved excellent performance with regard to index of interest earned to total assets ratio. A noteworthy point is that all the banks except SBP, which have achieved excellent performance level with respect to the index of spread to total assets, have obtained fair performance level in respect of the index of burden to total assets. SBP achieved excellent performance level in five out of total seven indexes namely, interest paid to total assets, spread to total assets, non interest expenditure to total assets, burden to total assets and net profits to total assets and obtained fair performance level only in case of interest income to total assets and non interest income to total assets indices. SBBBJ has achieved excellent performance level in respect of four indexes. As far as the index of interest paid to total assets is concerned SBBJ, SBP, BOB, COB, PNB, SB obtained the excellent performance level. As far as the index of non interest expenditure to total assets is concerned. SBH, SBP, SBT, CB, COB, OBC, UntBI achieved excellent performance level, SBI, SBS, BOB, BOI, UBI achieved good performance level, SBIn, ALLB, BOM, DB, IB, PNB, UCB, VB held fair performance level and SBBJ, SBM, CBI, PSB and SB held poor performance level. Banks can reduce their non interest expenditure by adopting effective budgeting techniques and by implementing various cost reduction programmes. Regarding the index of net profits to total assets, SBBJ, SBP, AB, COB, OBC and PNB got excellent performance level but DB, IB, PSB and UBI got poor performance level.

BIBLIOGRAPHY

- 1) Banerjee, A. and Singh, S.K. (2002) *Banking and Financial Sector Reforms in India*, Deep and Deep Publications, New Delhi.
- 2) Bhatia, S. And Verma, S., (1999) "Factors Determining Profitability Of Public Sector Banks In India – An Application Of Multiple Regression Model", *Prajnan*, Vol. XXVII, No. 4, (1998-99), pp 433-445).

(Contd on page 41)

- 24) H. Markowitz, 1958, *Portfolio Selection: Efficient diversification of investment*. New Haven, Conn: Yale University Press.
- 25) Hong, Harrison, and Jeremy Stein, 1999, "A unified theory of underreaction, momentum trading and overreaction in asset markets", *Journal of Finance*, Vol. 54, pp.2143-2184.
- 26) Hwang, S. and Salmon, M., 2004, "Market stress and herding", *Journal of Empirical Finance*, Vol. 11, pp. 585-616.
- 27) Jensen, Michael C. 1968, "The Performance of Mutual Funds in the Period 1945-1964." *Journal of Finance*. Vol. 23, pp. 389-416.
- 28) John H. Cochrane, 2001. "The Risk and Return of Venture Capital," NBER Working Papers 8066, National Bureau of Economic Research, Inc.
- 29) Kahneman, D. and Tversky, A., 1979, "Prospect Theory; An Analysis of Decision under Risk", *Econometrica*, Vol. 47, pp.263-291.
- 30) Kothari, S., Shanken, J., Sloan, R., 1995."Another Look at the Cross-Section of Expected Returns". *Journal of Finance*, Vol. 50, pp.185-224
- 31) La Porta. R., 1996, "Expectations and Cross-Section of Returns", *Journal of Finance*, Vol. 51, pp. 1715-42.
- 32) La Porta. R., Lakonishok J., et al. 1997, "Good News for Value Stocks: Further Evidence on Market Efficiency", *Journal of Finance*, Vol.52, n°2, June, pp. 859-874.
- 33) Lakonishok, J., Shleifer, A. and Vishny, R. 1994, "Contrarian Investment, Extrapolation, and Risk," *Journal of Finance*, Vol.49, pp. 1541-1578.
- 34) Lewellen, J., 1999, "The time-series relations among expected return, risk, and book-to-market". *Journal of Financial Economics*, Vol. 54 (1), pp. 5 – 43.
- 35) Lintner J., 1965, "The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets ", *Review of Economics and Statistics*, Vol.47, pp. 13-37.
- 36) MacKinlay, A.C. (1995), "Multifactor Models do not Explain Deviations from the CAPM", *Journal of Financial Economics*, Vol. 38, pp. 3-28.
- 37) N. Hachicha, A. Bouri and H. Chakroun, 2008, "The Herding Behaviour and the Measurement Problems: Proposition of Dynamic Measure", *International Review of Business Research Papers*, Vol. 4, pp.160-177.
- 38) Odean, T., 1998, "Are Investors Reluctant to Realize Their Losses?" *Journal of Finance*, Vol.53, pp. 1775-1798.
- 39) Robert J. Shiller, 1984. "Stock Prices and Social Dynamics," Cowles Foundation Discussion Papers 719R, Cowles Foundation, Yale University.
- 40) Roll, Richard, 1977, "A critique of the asset pricing theory", *Journal of Financial Economics*, Vol. 4, pp. 129-176.
- 41) Ross S.A., 1976," The Arbitrage Theory of Capital Asset Pricing", *Journal of Economic Theory*, Vol.13, pp. 341-360.
- 42) Sewell, Martin, 2001, "Behavioural finance", <http://www.behaviouralfinance.net/>.
- 43) Sharpe, W.F. 1964, "Capital Asset Prices: A Theory of Market Equilibrium Under. Conditions of Risk", *Journal of Finance*, Vol.19, pp.425-442.
- 44) Shefrin, H., and Statman, M., 1985, "The Disposition to Sell Winners Too Early and Ride Losers Too Long: Theory and Evidence", *Journal of Finance*, Vol. 40, pp. 777-790.
- 45) Simon, H. A., 1982, *Models of bounded rationality*. Cambridge, MA: MIT Press.
- 46) Thaler, 1999, "The end of behavioral finance", *Finance Analysts Journal*, Vol. 55, December, pp.12-17.
- 47) Tversky, Amos and Kahneman, Daniel, 1973, "Availability: A heuristic for judging relevency and Probability," *Cognitive Psychology*, Vol. 4, pp. 207-232.
- 48) Tversky, A., and Kahneman, D., 1971, "Belief in the law of small numbers", *Psychological Bulletin*, Vol. 76, pp. 105-110.
- 49) Tversky, Amos and Kahneman, Daniel, 1974,"Judgment under uncertainty: Heuristics and biases," *Science*, Vol.185, pp.1124-1131.
- 50) Wermers, R., 1999, "Mutual Fund Herding and the Impact on Stock Prices", *The Journal of Finance*, Vol. 54, Issue 2, pp. 581-622.

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(Contd from page 25)

- 3) Bodla, S.B. and Verma, R. (2006) "Evaluating Performance of Banks Through CAMEL Model: A Case Study of Bank Management", *The ICFAI Journal of Bank Management*, Vol-V, No.-3.
- 4) Chandan, C.L. And Rajput, P. K. (2002) "Profitability Analysis of Banks in India – A Multiple Regression Approach" *Indian Management Studies Journal*, June 2002, pp119-129.
- 5) Debasish, S.S. and Mishra, B. (2005) *Indian Banking System (Development Performance and Services)*, Mahamaya Publishing House.
- 6) Devi, S.R. and Santhi, V. (2008) "Financial Performance of Standard Chartered Bank in India" *PIMT Journal of Research*, Vol. 1, No. 2, Sep- 08- Feb-09, pp 31- 41.
- 7) Kaur, N. and Kapoor, R. (2007) "Profitability Analysis of Public Sector Banks in India", *Indian Management Studies Journal*, 11(2007), pp 167-181.
- 8) Kohli, H. and Chawla, A.S. (2006) "Profitability Trends in Commercial Banks – A Study of Selected Commercial Banks", *Indian Management Studies Journal*, 10(2006), pp 51-70.
- 9) Kumar, S. (2004) "Impact of liberalization on productivity and profitability of public sector banks in India" A Thesis submitted in the Ubs Chandigarh.
- 10) Maji, G.S. and Day, S. (2006) "Productivity AND Profitability of Select Public Sector Banks in India: An Empirical Analysis", *The ICFAI Journal of Bank Management*, Vol- V, No.-4.
- 11) Qamar, F. (2003) "Profitability and Resource Use Efficiency in Scheduled Commercial Banks in India: A Comparative Analysis of Foreign, New Private Sector, Old Private Sector and Public Sector Banks", *Synthesis*, Vol- 1, No.-1, July-Dec 2003, pp 1-16.
- 12) Rajkumar, P.K. (2007) "The Earning Performance of Private Sector Banks During 2005-06", *The Journal of Accounting and Finance*, Vol- 21, No.-2, April-Sep 2007.
- 13) Sangmi, M. (2002) "Profitability Management in Commercial Banks- An Explanatory Study", *The Business Review*, Vol-8, No. 1 & 2.
- 14) Sooden, M. And Bali, M. (2004), "Profitability In The Public Sector Banks In India In The Pre And Post Reform Period", *Indian Management Studies Journal*, Aug (2004), pp 69-91.
- 15) Srivastava, R.M. and Nigam, D. (2001) *Management of Indian Financial Institutions*, Himalaya Publishing House, Mumbai.
- 16) Uppal, R.K. (2006) *Indian Banking Industry and Information Technology*, New Century Publications, New Delhi.
- 17) Uppal, R.K. and Kaur, R. (2007) "Comparative Study of Costs and Profits in Indian Commercial Banks in the Regime of Emerging Competition", *IMS Manthan*.
- 18) Verghese, S.K. (1983) "Profits and Profitability of Indian Commercial Banks in Seventies", *Economic and Political Weekly*, March 1983 pp145- 157.