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INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT & MANAGEMENT iii

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NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESIS (ES)

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

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LIMITATIONS

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- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.

- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–23

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- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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- Garg, Bhavet (2011): Towards a New Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

EFFICIENCY OF BANKS UNDER DIFFERENT OWNERSHIP GROUPS

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DELHI

ABSTRACT

Banking in India originated in the last decade of the 18th century. Banks are the backbone of the Indian economy. They play a great role in sustaining economic developments. Efficient operations of banks have become an important issue in India. With more and more number of private sector and foreign banks establishing themselves, competition has risen fairly. Government banks are facing new challenges every day. The current paper seeks to examine the efficiency differences among banks under different ownership groups.

KEYWORDS

Indian banking, private banks, government banks.

INTRODUCTION

In India, until the early 1990's the role of financial system was primarily restricted to the function of channeling resources from surplus to deficit sectors. The banking sector also suffered from lack of competition, low capital base, low productivity and high intermediation cost. After the nationalization of banks in 1969 and 1980, the government owned banks have dominated the banking sector. The role of technology was limited and quality was given adequate importance. Banks did not follow proper risk management system and the prudential standards were weak. Poor asset quality and low profitability was the ultimate result. The banking sector in India has undergone several changes in the areas of prudential, regulatory, disclosure and supervisory norms. The financial reforms launched during the early 1990's have dramatically changed the banking scenario in the country. New capital norms, capital adequacy prescriptions, identification of bad debts, etc. were enforced and interest rates were deregulated. As a result of these reforms, new private sector banks were allowed entry into the market. These new private sector banks have built a wide network of branches, set superior standards in productivity, they introduced global best practices and more importantly they have built durable competencies. Another major player in the banking industry are the foreign banks. These banks were allowed to set up their subsidiaries in India from the year 2002. To open branches in India foreign banks, have to fulfill certain conditions as required by RBI. Foreign banks have an important role in the Indian economy, especially in the priority sectors. Globalization has compelled the banking sector to reach out to more customers in order to expand their business. The presence of these banks in India brought a lot technical development. One can witness cut throat competition in the banking sector with the presence of foreign banks.

Existing empirical evidence on the ownership performance issue is weighted towards the property rights hypothesis that private enterprises are superior to public enterprises. The relationship between ownership and performance has been a vexing and, to a large extent unresolved issue. According to the property rights hypothesis, private enterprises should perform more efficiently and more profitably than public enterprises. The potentially higher vulnerability of private sector enterprises to takeover, coupled with the threat of losing jobs and the resultant adverse reputation effects in the managerial market are argued to be effective mechanisms in disciplining management and aligning shareholder and managerial interests in private enterprises. The potential of such shareholder rebellion is virtually absent in public enterprises due to the non-tradability of its shares. It is also argued that government officials are inclined to pursue their own interests, or the interests of the pressure groups rather than the interests of the public at large.

In the present study we shall address the ownership performance issue through study of the efficiency of banks as ownership groups.

LITERATURE REVIEW

The banking industry in India has been examined by many researchers on various parameters. A study of the efficiency of a sample of 16 large and medium scale Turkish commercial banks over the period 1990-1997 found quite wide disparities in the level of efficiency, both over time and between banks. In general, it was found that large scale banks were on an average slightly more efficient than the medium scaled banks. In contrast when the banks were categorized according to ownership, state owned banks exhibited the lowest level of efficiency. In the Indian case for 1993-94 and 1994-95, it was observed that, in so far as profitability is concerned, foreign banks outperformed domestic banks and there was no discernible difference between unlisted domestic private and state owned banks.

The productive efficiency of 103 banks in India for the year 1997-98 was measured using DEA. Two models were constructed to show how efficiency scores vary with change in input and outputs. The study measured the efficiency scores, for three groups of banks, that is, publicly owned, privately owned and foreign owned. The results show that the mean efficiency scores of the Indian banks compares well with the world mean efficiency scores and the efficiency of private sector commercial banks as a group is, paradoxically lower than that of public sector banks and foreign banks in India. The study recommends that the existing policy of reducing non-performing assets and rationalization of staff and branches may be continued to obtain efficiency gains and make the Indian banks internationally competitive.

Technical and scale efficiencies of 149 Japanese banks were analyzes using the data for the year ending March 1997. The study used the non-parametric frontier approach, DEA, to analyze efficiency. Efficiency analysis was conducted across individual banks, banks type, and bank size groups. Problem loans were controlled for as an exogenous influence on bank efficiency. Powerful size efficiency relationships were established with respect to both technical and scale efficiency. Larger banks were found to be operating above the minimum efficient scale and to have limited opportunity to gain from eliminating X-efficiencies. The opposite results were found for the smaller banks. The results suggest that controlling for the exogenous impact of problem loans is important in Japanese banking, especially for the smaller regional banks.

Existing empirical evidence on the ownership-performance issue is weighted towards the property rights hypothesis that private enterprises are superior to public enterprises. Doubts over the conclusion of the property rights and public choice arguments have been made in recent theoretical contributions that highlight the existence of free rider problem associated with takeover of private enterprises and operation of the voting market as a substitute for the market for corporate control in disciplining public enterprises. Finally, several contributors have argued that ownership does not matter in the presence of sufficient competition between private and public enterprises. Existing empirical evidence on the ownership performance issue closely mirrors the diversity in theoretical opinion and surveys of such evidence reach no consensus in their conclusions. While on one hand, a survey concludes that there is no systematic evidence that public enterprises are less cost effective than private firms, on the other hand, there are two surveys, one nearly concurrent with the abovementioned and another more recent that find the weight of evidence to be in favour of the property rights and public choice viewpoints.

RESEARCH METHODOLOGY AND DESIGN

In the present study data envelopment analysis (DEA) approach has been used. DEA is a non-parametric method in operations research and economics for the estimation of production frontiers. It is used to empirically measure productive efficiency of decision making units. Although DEA has a strong link to production

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theory in economics, the tool is also used for benchmarking in operations management, where a set of measures is selected to benchmark the performance of manufacturing and service operations. DEA generally focuses on technological or productive efficiency rather than economic efficiency. The efficiency score is usually expressed as either a number between 0-1 or 0-100%. A decision making unit with a score less than 1 is deemed inefficient relative to other units. There are a number of DEA models. We will use the two most frequently used models: the CCR Model (after Charnes, Cooper, Rhodes, 1978) and the BCC Model (after Banker, Charnes and Cooper, 1984).

Decision making units are assigned different efficiencies in case of CCR models and the BCC models viz. technical and scale efficiencies. The CCR model assumes that operations follow constant returns to scale (CRS). It estimates the gross efficiencies of a DMU. The efficiency comprises of technical and scale efficiency. Technical efficiency describes the efficiency in converting inputs into outputs, while scale efficiency recognizes that economy cannot be attained at all scales of production, and that there is one most productive scale size where the scale efficiency is maximum at 100%. CRS was one of the crucial limiting factors for the applicability of DEA and hence the model did not receive widespread attention in the initial years. Banker et al (1984) then came up with a simple and remarkable modification to the CCR model in order to handle variable returns to scale. The scores obtained under BCC model are called "pure technical efficiency" scores, since they are obtained from a model that allows variable returns to scale and hence eliminates the scale part from the analysis.

The CRS efficiency of a DMU is always less than or equal to the pure technical efficiency (VRS efficiency).

CRS efficiency<=VRS efficiency

The above equality holds when the scale efficiency is unity, or when the DMU is operating at the Most Productive Scale Size (MPSS).

VARIABLES

The study measured the efficiency scores of 103 banks divided into four ownership groups which are:-
1. State Bank of India and Its Associates
2. Nationalized Banks
3. Indian Private Sector Banks
4. Foreign Banks

To measure the efficiency as directly as possible inputs and outputs have been based on the profit and loss account. The input and output data for each bank is as follow:

INPUT 1(X_{1J}) = INTEREST EXPENDED
INPUT 2(X_{2J}) = PERSONNEL EXPENSES
INPUT 3(X_{3J}) = RENT, TAXES AND LIGHTING EXPENSES
OUTPUT 1(Y_{1J}) = INTEREST EARNED
OUTPUT 2(Y_{2J}) = NON INTEREST INCOME (FEE, BROKERAGE AND COMMISSION)

The above set of inputs and outputs is described as Model A for further purposes.

(These inputs and outputs are selected on the basis of prescribed reporting standards to be adopted by banks. The data is adopted from the website of RBI, www.rbi.org.in)

SAMPLE PERIOD

Data has been taken for all banks under different groups covering a period of 1995-96 to 2007-08.

OBJECTIVES AND HYPOTHESIS

The aim of the study is to examine whether the efficiency of government owned banks is less as compared to their private and foreign counterparts. The study will highlight the trend of the banks both collectively and under different ownership groups. Ownership groups for this group have been considered as under:
1. State bank of India and its associates
2. Nationalized banks
3. Indian private sector banks
4. Foreign banks

HYPOTHESIS

Government owned banks are less efficient as compared to their private and foreign counterparts.

FINDINGS OF THE STUDY

TABLE 1 shows the efficiency scores of various banks ownership groups over the entire study period. The efficiency scores have been worked out by taking geometric mean of the technical efficiency scores of all banks falling in a particular ownership group in each year.

TABLE 1

YEAR	SBI GROUP	NATIONALISED BANKS	PRIVATE BANKS	FOREIGN BANKS
1995	0.81	0.67	0.78	0.89
1996	0.8	0.63	0.75	0.87
1997	0.74	0.55	0.67	0.83
1998	0.7	0.46	0.56	0.63
1999	0.94	0.78	0.83	0.58
2000	0.79	0.66	0.72	0.63
2001	0.74	0.78	0.76	0.63
2002	0.62	0.49	0.62	0.57
2003	0.72	0.73	0.74	0.56
2004	0.65	0.66	0.62	0.56
2005	0.65	0.65	0.4	0.46
2006	0.76	0.75	0.7	0.75
2007	0.73	0.74	0.7	0.51
MEAN	**0.74**	**0.65**	**0.68**	**0.62**

GRAPH 1

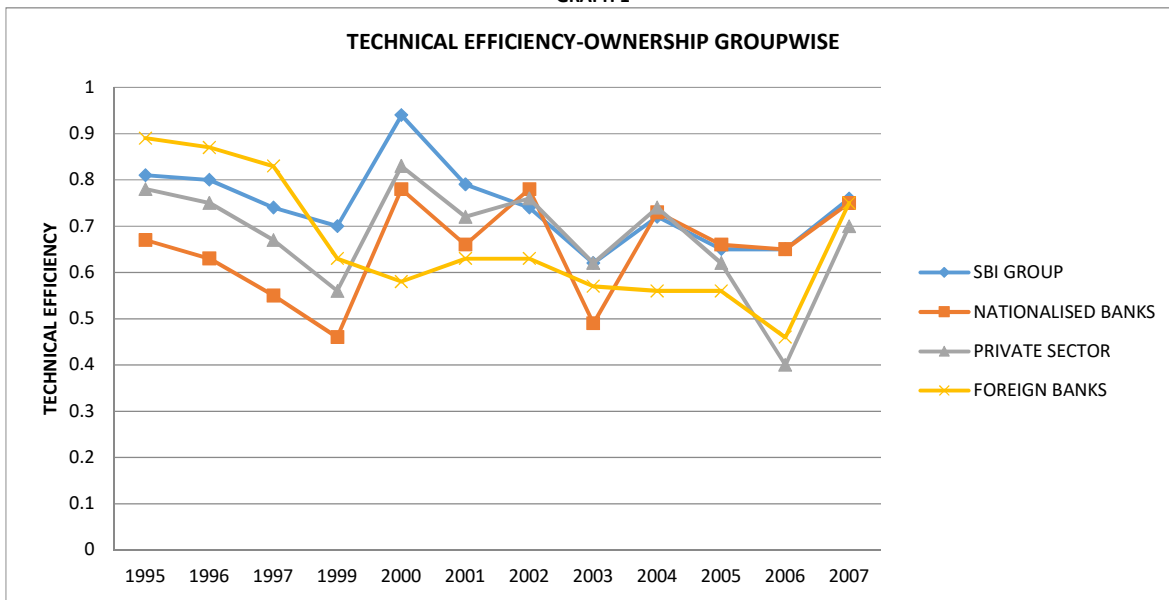TECHNICAL EFFICIENCY-OWNERSHIP GROUPWISE

TABLE 1 shows that SBI has the highest technical efficiency scores (geometric mean for all years) in Model A followed by Indian private sector banks and foreign banks. Foreign banks have been ranked the lowest. Further, the consistency in performance of various banks falling under the same ownership group has been the highest in SBI group. The foreign banks again have the highest standard deviation.

The fluctuations in performance of individual banks in a group are also evident from table 2 containing the distribution of banks in various efficiency groups. Foreign banks found place in both the groups-from highest to lowest. SBI group on the other hand finds place only in two quartile range-Q4 and Q3.

OWNERSHIP GROUP

DISTRIBUTION OF BANKS BASED ON OWNERSHIP GROUP ACCORDING TO TOTAL TECHNICAL EFFICIENCY (GEOMETRIC MEAN)

TABLE 2

EFFICIENCY RANGE	SBI	NATIONALISED BANKS	PRIVATE SECTOR	FOREIGN	TOTAL
HIGHEST EFFICIENCY GROUP(Q4)	1	0	14	14	29
NEXT TO LOWEST EFFICIENCY GROUP(Q3)	7	5	8	9	29
NEXT TO LOWEST EFFICIENCY GROUP(Q2)	0	12	11	6	29
LOWEST EFFICIENCY GROUP(Q1)	0	2	7	19	28
TOTAL	8	19	40	48	115

In model A, while the efficiency frontier has been dominated by foreign banks followed by Indian private sector banks all through the years, the lowest efficiency range is also dominated by the foreign banks and the Indian private sector banks. Most of the public sector banks (both SBI group and nationalized banks) are falling in Q3 and Q2.

To get deeper insights into the relative performance of the public sector banks vis-à-vis the Indian private sector banks and foreign banks, we shall now decompose the technical efficiency to see whether the results are different when pure technical efficiency and scale efficiency are considered on a standalone basis.

PURE TECHNICAL EFFICIENCY – BANK OWNERSHIP GROUPWISE

TABLE 3: MODEL A

YEAR	SBI GROUP	NATIONALISED BANKS	PRIVATE BANKS	FOREIGN BANKS
1995	.86	.80	.80	.92
1996	.87	.79	.80	.88
1997	.84	.80	.74	.88
1998	.91	.89	.73	.79
1999	.98	.91	.86	.71
2000	.96	.92	.84	.72
2001	.99	.93	.85	.72
2002	.99	.92	.84	.72
2003	.92	.92	.84	.67
2004	.88	.91	.84	.68
2005	.88	.90	.74	.56
2006	.83	.87	.77	.84
2007	.80	.85	.76	.57
MEAN	**.90**	**.88**	**.80**	**.72**

PURE TECHNICAL EFFICIENCY – BANK OWNERSHIP GROUPWISE

GRAPH 3
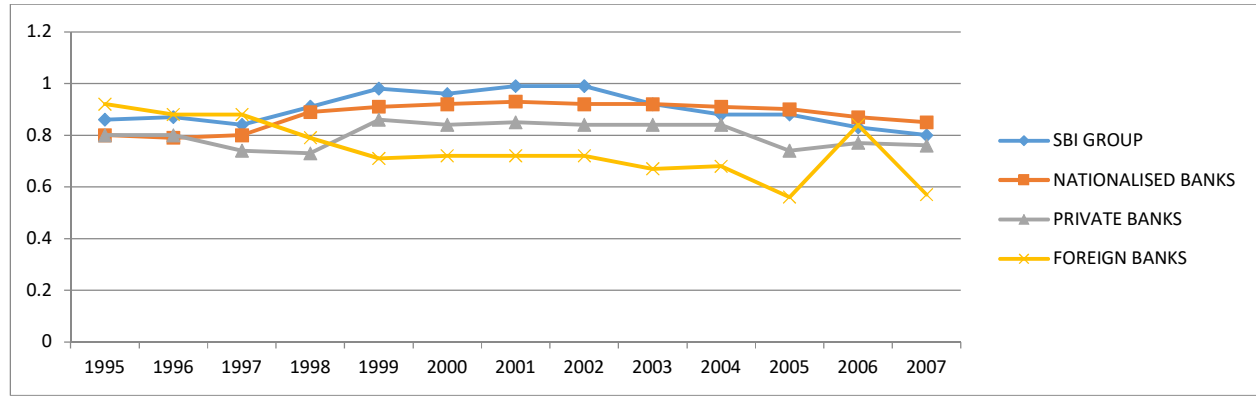
SCALE EFFICIENCY – OWNERSHIP GROUPWISE

TABLE 4: MODEL A

YEAR	SBI GROUP	NATIONALISED BANKS	PRIVATE BANKS	FOREIGN BANKS
1995	.94	.84	.97	.97
1996	.91	.80	.94	.98
1997	.88	.69	.90	.94
1998	.77	.52	.76	.80
1999	.96	.86	.97	.87
2000	.82	.73	.86	.88
2001	.75	.84	.90	.80
2002	.63	.53	.74	.84
2003	.79	.79	.88	.82
2004	.74	.72	.81	.82
2005	.74	.72	.78	.58
2006	.92	.87	.91	.89
2007	.92	.87	.92	.59
MEAN	.82	.74	.86	.81

SCALE EFFICIENCY – OWNERSHIP GROUPWISE

GRAPH 4: MODEL A
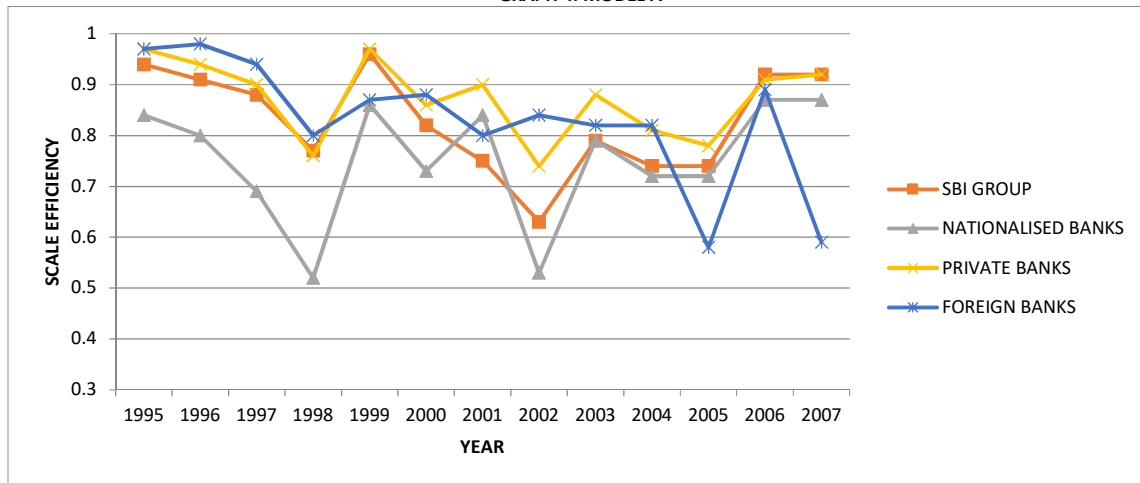
Graph 4 and 5 provides a bird's eye view of the pure technical efficiency and scale efficiency scores respectively, for various banks ownership groups. The results of decomposing the technical efficiency and scale efficiency presents a similar picture to the one obtained on the basis of overall technical efficiency scores though there are slight variations in the ranks of various banks ownership groups.

Nationalized banks rank next to SBI group leaving the private sector banks at no. 3. This position gets reversed when the aggregate technical efficiency was considered, however the difference was not significant. Going further, the variations in the individual banks' pure technical efficiency are quite significant in case of foreign banks. The variation in individual banks' pure technical efficiency and scale efficiency can also be examined through the number of banks falling in various efficiency ranges. Table 5 and 6 provides distribution of banks based on ownership group on pure technical efficiency and scale efficiency respectively.

TABLE 5: DISTRIBUTION OF BANKS BASED ON OWNERSHIP GROUPS - PURE TECHNICAL EFFICIENCY

EFFICIENCY RANGE	SBI GROUP	NATIONALISED BANKS	PRIVATE SECTOR BANKS	FOREIGN BANKS	TOTAL
HIGHEST EFFICIENCY GROUP(Q4)	2	6	6	15	29
NEXT TO HIGHEST(Q3)	6	5	11	7	29
NEXT TO LOWEST(Q2)	0	8	16	5	29
LOWEST(Q1)	0	0	7	21	28
TOTAL	**8**	**19**	**40**	**48**	**115**

TABLE 6: DISTRIBUTION OF BANKS BASED ON OWNERSHIP GROUPS - SCALE EFFICIENCY

EFFICIENCY RANGE	SBI GROUP	NATIONALISED BANKS	PRIVATE SECTOR BANKS	FOREIGN BANKS	TOTAL
HIGHEST EFFICIENCY GROUP(Q4)	0	0	11	18	29
NEXT TO HIGHEST(Q3)	3	0	14	12	29
NEXT TO LOWEST(Q2)	4	7	12	6	29
LOWEST(Q1)	1	12	3	12	28
TOTAL	**8**	**19**	**40**	**48**	**115**

So far as pure technical efficiency is concerned, the results are consistent with the ones obtained for technical efficiency. While 25% of the banks falling in SBI group are in highest efficiency group, the foreign banks are spread all over the efficiency range with as many as 44% in the lowest efficiency group. Among the private sector banks 58% falls below the median efficiency scores and among the nationalized banks, 58% have an efficiency scores above the median score.

In terms of scale efficiency, none of the nationalized banks lie in the uppermost two quartiles. In the SBI group also, only 37.5% of the banks lie above the median range. This clearly shows that the public sector banks in India are scale inefficient. Among the foreign banks, only 38% banks lie below the median score, while 63% of the banks among the private sector group lie above the median in model A. thus, the private sector banks seem to be more scale efficient than all other banks groups.

We also examined the number of profit and loss making banks in India in various ownership groups.

TABLE 7: PERCENT OF PROFIT MAKING BANKS

YEAR	SBI & ASSOCIATES	NATIONALISED BANKS	PRIVATE SECTOR	FOREIGN BANKS
1995	100%	95%	96%	96%
1996	100%	42%	96%	96%
1997	100%	37%	92%	100%
1998	100%	58%	94%	96%
1999	100%	63%	94%	85%
2000	100%	84%	100%	87%
2001	100%	89%	97%	81%
2002	100%	89%	94%	70%
2003	100%	95%	97%	79%
2004	100%	89%	96%	75%
2005	100%	89%	97%	81%
2006	100%	100%	90%	82%
2007	100%	100%	93%	79%

TABLE 7 clearly shows that there has not been even a single year in which any of the banks in SBI group has suffered a loss. Till 1999, the nationalized banks have shown dismal performance. However, there seems to have been a turnaround in the performance of nationalized banks since 1999. In the last two years, all the nationalized banks have started earning net profits. Amongst the private and foreign sector banks, there continues to be wide variations within the group, while some of the banks are highly profitable, a significant proportion of the total banks have not been able to show a positive bottom line.

COMPARISON OF RESULTS OF PRESENT STUDY WITH OTHER STUDIES

The results of the present study compare well with the findings of Sathey M (2001). The study by Sathey indicated that as group more foreign banks are in the highest efficiency quartile (11 as against 9 in Model A) than the public banks and also vis-à-vis the private sector banks (11 as against 3 in Model A). The study showed that foreign banks are much more efficient as a group in use of inputs of staff and deposits as compared to public and private sector deposits. As a group, the private sector banks displayed lower efficiency levels. In 1997-98 as many as 11 banks were in the highest efficiency quartile in Model A of our study. These numbers compare well with the findings of Sathey M.

Das A (1997) has also arrived at similar findings in his study relating to efficiency of public sector banks in india. His results indicate that state bank group is more efficient than the nationalized banks. The study reported that while in 1970, 25% banks falling in the very high efficiency range were from the SBI group, as many as 87.5% of the very highly efficient banks were from the SBI group in 1990. In 1996, the percentage though has fallen to 62.5% for the SBI group whereas the nationalized bank group has 19 banks, this percentage assumes significance. It implies that as many as 62.5% of all the banks in SBI group were highly efficient whereas compared to this, only 15.8% of the nationalized banks were highly efficient. Further, all the banks in the low efficiency category are from the nationalized banks.

CONCLUSION

The results of the tests applied on various banks under different ownership groups shows that public sector banks are as efficient as the foreign and private banks when the revenue and expense based indicators alone are considered. Moreover, the public sector banks are most efficient in terms of pure technical efficiency whereas private sector banks are most efficient when scale efficiencies are compared on a standalone basis. These results are consistent with the fact that the public sector banks operate on a very high scale with a huge network of branches (partly of course, to meet the social objective), some of them being simply unviable, the scale inefficiency, thus, creeps in naturally.

On the overall basis the public sector banks outweigh both the private sector banks as well as foreign banks. Within, the public sector banks, the SBI group has performed much better compared to the nationalized banks on all parameters. This shows that, with operational flexibility, public sector banks are giving a tough competition to the private sector and foreign banks. The market discipline imposed by the listing of most public sector banks has probably contributed to this improved performance.

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6. Technical Efficiency = Pure Technical Efficiency* Scale Efficiency. Thus, if pure technical efficiency score is higher, scale efficiency will be lower and vice-a-versa.

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