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Impact of Economic Reforms in India A Study of Public Sector Banks

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Abstract

It's a widely accepted fact that a highly efficient financial system is a pre-requisite to speed up economic growth of any country. After 1991 India has gradually initiated specific reforms in financial sector to enhance its efficiency, productivity and profitability. India's financial system is quite large which includes a variety banks, capital market institutions and a number of indigenous banking and financial institutions. Out of which Public Sector Banks are dominating the major part of banking business. The present paper compare and estimates the overall efficiency and total factor productivity change of all Public Sector Banks in the Pre and Post liberalization period, with the help of DEA model and Malmquist analysis.

Keywords: Public Sector Banks, Technical Efficiency, Allocative Efficiency, Overall Efficiency, Banking Reforms etc.

Introduction

The efficiency of an economy depends on the width, depth and diversity of the financial system. Worldwide experience confirms that the countries with well-developed financial system grow faster and more consistently than those with weaker system. Financial institutions and business organizations act as mobilizers and depositories of savings and as purveyors of credit or finance. India's financial system is large with a variety of banks, capital market institutions and a number of indigenous banking and financial institutions. The banking system in India consists of commercial banks and co-operative banks, of which the former account for around 98 percent of banking system assets. Based on the ownership pattern, the commercial banks can be in grouped intro three types- state owned and public sector banks (PSBs), private banks under Indian ownership and foreign banks. The 27 PSBs (comprise of the State Bank of India and its associates, Nationalised Banks) dominate the commercial banking system of India, accounting for a little more than 80% of commercial banking assets. Cooperative banks, which are organized on the 'unit' banking principle, are mainly rural based although there are urban cooperative banks also operating in urban areas. Additionally NBFIs, government owned post offices also mobilize deposits, but they do not undertake lending activity. Besides, there is an extensive network of all India and State development banks catering to agriculture, industry, housing and exports.

The agenda of financial sector reforms consists of easing of external constraints such as administered structure of interest rates and reserve requirements of banks, exploring indirect monetary control instruments, prescribing Prudential regulations and norms, strengthening the supervisory apparatus and facilitating entry of new institutions and allowing more flexibility in the working of banks and the financial institutions.

Among the recommendation of the Narsimham committee, that has been implemented by the government till date are gradual reduction of SLR and CRR, deregulation of entry of new private sector banks, both domestic and foreign, liberalistion of branch licensing policy, introduction of Capital Adequacy norms, allowing public sector banks to access the capital market to raise equity, enhancing the transparency and disclosure standards, liberalisation and rationalization of interest rate structure among others. At present when the financial system has been significantly liberalized with an objective to create an efficient and viable banking system in the country, the importance of improved efficiency has assumed a critical significance for the viability of commercial banks in India. The efficiency with which banks perform their operation is extremely crucial for

not only the banking and the financial system but also for the economy as a whole.Most of the studies have focused on measuring efficiency of PSBs at different time periods by using the different methodologies except some studies like Das and Ram Mohan Ray has taken all the banks. The present study attempts to measure the different efficiency measures of banking system of India in absolute as well as relative sense in the post liberalization period. Efficiency may be defined as the ability of firm to convert expenditure input resources into outputs i.e. financial product and services. Efficiency in a service industry is measured as the ratio of weighted output to weighted inputs. There are three different concepts of efficiency (see end notes) in a service industry.

The present study uses the intermediation approach to define bank's outputs and inputs because we emphasize the role of banks as financial intermediaries, where borrowing fund are treated as inputs and tend to generate investment and credit. In this study, the inputs used in the calculation of efficiency measures are borrowing fund which includes deposits and borrowing from the other sources, number of employee, equity and fixed assets. The output used in this study are other income i.e. commission, exchange, brokerage etc, investment and credit.

Review of Literature

Bhattacharya (1997)" analysed the impact of the limited liberalization initiated before the deregulation of the nineties on the performance of the different categories of banks, using Data Envelopment analysis. Their study covered 70 banks in the period1986-91.They constructed one grand frontier for the entire period and measured technical efficiency of banks under study. Under their study they found public sector banks had the highest efficiency.

Scholten Bert (2000)" stated that, 'Competition, Growth and Performance in the Banking Industry' examined profit performance of the banking industry in the international context, using a sample of 100 international banks over the year 1981-97.

Sunil Kumar (2008) The results of logistic regression analysis provides that the factors like market share, profitability, and asset quality do not have any significant impact on the overall technical efficiency of Indian public sector banking industry.

Subhash C Ray (2010) relatively high cost efficiency levels for Indian banks during the post-reform period 1997–2003. There is no definite evidence that privatization enhances efficiency, at least in the case of Indian banks.

Chakrabarty (2013) this led to a series of empirical analyses trying to explore the contribution of capital markets and banks to the economic growth. These studies were based on panel data for a large number of countries and the results have been rather mixed. Few studies provide evidence that both stock markets and financial sector have strong influence on economic growth as provided in a detailed discussion.

Patil, Dake, Jayshree (2015) in their book on Productivity and Profitability performance of Indian banking sector has stated the productivity as an outcome of the various inputs of the banking business. Whereas Profitability is the return on the assets employed .The Foreign banks are giving competition to the Private and public sectors banks, hence, domestic banks needs to take timely action to survive in the cut throat competition of the present banking era in India.

Objective of The Study

To compare and estimates the overall efficiency and total factor productivity change of all PSBs in the pre (1981-92) and post (1993-2004) liberalisation period.

Collection of The Data

This study mainly relies on secondary sources of data to achieve its stated objective. Data used in the present study has been collected from the following major publications:

1. Banking Statistics, Reserve Bank of India (various issues)
2. Statistical Tables Relating to Banks in India (various issues)
3. Monthly Abstract of Statistics, Government of India (various issues)
4. India – A Reference Annual, Government of India (various issues)
5. IBA Bulletin (various issues)

Overall Efficiency of Public Sector Banks

Tables 1 and 2 show, before reforms (1981-1992), the most efficient bank among the public sector bank group is State Bank of India(0.9775), followed by State Bank of Hyderabad (0.9725). After the reforms (1993-2004), Oriental Bank of Commerce (0.988) was the most efficient bank and followed by State Bank of Hyderabad (0.979). These banks were well managed and had healthy capital adequacy ratio. All public sector banks were doing well specially after the deregulation period i.e. 1992-04. Banks, which had low efficiency, were Central Bank of India (0.83), Syndicate Bank (0.84), Vijay Bank (0.85) and Uco bank (0.85). The reason for poor performance of these banks was purely technical. Deposits were under utilisation and the other income got reduced. There exists significant degree of asset liability mismatch also. The deregulation may have biggest impact on efficiency by forcing these inefficient banks to change their composition of asset portfolio to a sustainable standard.

Banks which were registered a noticeable departure from the long run scale of operation are Canra Bank, Central Bank of India, Punjab National Bank, Bank of Baroda, Allahabad Bank and Bank of India. That is these banks can produce their current level of output with fewer inputs if constant returns to scale are attained. The size of these banks is not commensurate with the size of output produced. It may mentioned that all these banks are quite large in size; therefore, with the given set of efficiency estimates, further branch expansion of these banks may concentrate on business with the existing branches.

Table1
Average DEA Efficiency Score of PSBS before Deregulation

1981-91	PTE	SE	TE	AE	OE
State Bank Of India	1	1	1	0.9775	0.9775
State Bank Of Hyderabad	0.9993	0.9974	0.9967	0.9757	0.9725
Dena Bank	0.9901	0.9908	0.9813	0.9831	0.9647
State Bank Of Saurashtra	0.9999	0.981	0.9809	0.9773	0.9593
State Bank Of Travancore	0.9769	0.9893	0.9666	0.9816	0.9491
Union Bank Of India	0.9749	0.9922	0.9673	0.9768	0.9448
State Bank Of Mysore	0.9789	0.9771	0.9572	0.9791	0.9369
Bank Of Maharastra	0.9718	0.9857	0.9581	0.9659	0.925
State Bank Of Indore	1	0.9275	0.9275	0.9721	0.9018
State Bank Of Patiala	1	0.9717	0.9717	0.9277	0.901
State Bank Of Bikaner & Jaipur	0.9297	0.9817	0.913	0.9749	0.8908
Bank Of India	1	0.9765	0.9772	0.8932	0.8877
United Bank Of India	0.9828	0.9912	0.9746	0.9065	0.8815
Canara Bank	0.9769	0.9726	0.9508	0.8948	0.8661
Punjab National Bank	0.9686	0.9509	0.9204	0.9159	0.864
Vijaya Bank	0.9844	0.9435	0.9285	0.9088	0.8616
Central Bank Of India	0.9713	0.9692	0.9407	0.8919	0.848
Oriental Bank Of Commerce	0.9998	0.9132	0.913	0.9067	0.8478
Andhra Bank	0.9511	0.9682	0.9222	0.8901	0.84
Allahabad Bank	0.9736	0.9847	0.9596	0.8681	0.8341
Bank Of Baroda	0.9841	0.9751	0.9601	0.8537	0.834
Corporation Bank	1	0.8925	0.8925	0.8992	0.8205
Syndicate Bank	0.9823	0.9804	0.9634	0.8154	0.802
Indian Bank	0.9504	0.9749	0.929	0.8236	0.7975
Indian Overseas Bank	0.964	0.9808	0.9466	0.8162	0.7828
Punjab & Sind Bank	0.9609	0.942889	0.9101	0.8083	0.7578
Uco Bank	0.9178	0.9794	0.8996	0.8082	0.7367
Mean	0.977389	0.970014	0.948467	0.910826	0.873537
Stdev	0.021679	0.025891	0.029592	0.061034	0.066721

Table2
Average DEA Efficiency Score of PSBS after Deregulation

1992-04	PTE	SE	TE	AE	OE
Oriental Bank Of Commerce	1	0.999	0.999769	0.988615	0.988385
State Bank Of Hyderabad	0.99938	0.99769	0.99708	0.98223	0.97954
State Bank Of Patiala	0.99485	0.99723	0.99285	0.977	0.96785
State Bank Of Travancore	0.97954	0.99554	0.97508	0.98431	0.96023
Bank Of India	0.992692	0.986769	0.979692	0.976	0.956846
Corporation Bank	1	0.973231	0.974154	0.979538	0.954923
Bank Of Baroda	0.998385	0.982462	0.980846	0.970077	0.951923
State Bank Of India	1	0.98162	0.98162	0.96623	0.94885
State Bank Of Indore	1	0.99146	0.99146	0.94685	0.93892
United Bank Of India	0.969154	0.981077	0.956769	0.971923	0.934769
Punjab National Bank	1	0.991385	0.991385	0.929385	0.921615
Dena Bank	0.998154	0.987538	0.985462	0.924538	0.911308
Bank Of Maharastra	0.984462	0.981	0.967077	0.936846	0.905154
Canara Bank	0.992385	0.955692	0.946308	0.953692	0.902846

State Bank Of Mysore	0.98454	0.97746	0.96223	0.92685	0.89154
Union Bank Of India	0.968	0.970462	0.939846	0.939462	0.883077
Andhra Bank	0.977385	0.957077	0.942769	0.935	0.882231
State Bank Of Bikaner & Jaipur	0.97985	0.98215	0.96215	0.91023	0.87585
State Bank Of Saurashtra	0.99769	0.95854	0.95631	0.91292	0.874
Allahabad Bank	0.963462	0.985462	0.950231	0.915923	0.870538
Indian Overseas Bank	0.954538	0.982923	0.938846	0.923769	0.866
Indian Bank	0.951462	0.985692	0.940538	0.915769	0.864
Punjab & Sind Bank	1	0.927923	0.929385	0.923077	0.858231
Uco Bank	0.971462	0.985692	0.962846	0.881769	0.848846
Vijaya Bank	0.980538	0.933846	0.919231	0.920154	0.846462
Syndicate Bank	0.966923	0.976308	0.951846	0.886923	0.844538
Central Bank Of India	0.948154	0.975385	0.922308	0.902385	0.833231
Mean	0.983444	0.977801	0.962892	0.940054	0.905989
STDEV	0.017	0.017	0.023	0.031	0.05

Section 2

The tables 3 and 4 show the mean efficiency change indices of all the Public Sector Banks. The table shows that on an average, the total factor productivity of all PSBs has improved after deregulation as TFP growth of all public sectors Banks is increased to 102.3% before reforms it was -6%. Nevertheless, all Public sector Banks were driven by technological efficiency change (Frontier effect) rather than technical efficiency change (Catching up effect).

With the introduction of liberalisation and privatization the Indian PSBs have introduced ATM Facilities, Venture capital Financing etc. as well change their source of supply of money (i.e. traditional dependence on RBI and Government has been minimized and introduction of new financial instruments as well Issuance of IPO's). This, in turn, means that they stand to gain from the use of better technology and equipment given the production of new products and combinations of inputs. On an average, the estimated contribution of frontier effect to overall productivity growth is 102.3%. Public sector Banks have lacked intimate knowledge of how to make the best utilisation of the advance technology to obtain the maximum level of output possible as reflected by not up to mark catching effect, which is close to unity for all banks. The decomposition of the catching up effect reflects that both scale efficiency and pure technical efficiency change have more or less same impact on technical efficiency of PSBs. As both kinds of efficiency change had close to unity. So this seems that all the banks are performing at optimal stage under both VRS i.e. Pure Technical Efficiency change. These banks can further improve by widening the scope of their activities.

The scale efficiency change of all Public sector Banks has improved as scale efficiency change Indices were just close to unity. It showed that all the banks were operating at constant rate of return to scale except Bank of India, Oriental Bank of Commerce, Bank of Baroda and Union Bank of India which is operating at Diminishing return to scale. The efforts should be made to increase return to scale by concentrating efforts on to make proper collection and debt administration cost i.e. staffing expense. It is also be possible by pooling up of interest, sharing of network and services with other PSBs or even with Private sector banks or Development banks as ICICI Bank had made a reverse Merger with ICICI to bring out more efficient performance.

The table 6 shows the trends over time in mean efficiency indices of TFP growth, technical efficiency change, and technological efficiency change for Public Sector Banks. In general the Total Factor Productivity of PSBs in India is satisfactory over a period of 13 years. But consistency in the performance is not up to mark.

Table 3
Malmquist Index before Deregulation

1981-91	**effch**	**techch**	**pech**	**sech**	**tfpch**
State Bank of Patiala	1	0.994	1	1	0.994
State Bank of Hyderabad	1.004	0.983	1.004	1	0.987
State Bank of Travancore	1	0.982	1	1	0.982
State Bank of Indore	1	0.981	1	1	0.981
State Bank of India	0.995	0.985	1	0.995	0.98
Corporation Bank	0.989	0.986	1	0.989	0.975
State Bank of Bikaner & Jaipur	1.002	0.974	1	1.002	0.975

State Bank of Mysore	1	0.974	1	1	0.974
Dena Bank	1	0.972	1	1	0.972
Oriental Bank of Commerce	1	0.966	1	1	0.966
Indian Bank	1.007	0.957	1.005	1.002	0.964
State Bank of Saurashtra	1	0.964	1	1	0.964
Canara Bank	1.001	0.944	1	1.001	0.945
Punjab National Bank	0.998	0.946	1	0.998	0.945
Uco Bank	1.006	0.938	1	1.006	0.943
Bank of Baroda	1.003	0.934	1	1.003	0.937
Allahabad Bank	1.004	0.928	1.003	1.001	0.931
United Bank of India	0.995	0.934	0.992	1.003	0.93
Central Bank of India	0.996	0.931	0.997	0.998	0.927
Punjab & Sind Bank	0.999	0.924	1.008	0.991	0.923
Indian Overseas Bank	0.999	0.916	1	0.999	0.915
Syndicate Bank	0.995	0.92	1.001	0.994	0.915
Andhra Bank	0.99	0.917	0.99	1	0.908
Union Bank of India	0.993	0.908	0.994	1	0.902
Bank of Maharastra	0.994	0.898	0.993	1	0.893
Vijaya Bank	0.99	0.9	0.992	0.997	0.891
Bank of India	0.996	0.889	1	0.996	0.886
GM	0.99	0.94	0.99	0.99	0.94

Table 4
Malmquist Index after Deregulation

Firms	Effch	techch	pech	Sech	Tfpch
State Bank of Mysore	1	1.089	1	1	1.089
State Bank of Indore	1	1.087	1	1	1.087
State Bank of Saurashtra	0.997	1.086	1	0.997	1.083
State Bank of Bikaner & Jaipur	0.998	1.08	0.999	1	1.079
State Bank of Travancore	1	1.075	1	1	1.075
State Bank of Hyderabad	1.001	1.073	1	1	1.074
State Bank of India	0.985	1.071	1	0.985	1.055
Syndicate Bank	1.028	1.016	1.026	1.002	1.044
Andhra Bank	1.045	0.998	1.039	1.006	1.043
Vijaya Bank	1.037	0.997	1.036	1.001	1.034
State Bank of Patiala	1	1.03	1	1	1.03
Uco Bank	1.008	1.019	1.008	0.999	1.027
Central Bank of India	1.017	1.004	1.02	0.997	1.021
United Bank of India	1.026	0.994	1.02	1.006	1.02
Bank of Maharastra	1.009	1.004	1.009	1	1.013
Punjab & Sind Bank	1	1.009	1.019	0.982	1.009
Indian Bank	0.984	1.021	0.984	0.999	1.005
Indian Overseas Bank	1.013	0.991	1.008	1.005	1.004

Corporation Bank	1.007	0.993	1	1.007	0.999
Punjab National Bank	0.998	0.997	1.002	0.996	0.995
Canara Bank	0.998	0.993	1	0.998	0.992
Dena Bank	0.993	0.999	0.989	1.004	0.992
Allahabad Bank	0.994	0.997	0.993	1	0.99
Bank of India	0.995	0.989	1	0.995	0.985
Bank of Baroda	0.995	0.986	0.998	0.997	0.981
Oriental Bank of Commerce	1	0.963	1	1	0.963
Union Bank of India	0.996	0.967	0.998	0.998	0.963
GM	1.004	1.018	1.005	0.99	1.023

Conclusion

The above result shows, among all the groups, most of the years, SBG was found to be more efficient in each of the efficiency estimates during 1981-04, followed by NBG. The OE of FBG and PVBG suffered fluctuations during deregulations, but the OE of ABG improved, may be due to the good performance shown by the SBG and NBG. PVBG and FBG are allocative inefficient and this inefficiency could be attributed to underutilization or wastage of input as well as the incorrect choice of input combination in terms of the prevailing prices. This inefficiency in the form of Allocative distribution of input or output, with respect to their prices, has shown that the competence of private and foreign banks has not been at par with PSBs in dealing with distribution of mobilized funds -among competing demands. Summing up, the relative price paid for the selected input – output combination for ABG has not been found to be optimal and the deployment of resources to the selected assets portfolio has not bred maximum revenue. After deregulation, Oriental Bank of Commerce is found to be the most efficient bank and followed by State Bank of Hyderabad. These banks were well managed and had healthy capital adequacy ratio. All public sector banks were doing well specially after the deregulation period i.e. 1992-04. The deregulation may have biggest impact on efficiency by forcing these inefficient banks to change their composition of asset portfolio to a sustainable standard. Banks which were registered a noticeable departure from the long run scale of operation were Canara Bank, Central Bank of India, Punjab National Bank, Bank of Baroda, Allahabad Bank and Bank of India. That was these banks can produce their current level of output with fewer inputs if constant returns to scale are attained. The size of these banks is not commensurate with the size of output produced. It may mentioned that all these banks are quite large in size; therefore, with the given set of efficiency estimates, further branch expansion of these banks may concentrate on business with the existing branches.

The Malmquist Indices indicate that improvement in efficiency is a symbol for the improvement in productivity. The early 90s saw a favorable shift in efficiency, attributed to technological changes, whereas the late 90s of the sample shows inefficiency accruing mainly of technological regression. Before de-regulation, the technical efficiency change has been recorded to be below one in all the groups, but since reforms the FBG has shown the leading efficiency improvements. One thing must be noted here is that in 1994 it was the nationalized banks that dominated the scene, but again in the year 1996 foreign banks got their lost glory. Due to the depression in early 2000's, technical change of all bank groups had declined. It could be seen that after deregulation, foreign banks experienced big fluctuations Therefore no bank category as mentioned above, alone dominated the Malmquist Index scores as a source of efficiency improvement. After deregulation total factor productivity change of all banks increased, but in mid 90's, total factor productivity growth of nationalized banks was maximum but after that it went on diminishing, the behavior of the total factor productivity changed was totally different, FBG had maximum total factor change in 1992 and 1996, but after that, it has decreased. Similar thing happened with state bank group, but the behavior of state bank is more consistent then the foreign banks. The period after second generation reforms saw rapid technological innovation resulting from the competitive shock. The competitive impact of private and foreign bank entry is felt immediately after entry, with the incumbent banks competing aggressively with the new entrants. The exogenous shocks of the recession of the early 2000s reversed many of these early benefits and slowed the pace of efficiency change. However, the post-recession period also saw some small increases in scale efficiency changes. Overall, the Malmquist Index results do not show any one category of bank type as being conclusively more efficient. However, given the sample sizes and standard deviations, this cannot be considered conclusive. Study of the year by year results for the Malmquist indices found that as one category innovated to move the efficient frontier outward, the other categories reacted by innovating themselves and so moving the efficient frontier outward in following year. This explains why the averages are relatively close across the five bank categories across the sample periods. It can be concluded that the foreign banks have provided an important source of technological efficiency changes immediately post-deregulation, and after the shock of the recession of

the early 2000s the domestic banks have somewhat improved their scale of operations.

Along with the PSBs, the scale efficiency change of all Public sector Banks had improved as scale efficiency change Indices were just close to unity. It showed that all the banks were operating at constant rate of return to scale except Bank of India, Oriental Bank of Commerce, Bank of Baroda and Union Bank of India which was operating at Diminishing return to scale. In general the Total Factor Productivity of PSBs in India is reasonable over a period of 13 years. But consistency in the performance is a setback for the PSBs

Policy Recommendations

Even after one and a half decades of financial sector reforms, continued predominant public sector entities in the sector has often been a topic of debate. There are certain "commandments" for systematic reforms of the banking sector.

In order to enhance the potential of PSBs increase in the growth rates of total credit and total deposits is a must criterion. To achieve this increase, the adoption of aggressive marketing strategies, customer friendly attitudes, product innovation, rapid computerization and net working of branches and above all, overall change in the work culture are imperative pre-requisites in the present competitive era. PSB lag behind as compared to private banks and foreign banks regarding adoption of above strategies. This as a consequence mars their performance. Thus what is required by the need of hour is the adoption of above strategies with redoubled strengths.

The inherent weakness in the structure of PSBs is a cause of concern. In order to improve the efficiency, there is need for restructuring of PSBs. The structural issues related to personnel, branch rationalization, labour reforms could pose a major stumbling block if not attended to in a proper manner. The issues of capital adequacy and recapitalization also require urgent attention. While the capital adequacy norms appear close to international standards, the weakness in the performing assets portfolio, inadequate disclosures and to an extent, understating of the NPAs seem to make the existing levels of capital less than adequate. All the above structural issues if adhered to in a proper manner will result in PSBs reaching high performance level.

Banks should make efforts that fresh accrual of bad loans is avoided and the amount blocked in NPAs should be taken out. For preventing fresh accrual of NPAs banks need to revitalize their credit appraisal techniques. They should follow the basic principles of lending including safety of advances, purpose for which loan is given, liquidity, security and profitability. After credit is imparted its effective follow-up and close monitoring is equally important. For effective resolution of the problem of NPAs there is need for improvement in managerial efficiency, skill up gradation for proper assessment of credit worthiness and risk appraisal. The reduction in NPAs will result in increase in the profitable assets, NII, net profits, total credit and decline in provisions and contingencies. Enforcement of creditors' right will need continuous strengthening. The implementation of recent legislation will progressively be subject to judicial testing as it gets mare accepted and as problems occur in its application. The legal provisions and practice in bankruptcy of the real sector are still inadequate and need further reforms. Another area of concern relates to the decline in direct bank credit towards disadvantage but socially important sectors such as agriculture and small scale industries. It is felt that in the past inadequate risk management practices constrained banks to more vigorously pursue financing of such sectors. As this assessment and risk management practices improve, banks should be able to distinguish the risk quality of individual borrowers, rather than treating borrowers of particular class as equally risk.

With the aid of latest techniques of information technology (IT) PSBs can achieve long strides in the sphere of performance. The application of latest IT developments in PSBs results in movement of indicators towards better performing arena. IT has immense untapped potential in PSBs. In order to maximize the benefits of latest development in the field of IT. [viz. INFINET, RTGS, CFMS, NDS, SFMS, EFT], banks have to take pro-active measures to: further strengthen their infrastructure in respect of standardization, high levels of security and communication and networking; achieve inter branch connectivity early; popularize the usage of the scheme of EFT; and institute arrangements for a RTGS environment online with a view to integrating into a secure and consolidated payment system.

The structure of the Indian financial system, particularly relating to banking, could be well posed with the challenge of redefining its attributes. A choice will have to be made between the appropriateness of the "commercial banking model" similar to that in the USA, the UK and Canada versus the "universal banking model" as is prevalent in Germany, Austria and Switzerland. In India, the experience of ICICI and SBI with universal banking models has proved beyond doubt that "size" matters. There is tremendous scope for small sized Indian banks to consolidate with in the domestic economy and increase their size through mergers and acquisition. However consolidation should gives due weightage to strategic alliances covering specific business areas like insurance, credit cards, mutual funds,etc. which alone will help banks enhance their product range, diversify risks and impart more stability operations.

In nutshell, the results of this study indicate that banks in the state bank group are more efficient than other commercial banks. The inefficiency that existed in all commercial banks was more a result of both technical and Allocative inefficiency. Most of the banks in the public sector banks group are faced with some what similar level of competition. Some poor performing banks have got enough scope of increasing their output by optimal deployment of resources. The problems of poor performing banks still lie in the areas of assets quality, management and congestion of labor. These banks have to develop a quick, systematic and sustainable strategy to clean up their contaminated credit portfolio for their survival and global presence in the near future. It is, therefore,

expected that the latest ALM guidelines issued by the RBI will facilitate these banks to search a turnaround methodology to strengthen the bottom line of their portfolio.

Endnotes

Technical Efficiency (TE)

The most concern efficiency concept used in banking industry is the technical efficiency; it refers to conversion of physical inputs into outputs relative to best practicing units. In other words, given concern technology, there is no wastage of inputs whatsoever in producing the given quantity of output. The TE can further be decomposed into two parts Pure Technical Efficiency (PTE) and Scale Efficiency (SE), when the constant returns to scale assumption is relaxed. The PTE measures the efficiency of the firm in respect of proper utilization of resources. The inefficiency due to scale, measures the extent of departure from the constant returns to scale operation. In other words, if constant returns to scale are attained, the firm can produce its current level of output with fewer inputs.

Allocative Efficiency (AE)

It refers to whether inputs, for a given level of output are chosen to minimize the cost of production, assuming that the organization being examined is already fully technical efficient. It is also expressed as a percentage score, although a score of 100 percent industry that the organization is using its inputs in the proportion which would minimize costs.

Overall Efficiency

It refers to the combination of technical and allocative efficiency. It is calculated as the product of the TE and AE scores (expressed as a percentage). An organization can only achieve a 100 percent score in cost efficiency; of it has achieved 100 percent in both TE and AE.

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