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BANKING REFORMS AND COMPETITION IN INDIAN BANKING

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Abstract

The competition enhances efficiency, innovation, productivity, growth and provides incentive for improvement. In the presence of competition, firms adjust operations to raise efficiency and thus maintain profitability. Banking sector cannot become fully competitive alone unless the financial sector as a whole is opened up for global competition. The objective of the present paper is to analyze the performance of the scheduled commercial banks in the context of changed competitive environment, on account of the financial deregulation in the Indian economy. To be specific, it seeks answer to the following question: Have the financial reforms affected the market competition among public sector banks, private sector banks and foreign banks.It examines the competitive scenario in the Indian banking sector in the pre and post reform period. The competition among the different bank groups has been measured empirically by using statistical approaches. Then results have been discussed and conclusions are drawn.

Key Words: competition 1, banking 2, reforms 3

Topic Groups: Industry, area or region specific studies 1, Social sciences and business 2, Humanities and arts and business 3.

INTRODUCTION

The Indian banking sector has witnessed unprecedented transformation under the influence of financial sector reforms, initiated during the early 1990s. In the pre-reform phase, Indian banking operated in a very tightly regulated environment but today it operates in an increasingly deregulated and market driven, competitive environment. India now has a well-developed banking infrastructure, conducive to regulatory environment and sound supervisory system. Banks have become efficient and sound and compare well with banks around the world.

The aim of financial sector reforms was to improve the competitiveness and efficiency of the banking system. Therefore, two important measures were introduced to increase the competition and hence improve the competitive strength of the Indian banking system. First, new banks in the private sector had been allowed to be set up (new entry restricted till 1993). The entry of foreign banks (restriction relaxed) had been made easy.Thus nine new private banks and twenty new foreign banks entered the banking sector after 1993. On March 2003, there were thirty six foreign banks operating in India including eleven from Europe, six each from the Middle East, North America and East Asia and four from Japan. In addition, with the deregulation of interest rates, both for advancesas well as deposits, the competition within the public sector banks also increased sharply. Second, state owned banks were allowed to access the market to raise funds from public with the amendment of Nationalization Act, 1994, which in turn have made them more conscious and accountable.

Gradually, significant changes in the structure and character of the Indian banking sector have taken place.It has been opened to competitive environment through entry of new private sector banks, deregulation of interest rate structure, relaxations on the entry of foreign banks and increased functional autonomy and operational flexibility in large number of areas for public sector banks.The most visible change is perhaps the emergence of new private sector banks as well as the entry of several new foreign banks.The objective of the present paper is to analyze the performance of the scheduled commercial banks in the context of changed competitive environment, on account of the financial deregulation in the economy.To be specific, it seeks answer to the following question: Have the financial reforms affected the market competition among public sector banks, private sector banks and foreign banks. It examines the competitive scenario in the Indian banking sector in the pre and post reform period. The competition among the different bank groups has been measured empirically by using statistical approaches. Then results have been discussed and conclusions are drawn.

THEORY

The scheduled commercial banks represent majority of commercial banking activity in India. Thisresearch paper is confined to the scheduled commercial banks only. Scheduled commercial Banks consist of public sector banks, private sector banks, foreign banks and regional rural banks.Therefore, the sample banks include public sector banks i.e. state bank of India and its associates and all other nationalized banks, other scheduled commercial banks / private banks and foreign banks. Regional Rural Banks are excluded from the present paper as they have specific interest in rural sector only. The period of study taken is 1980 to 2008. The period under study is divided into two parts**.** The first period1981-82 to 1990-91 i.e. 10 years period is called as pre-reform periodand is considered to be representative enough to indicate the broad trends of the performance of the banks in the period prior to introduction of the financial sector reforms in India. The second period1991-92 to 2007-08 i.e. 17 years period is called as the post-reforms period or deregulation period. The year 1991-92 can be taken as a benchmark and from this year, the ushering of a new era of the financial sector seems to have begun.

The important inputs of data on which the performance of banks have been compared are deposits and credit (advances) of scheduled commercial banks. The relevant information and data on the variables used in the paper are collected from RBI Reports, Journals and Website, Govt. of India Publications, CMIE Publications and bulletins of Indian Banking Association

The research paper has some limitations also. First, the study concentrates only on the analysis of quantitative financial data. Second, the study is based on the financial data as reported by various banks. Third the time period of the study is not equally divided between two periods as pre-reforms period is 10 years period and post-reform period is 17 years period. The fourth limitation of the present endeavor is in the context of sources of data. Different books / reports / journals / web sites, present different data, of the same year or time period. Therefore, minor variations are possible in the final results in some cases. Fifth, the objectives, policies and practices of the banks were different in the pre-reform period as compared to the post-reform one; therefore an objective comparison couldn’t be made between two periods. In spite of the above-mentioned limitations, efforts have been made to minimize the errors in the paper.

METHOD

The paper uses the structural approach for measuring the competition in the banking sector. For this Herfindahl - Hirschman Index (HHI) has been used for testing the competitiveness of scheduled commercial banks in India. According to the structure- conduct- performance paradigm hypothesis, the more is the concentration in terms of level of activity, the higher would be the market power used to establish the prices of output and lower would be the competition and higher would be the profitability. So there is inverse relationship between concentration and competition.

Herfindahl – Hirschman Index (HHI)

It was developed by A.O. Hirschman (1945) and O.C. Herfindahl (1950) as a measure of concentration. HHI is calculated as the sum of the squared market shares of all individual banks participating in the respective market. The market share of each bank is calculated on the basis of deposits and advances. It is thus a measure of the size of a firm in relationship to the industry. Symbolically:

$$\text{Herfindahl Index (HI)} = \sum_{i=1}^{n}\left(\frac{V_i}{\Sigma V_i}\right)^2$$

Where

HI= Overall index,

N= Number of banks,

Vi= ith unit's share of deposits

The Herfindahl Index ranges from 1/N to one, where N is the number of banks (firms) in the market. The value of HHI of 1/N implies a very large amount of very small firm and 1 means a single monopoly producer. Decrease in the HHI generally indicates a loss of pricing power & an increase in competition whereas increase in HHI implies the opposite. So HHI takes into account the relative size and distribution of the firms in a market and approaches 1/N when a market consists of a large number of firms relatively of equal size. The HHI increases, as the number of firms in the market decreases and as the disparity in size between those firms increases. Generally,

HHI below 0.1 indicates an unconcentrated market.

HHI in between 0.1 to 0.18 indicates moderate concentration.

HHI above 0.18 indicates high concentration.

The Herfindahl Index measures the size of the bank in comparison to overall banking industry. The formula for calculating HH Index, measuring the level of concentration, is given below.

The Herfindahl – Hirschman Index (HHI), deposits is calculated as:

Herfindahl – Hirschman Index= Total deposits in public sector banks / total deposits of all (deposits) (HHI) scheduled commercial banks.

+

Total deposits of other scheduled commercial banks / total deposits of all scheduled commercial banks

+

Total deposits of foreign banks / total deposits of all scheduled commercial banks

The study calculates the HH Index for deposits, by applying the above formula for HHI (deposits), on the data given in Table 1. It gives HHI based on the deposits of the sample banks during the period of the study, 1981 to 2008. Figure 1: shows the trend of Total HHI for deposits in the pre and post reform period, i.e. from 1981-82 to 2007-08.

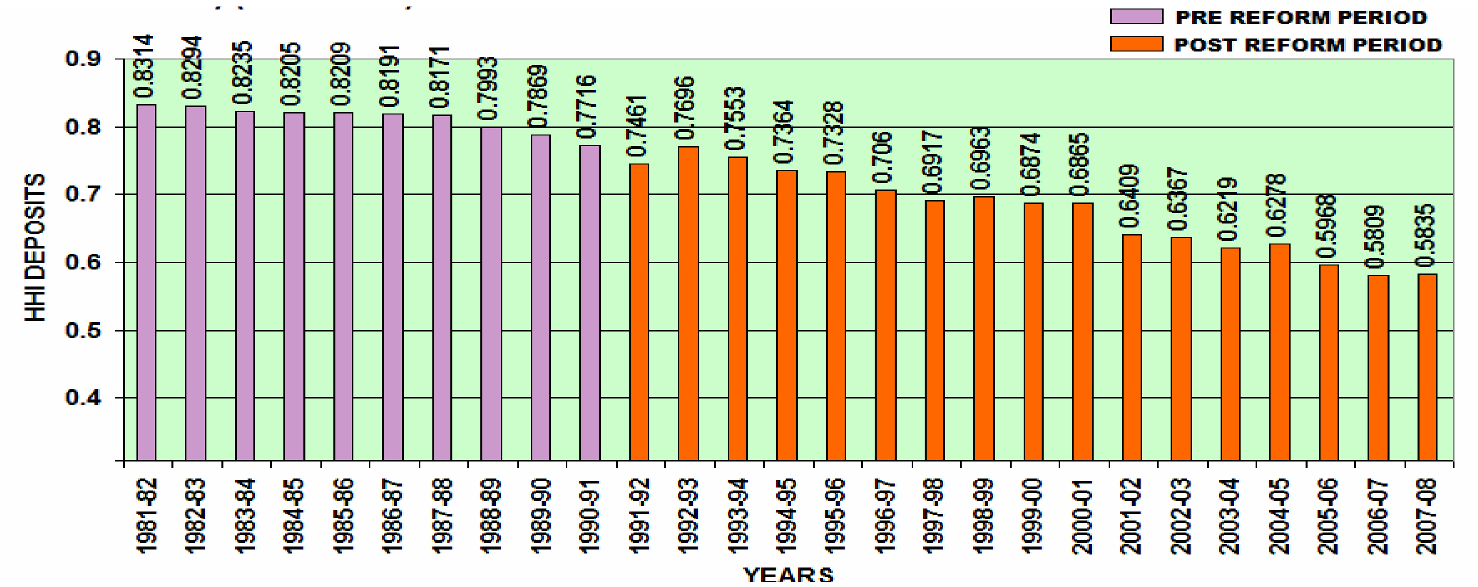
Table 1: HHI-Deposits (Pre-Post Reform Period) (1981-2008)

Year	**SBI & Associates**	**Nationalized Banks**	**Public Sector**	***SCRs Other**	**Foreign Banks**	**Total Deposits**	**HI Index Public Sectors**	**H Index Other SCBs**	**H Index Foreign Bank**	**Total H Index**
1981-82	12927.4	28679.3	41606.7	3843.1		45824.9	**0.8244**	**0.0070**		**0.8314**
1982-83	15671.1	33705.8	49376.9	4541.4		54447.5	**0.8224**	**0.0070**	**0.0000**	**0.8294**
1983-84	18311	39800.1	58111.1	5442.9		64316	**0.8164**	**0.0072**	**0.0000**	**0.8235**
1984-85	22390.8	47746.9	70137.7	6567.6		77767.4	**0.8134**	**0.0071**	**0.0000**	**0.8205**
1985-86	26487.3	56732.9	83220.2	7587.9		92233.3	**0.8141**	**0.0068**	**0.0000**	**0.8209**
1986-87	30308.2	67352.6	97660.8	8766.7		108343.38	**0.8125**	**0.0065**	**0.0000**	**0.8191**
1987-88	36369	78509.3	114878.3	10253		127592.6	**0.8106**	**0.0065**	**0.0000**	**0.8171**
1988-89	40526.3	90260.7s	130787	13163		147031.2	**0.7912**	**0.0080**	**0.0000**	**0.7993**
1989-90	45695	106392.6	152087.6	7116.9	8671.8	171911.3	**0.7827**	**0.0017**	**0.0025**	**0.7869**
1990-91	53314.3	122283.8	175598.1	8732.6	11387.8	200568.3	**0.7665**	**0.0019**	**0.0032**	**0.7716**
1991-92	64081.6	139767.4	203849	11112	16319.9	237107.2	**0.7391**	**0.0022**	**0.0047**	**0.7461**
1992-93	73828	160824	234652	13566	20751	268968.8	**0.7611**	**0.0025**	**0.0060**	**0.7696**
1993-94	86814	185006	271820	17657	25287	314764.3	**0.7457**	**0.0031**	**0.0065**	**0.7553**
1994-95	96155	217200	313355	26217	28351	367923.1	**0.7254**	**0.0051**	**0.0059**	**0.7364**
1995-96	111188	239120	350308	32047	30060	412414.9	**0.7215**	**0.0060**	**0.0053**	**0.7328**
1996-97	124873	276677	401550	45656	35621	482827.1	**0.6917**	**0.0089**	**0.0054**	**0.7060**
1997-98	145862	326237	472099	61272	41159	574530.3	**0.6752**	**0.0114**	**0.0051**	**0.6917**
1998-99	171827	381815	553642	74561	43282	671485.4	**0.6798**	**0.0123**	**0.0042**	**0.6963**
1999-00	203049	442493	645542	97001	46842	789385.2	**0.6688**	**0.0151**	**0.0035**	**0.6874**
2000-01	236393	508032	744425	116825	50230	911480	**0.6670**	**0.0164**	**0.0030**	**0.6865**
2001-02	270675	572557	843232	180130	55969	1079330.6	**0.6104**	**0.0279**	**0.0027**	**0.6409**
2002-03	306334	646519	952853	216221	57563	1226637.2	**0.6034**	**0.0311**	**0.0022**	**0.6367**
2003-04	360809	752441	1113250	269409	72705	1455364.1	**0.5851**	**0.0343**	**0.0025**	**0.6219**

2004-05	424526	871452	1295978	312856	76534	1685367.6	**0.5913**	**0.0345**	**0.0021**	**0.6278**
2005-06	487989	1015162	1503151	406126	111462	2020739.3	**0.5533**	**0.0404**	**0.0030**	**0.5968**

*Other Scheduled Commercial Banks

Figure 1: HHI-Deposits (Pre-Post Reform Period) (1981-2008)



The Herfindahl- Hirschman Index (credit)) is calculated as:

Herfindahl- Hirschman Index= Total credit in public sector banks / total credit of
(Hll) (Credit) all scheduled commercial banks

+

Total credit of other scheduled commercial banks / total credit of all scheduled commercial banks,

+

Total credit of foreign banks / total credit of all scheduled commercial banks

The study calculates the HH Index for credit, by applying the above formula for HHI (credit), on the data given in Table 2.It gives HHI based on the credit of the sample banks during the period of the study, 1981 to 2008. Figure 2 shows the trend of Total HHI for credit in the pre and post reform period, i.e. from 1981-82 to 2007-08.

FINDINGS

The results of index for measuring competition, (HHI) deposits, shows the notable decline during the period, in the value of Total HHI of all scheduled commercial banks, (it declined from 0.74 to 0.68 between 1991-92 and 2000-01 and reached to the level of 0.58 in the year 2007-08), indicating that the competition is increasing and so the inverse relationship between competition and concentration is proving. HHI below 0.1 indicates an unconcentrated market. The HHI of foreign banks and other scheduled commercial banks remains below 0.1, throughout the period, indicating the unconcentrated market, although the continuous rise in the HHI of other scheduled commercial banks, in the post reform period could be due to the advantage these banks are getting due to increased competition in public sector banks and foreign banks. The value of HHI-deposits, of public sector banks has been showing the continuous fall during the post reform period indicates that they are moving towards unconcentrated market and the competition is increasing.

The results of index for measuring competition, (HHI) credit, also shows the notable decline during the period, in the value of Total HHI of all scheduled commercial banks, (it declined from 0.75 to 0.62 between 1991-92 and 2000-01 and reached to the level of 0.57 in the year 2007- 2008). HHI below 0.1 indicates an unconcentrated market. The HHI–credit of foreign banks and other scheduled commercial banks remains below 0.1, throughout the period, proving the unconcentrated market. The value of HHI of public sector banks has been showing the fall during the post reform period indicates that they are moving towards unconcentrated market and the competition is increasing.

The Herfindahl – Hirschman Index (HHI), for deposits, (Table 1), show a notable decline of about 20% during the period of reforms. Similarly the fall of about 25% from 1991-92 to 2007-08 in HHI for credit, (Table 2), confirms the increase in competition in the public sector banks and foreign banks in the post reform period. Overall, the findings of the study on competition in the banking sector have confirmed that there is a trend from moving away from concentrated to unconcentrated market and hence proving that the competition has been enhanced with the entry of new banks after the financial deregulation The level of competition declined somewhat in the initial years of reforms, but improved significantly thereafter. Based on the empirical evidence, the Indian banking industry could be characterized as a monopolistic competitive structure, as is the case with most other advanced countries, (Report on Currency and Finance, 2006-08).

Table 2: HHI-Credit (Pre-Post Reform Period) (1981-2008)

Year	SBI & Associates	Nationalized Banks	Public Sector	*SCBs Other	Foreign Banks	Total Deposits	HI Index Public Sectors	H Index Other SCBs	H Index Foreign Bank	Total H Index
1981-82	8921	17643	26564	0.0081	0	29187	**0.8283**	**0.8283**	**0**	**0.8364**
1982-83	10920	20496	31416	0.0078	0	34453	**0.8315**	**0.8315**	**0**	**0.8392**
1983-84	13250	25027	38277	0.0096	0	42424	**0.8141**	**0.8141**	**0**	**0.8236**
1984-85	15076	29558	44634	0.0076	0	48901	**0.8331**	**0.8331**	**0**	**0.8407**
1985-86	16671	34154	50825	0.0079	0	55770	**0.8305**	**0.8305**	**0**	**0.8384**
1986-87	17404	38380	55784	0.0094	0	61782	**0.8153**	**0.8153**	**0**	**0.8247**
1987-88	19514	42678	62192	0.0094	0	68885	**0.8151**	**0.8151**	**0**	**0.8246**
1988-89	23650	52917	76567	0.0100	0	85094	**0.8096**	**0.8096**	**0**	**0.8197**
1989-90	28423	62127	90550	0.0015	6473	100934	**0.8048**	**0.8048**	**0.0041**	**0.8104**
1990-91	9359	34716	71402	120452	4975	106118	**0.0060**	**0.0060**	**0.0017**	**0.7762**
1991-92	37513	76478	113991	0.0020	12603	132519	**0.7399**	**0.7399**	**0.0090**	**0.7510**
1992-93	50089	88219	138308	0.0022	12085	157879	**0.7674**	**0.7674**	**0.0059**	**0.7756**
1993-94	57083	92733	149816	0.0031	11445	170709	**0.7702**	**0.7702**	**0.0045**	**0.7778**
1994-95	61488	112684	174172	0.0051	16067	204822	**0.7231**	**0.7231**	**0.0062**	**0.7343**
1995-96	74231	130026	204257	0.0066	22937	247349	**0.6819**	**0.6819**	**0.0086**	**0.6972**
1996-97	83032	139126	222158	0.0096	26505	275718	**0.6492**	**0.6492**	**0.0092**	**0.6681**
1997-98	94142	160774	254916	0.0120	29767	319745	**0.6356**	**0.6356**	**0.0087**	**0.6563**
1998-99	31332	107545	188109	371147	44161	295654	**0.0071**	**0.0071**	**0.0142**	**0.6346**
1999-00	38694.4	127146.6	224236.2	446955	56877	351382.8	**0.0075**	**0.0075**	**0.0162**	**0.6181**
2000-01	45355.4	144100.5	261329.7	522082	71297	405430.2	**0.0075**	**0.0075**	**0.0186**	**0.6031**

2001-02	48153.2	163687.9	310262.7	637124	115021	473950.6	**0.0057**	**0.0057**	**0.0326**	**0.5534**
2002-03	53626.2	182499.6	353929.5	733346	143291	536429.1	**0.0053**	**0.0053**	**0.0382**	**0.5351**
2003-04	208465	408105.3	616570.3	0.0415	63614.8	854292	**0.5209**	**0.5209**	**0.0055**	**0.5680**
2004-05	266023	551320.7	817343.7	0.0411	75491.4	1119779	**0.5328**	**0.5328**	**0.0045**	**0.5784**
2005-06	349942.8	725130.4	1075073	0.0421	99184.9	1477199	**0.5297**	**0.5297**	**0.0045**	**0.5762**

*Other Scheduled Commercial Banks

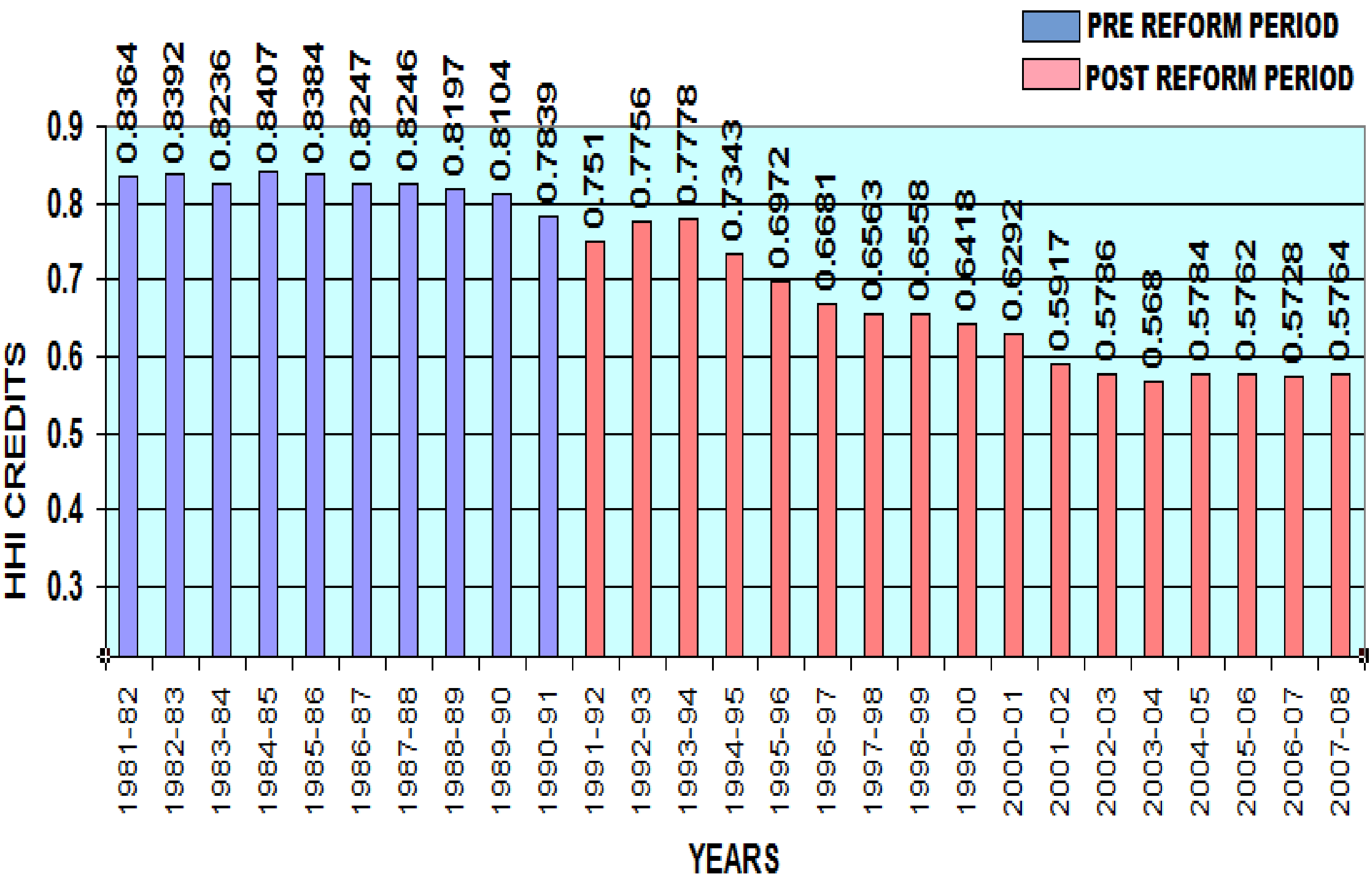


Figure 2: HHI-Credit (Pre-Post Reform Period) (1981-2008)

DISCUSSION

The contribution of the present research paper to the advancement of business related science is:

1. to examine and compare the trends of competitionof **different bank groups** (state bank of India and its associates and all other nationalized banks, other scheduled commercial banks / private banks and foreign banks) of the scheduled commercial banks in the pre and post reform period in India.
2. to cover the **period of 27 years**, this is sufficiently a large span of time, so that an objective picture of the banks' performance could emerge.
3. to study the actual impact of financial reforms, on the competitiveness and on the performance of scheduled commercial banks, **the post reform period has been compared with that of the pre reform** ones, so that some relevant broad policy conclusions could be drawn.

Moreover, thenon structural approach can also be used for further research.

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CONCLUSIONS

The watchword in the banking sector in India has been to improve the bottom line. The competition in the banking sector has intensified drastically over the last decade. There is a huge growth in the volume, variety and the extent of international transactions throughout the financial service industry. The analysis of the data has shown that **there is an increase in the competitiveness of the scheduled commercial banks during the post reform period.** In India, the spirit of competition is pushing the public sector banks towards the efficient bank-group. The private banks are performing very well and giving healthy competition to public sector banks as well as to foreign banks. In quantitative terms also, the number of private sector banks and foreign banks have increased in the post reform period proving the good presence of competitors in the Indian banking industry.

Banks responded to the increased competition by diversifying and expanding through inorganic (acquisitions) and organic growth of existing businesses. While some of the changes were triggered by endogenous factors, some others were on account of exogenous or part of global developments. While banks have been able to cope with the changed environment, the fast evolving financial landscape would continue to pose several challenges in future, (Report on Currency and Finance, 2006-08). Therefore, RBI has been consistently working towards achieving the global benchmarks which are necessary for strengthening the domestic financial architecture as well as ensuring smooth integration with world financial markets. To sum up, the findings of the study on competition in the banking sector proving the increased competition after the financial deregulation. Now it requires the adequate regulatory support system to perform better. According to the study by Mathur, (2002), the private sector banking now must have sufficient legal and regulatory support framework to insulate the system from the adversaries of the extraneous pressures. As rightly observed by Mohan, (2004), The competition induced by the new private sector banks has clearly re-energized the Indian banking sector as a whole, new technology is the norm, new products are being introduced continuously, and new business practices have become common place.

IMPLICATIONS

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In India, with the growing competition, customer centric approach and survival of the fittest has become the order of the day in the banking industry. The findings of the paper have its implications for the banks and policy makers.

Implications for Banks

- The focus of the banks should continue to be on strengthening the safety and soundness of the banking sector so that benefits of increased competition and greater efficiency can be fully realized. It is the banks themselves, rather than the regulators, that are mainly responsible for their performance and financial health.
- The waves of increased competition and globalization are making the financial markets deeper and wider. Therefore, banks would have to equip themselves to operate in an increasingly dynamic environment with absorption of appropriate technology and better knowledge management to meet future challenges. Banks are adopting diversified financial activities leading to convergence of banks with non-banking financial institutions. There is constant reduction of number of banks through mergers and acquisitions. Now, the consolidation in the banking industry without compromising competition considerations is recommended by experts. Therefore, in the growing trend towards consolidation, transitioning to the right market position based on core competencies and capitalizing on synergies is a significant strategic decision for a bank, with the challenge of achieving successful integration of manpower and culture in the merged entity. Therefore, banks need to think beyond peripheral issues and handle the important issues like improvements in profitability and efficiency and achieving economies of scale through consolidation for a strong banking system.
- These developments indicate that the public sector banks have been actively engaged in overcoming the challenges of progressively conforming to the international best practices in various areas. The forces of competition are compelling banks to optimize resources, use pure technical efficiency (when a firm minimizes its inputs, given outputs) and choose the optimal firm size including the quantity of various inputs and outputs so as to reap the maximum economies of scale, (RBI, 2001).
- With the growing competition, the operating environment for banks has been changing rapidly and banks in the changed operating environment need flexibility,operational efficiency as well as professionalism to respond to the evolving situation.

Implications for Policy Makers

- The increased competition, may accelerate the consolidation process, at the same time, this may also raise the risk of concentration, if the mergers/amalgamations involve large banks. Therefore, while some consolidation of the banking sector may be necessary, it would be appropriate to have in place a well defined policy to ensure that the competition is not undermined any time in the future while managing the degree of concentration also.

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