

INDIAN BANKING SECTOR REFORM AND LIBERALIZATION: PAIN OR PANACEA?

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ABSTRACT

In 1991, the Indian economy went through a process of economic liberalization, which was followed up by the initiation of fundamental reforms in the banking sector in 1992. The banking reform package was based on the recommendations proposed by the Narsimhan Committee Report (1991) that advocated a move to a more market oriented banking system, which would operate in an environment of prudential regulation and transparent accounting. The purpose of this paper is to critically assess the post reform performance of Indian banks by examining quantitative data on bank profitability and risk. A bank transparency indicator is also constructed to evaluate the performance of Indian banks with respect to the quality of their disclosures. An assessment of Indian banks indicates deteriorating profitability, heightened risk exposure and inadequate transparency of accounting disclosures. The study underscores an urgent need for an improvement in the risk management skills of Indian banks and their supervisors. Such practices may necessitate *more* rather than less governance in areas of corrective action, financial transparency, and risk management.

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Introduction

In 1991, the Indian economy went through a process of economic liberalization. Recognizing that the success of economic reforms was contingent on the success of financial sector reform as well, the government initiated a fundamental banking sector reform package in 1992. Indeed banks are very important for the smooth functioning of financial markets as they serve as repositories of vital financial information and can potentially alleviate the problems created by information asymmetries. The banking reform package was based on the recommendations proposed by the Narsimhan Committee Report (1992) that advocated a move to a more market oriented banking system, which would operate in an environment of prudential regulation and transparent accounting. One of the primary motives behind this drive was to introduce an element of market discipline into the regulatory process that would reinforce the supervisory effort of the Reserve Bank of India (RBI). Market discipline, especially in the financial liberalization phase, reinforces regulatory and supervisory efforts and provides a strong incentive to banks to conduct their business in a prudent and efficient manner and to maintain adequate capital as a cushion against risk exposures.

The functioning of the market's disciplining mechanism and also the effectiveness of the supervisory process, however, is hindered by weak accounting and legal systems, and inadequate transparency of accounting disclosures. From a central bank's perspective, such high-quality disclosures help the early detection of problem banks by the market and reduce the severity of market disruptions. Consequently, the RBI as part and parcel of the financial sector deregulation, attempted to enhance the transparency of the annual reports of Indian banks by,

among other things, introducing stricter income recognition and asset classification rules, enhancing the capital adequacy norms, and by requiring a number of additional disclosures sought by investors to make better cash flow and risk assessments.

The purpose of this paper is to critically assess the post reform performance of Indian banks by examining *quantitative* data on bank profitability and risk. An innovation of this paper is to *qualitatively* assess the transparency of the Indian banking sector.

Post-Reform Performance of Indian Banks: A Quantitative Assessment

As of March 2000, there were 101 total Scheduled Commercial Banks in India of which 27 were Public Sector Banks (PSBs) comprising both nationalized banks as well as banks belonging to the State Bank of India group, 31 private sector banks and 42 were foreign banks. These banks had total assets worth Rs. 11,104¹ billion and a network of 55,855 branches scattered all over the country. Despite the large number of foreign banks operating in the country, their control is a mere 7.5% of the total assets. The banking market is still very much dominated by the PSBs which controlled the largest share of total assets (about 80%).

A post-reform quantitative assessment of the Indian banking sector has been conducted by examining trends in profitability, capital adequacy, and risk exposure for nationalized banks, banks in the State Bank group and the private sector banks. Data were obtained from the statistical tables relating to banks in India at the RBI website² for the years 1995-96 to 2000-01. For an assessment of bank transparency, a sample of 17 financial institutions (representing about 50% of the banking assets of the Scheduled Commercial banks in 2000) was also surveyed. All relevant statistics are displayed in Tables 1-9.

¹ One dollar is roughly equal to Rs. 47

² RBI website: www.rbi.org.in under “Publications” or “Statistics”

Profitability

Table 1 provides aggregated data on the profitability, leverage and capital adequacy trends relating to the 58 banks in our sample.

Panels A, B and C demonstrate a slow and steady decline in the profitability of all banks in the sample except nationalized banks. This observation is based on the trends in spread, return on equity and return on assets. Panel D suggests a rise in the total assets-to-total stockholder equity ratio (leverage) for all banks in the sample. This is indicative of the rising use of debt funds (including deposits) to finance bank operations. The use of leveraged funds is greatest for the nationalized banking sector. Panel E indicates an improvement in banks' capital adequacy ratios consistent with the increases in the norms (8% by 1995-96, 95 by 1999-2000 and 10% by 2000-01). Table 2 displays the declining spread between deposit rates and lending rates for Indian banks over the 1997-2001 period. This might be the reason why the net interest income of banks is declining.

Apart from increased levels of financial leverage, cash flow variability in banks can also be caused by heightened levels of credit risk, interest rate risk, and market risk. Additional evidence, points to the increased levels of such risk in the Indian banking sector. This is discussed next.

Risk

An analysis of risk in the Indian banking sector is conducted along the lines of credit risk, interest rate risk, and market risk.

Credit Risk

Table 3 provides data on the non-performing assets (NPAs). This ratio highlights trends in the quality of loan assets. As per the data (Panels A – D) there is a decline in the Gross NPA to Total Assets, the Gross NPA to Total Advances ratio, the Net NPA to Total Assets ratio and the Net NPA to Total Advances ratio in the nationalized banking sector and the State Bank group. The decline is greater for the nationalized banks. There is no such decline for the private sector banks, however. These trends indicate an improvement in the quality of loan assets and a decline in the credit risk exposure of banks at an aggregate level.

A closer examination of Panel E (Table 3) indicates that other than in the private banking sector, Allowances as a percentage of Total Assets are on the decline. The Allowances to Total Assets ratio is low in the private banking sector as compared to the other two, reflecting a possible difference in loan composition. Panel F demonstrates that while the Total Allowances to Gross NPA ratio has declined for the nationalized banks it has remained fairly steady for the other two sectors.

Table 4 depicts growth trends in loans and advances, unsecured loans and in Gross NPAs. Total net advances have grown at a rapid pace since 1997 with the private sector grabbing the biggest share of the pie. Unsecured advances have grown at very high compound rates for the entire banking sector suggesting an increased credit risk exposure. An interesting observation arises from a comparative examination of panels A and C (Table 4). While the growth of gross NPAs in the private sector (24%) is consistent with the growth of loan assets in the sector (24%), the growth of NPAs in the public sector banks (particularly nationalized banks) is way below the growth of loan assets in the same sector. This wide gap suggests either an understatement of

NPAs by the public sector banks to boost profitability and capital adequacy or a vastly improved set of credit assessment skills complemented by reduced default rates. It is surprising that the private sector does not share these improvements of the public sector banks. Taken together the results of both Tables 3 and 4 suggest that the systematic decline in Allowances (Table 3) and low NPA growth rates (Table 4) may be reflective of earnings management to boost capital adequacy ratios in public sector banks.

To explore these issues further, Table 5 examines the macroeconomic indicators over the period. The decline in the lending rates has spurred a rise in loan assets for all banks. In the real sector industrial growth has slowed dramatically in 1998, picked up marginally in 2000 and slowed down again in 2001. Growth in agricultural production has been very volatile. Not surprisingly, the period has seen a fivefold rise in the number of sick cases registered with the Bureau of Industrial and Financial Reconstruction (BIFR). Under these macroeconomic circumstances, it is unusual to see a reduction in the Allowances to Gross NPA ratio as revealed in Tables 3 and 4. The only conclusion therefore is that banks are understating their loan loss provisions by understating NPAs. This is strongly indicative of a decline in the quality of loan assets and thereby of their balance sheets.

Table 6 provides some initial estimates of the level of understatement of non-performing assets in the case of public sector banks. The Gross NPA to Net Advances ratio estimated in Table 4 (Panel D) is used to make an initial set of calculations. Using the average over the 1997 to 2001 period to proxy the “true” level of non-performing assets relative to net advances, an estimate of the NPA has been constructed in Table 6 (Panel E). Based on this approach, the NPAs of the nationalized banks have been underestimated by about Rs.11605 crores (about \$ 2.5 billion) or 1.85% of their total assets. A second estimate was made by matching the growth

rate of non-performing assets to the growth of loan assets as per Table 4 (Panels A and C). In this case, the underestimation of NPAs in the case of nationalized banks is about Rs. 23028 crores (about \$ 5 billion) or 3.67% of their total assets. Both estimates point to a scenario of huge undisclosed levels of NPA in the banking sector that have the potential of triggering off a crisis in the eventuality of a slowdown in the economy. Note that the estimate of the level of undisclosed credit risk has been based loan assets only. Banks face additional levels of credit risk arising from the non-performance of contractual obligations by counterparties in forward exchange contracts. Such off-balance sheet contracts represent 15% of the total liabilities of the SBI group, 22% of the total liabilities of the nationalized banks, 52% of the total liabilities of the new private sector banks, and 22% of the total liabilities of the old private sector banks.³

The foregoing analysis of the undisclosed NPAs growth is in a regime where the RBI adopts a more liberal definition of NPAs compared to the international standards. Indian standards follow a 180 day delinquency for NPAs as opposed to the international standard of 90 days.⁴ Additionally, doubtful assets backed by collateral are provided for only up to 50% of their outstanding balance no matter how long the loan remains in this category. A more conservative approach adopted by some other countries is to provide for these delinquent loans up to 100%. This problem of undisclosed NPAs will hit home hard when Indian banks are required to shift to the 90 day international norm in 2004.

To estimate the impact of undisclosed non-performing loans on the net worth of banks, Table 7 compares the net worth ratio of banks to their ratio of net NPAs to total assets. The table assesses an equity cushion by subtracting panel B from Panel A (Table 7) for the years for which data are available. A declining equity cushion, especially for the public sector banks is again

³ This is based on statistics derived from RBI's, *Report on Trends in Banking in India, 2002*.

⁴ The RBI will shift to this international norm as of the year ended March 31, 2004.

clearly evidenced by the data. Keeping in mind the tendency for public sector banks to understate their NPAs (discussed above), a declining equity cushion for these banks (that is just about less than or adequate to absorb the amount of understated NPAs depending on the sector) only reinforces the thesis of rising levels of credit risk in their operations.

Interest Rate Risk

From the year ending March 31, 2000, banks are required to disclose the maturity patterns of loans and advances, investment securities, deposits and borrowings, and, foreign currency assets and liabilities. This data was used to conduct a maturity gap analysis of assets and liabilities for different maturity buckets. The maturity gap represents the rupee amount by which interest rate sensitive assets exceed interest rate sensitive liabilities. A positive gap would be indicative of increasing interest margins under rising rates and a negative gap would signal decreasing interest margins under the same conditions. These mismatches can provide an initial estimate of interest rate risk and the sensitivity of a bank's cash flows to fluctuating interest rates.

The maturity gap analysis (Tables 8A to 8C) demonstrates significant mismatches between interest sensitive assets and liabilities in the "1 to 3 year" maturity bucket and in the "over 5 year" maturity bucket in the case of the public sector banks. These mismatches have increased in the year 2001. The level of mismatch and the increase in the mismatch for these maturity buckets is not so severe in the case of the private sector banks. However, the mismatch has increased significantly in the case of the "1-28 days" bucket for the private sector banks. While this gap analysis is not the final word in interest risk exposure, the foregoing indicates that Indian banks are increasingly susceptible to significant swings in interest margins and operating

cash flows⁵ due to fluctuations in interest rates. Such heightened level of risk exposures increases the level of information asymmetry in the economic environment and makes the task of risk-based monitoring increasingly complex for banking supervisors.

Market Risk

Over the period 1996 to 2001 the total assets of all scheduled commercial banks grew at the rate of 16.83% per annum and loan assets grew at the rate of 15.87% per annum (RBI). In contrast, investment in joint stock companies and mutual funds grew from Rs. 19784 crores to Rs. 70895 crores reflecting a growth rate of 29% per annum over the same period. In order to minimize the market risk exposure faced by banks, the RBI has placed a limit of 5% of total advances on the amount of investment in joint stock companies. As indicated in Table 9A, the amount of investment in joint stock companies, mutual funds, and foreign country securities grew from 11% of the total investments (3% of total assets) to 17.6% of total investments (5.2% of total assets). These assets are more volatile in value than the traditional banking assets and hence are a source of market risk. In 1996, these represented about 2.5% of the total assets of the SBI group and by 2001 these represented about 4% of the group total assets (Table 9B). In the case of nationalized banks and the private sector banks, the jump was more significant. Investments in joint stock companies represented 3.5% of the total assets for both the nationalized bank sector and the private sector banks. However, the proportion jumped to 7% in the case of the nationalized banks and to about 12% in the case of the private sector by the year 2001. Clearly these banks are generating non-interest based income from volatile assets to

⁵ Banks attempt to resolve duration mismatches by using interest rate swaps. Typically, details of such interest rate risk management techniques and disclosures regarding the fair value of interest rate swaps are not provided by Indian banks in their annual reports resulting in a significant lack of transparency.

supplement the eroding margins from the traditional banking operations. Consequently, the level of market risk faced by banks has increased proportionately over the same time period.

In sum, the Indian banking sector and especially public sector banks portray a picture of low profitability and heightened levels of risk.

Do Indian Banks Provide Transparent Accounting Disclosures? A Qualitative Analysis

The functioning of the market's disciplining mechanism and also the effectiveness of the supervisory process, however, is hindered by weak accounting and legal systems, and inadequate transparency of accounting disclosures. For the market's disciplining mechanism to operate, banks must provide full, reliable, and high-quality (i.e., transparent) disclosures of their operations and risks in a timely fashion and must use prudent accounting policies. Such transparency in bank disclosures (a) enables investors to more accurately assess a bank's financial strengths and performance; (b) increases the credibility of the information disclosed by the bank; (c) demonstrates the risk-management ability of the bank by disclosing relevant information about the quality and quantity of risks it faces and (d) reduces market uncertainty associated with its cash flow stream. Hence, this section examines the disclosure practices of a sample of Indian banks. Better quality public disclosures reduce the level of information asymmetry between bank managers and investors and thereby enhance investor confidence in a bank's stock and in the banking industry.

From a central bank's perspective, such high-quality disclosures help the early detection of problem banks by the market and reduce the severity of market disruptions. Consequently, the RBI as part and parcel of the financial sector deregulation, attempted to enhance the transparency of the annual reports of Indian banks by, among other things, introducing stricter income recognition and asset classification rules, enhancing the capital adequacy norms, and by

requiring a number of additional disclosures sought by investors to make better cash flow and risk assessments.

The measurement of the adequacy and the quality of a bank's annual report disclosures involves the construction of an instrument that measures the level of an individual bank's transparency. The instrument is similar in concept to the disclosure score indices constructed for industrial companies by Botosan (1997) and Zarzeski (1996). It essentially is a list of disclosures that are considered to be useful in enhancing the transparency of bank's financial statements, the attached footnotes and the associated reports and analysis sections. Banks with higher transparency scores provide more investor-oriented annual report disclosures that permit investors to better assess with greater levels of certainty, the current financial conditions of a bank and its future performance and associated risk.

The bank transparency score (**BTS**) index used in this study include the 1998 recommendations of the Transparency Sub-Group of the Basle Committee on Banking Supervision, Bank for International Settlements. The recommendations of the International Accounting Standards Committee as per IAS No. 30⁶ were also considered. The final instrument developed contains a list of ninety items that were considered to be transparency enhancing, high-quality public disclosures in the case of Indian banks.⁷ The higher the total bank transparency score (**BTS**) obtained by a bank, the more transparent are its annual report disclosures.

A survey was made of the disclosures made by 17⁸ financial institutions (out of a total of 59 banking institutions and 3 development finance institutions) for which annual reports were

⁶ International Accounting Standard No. 30, *Disclosures in the Financial Statements of Banks and Other Similar Financial Institutions*

⁷ The detailed instrument used to assess the bank transparency scores has been provided in Chipalkatti (2002).

⁸ Represent about 50% of the assets of the banking scheduled commercial banks in India

readily available. The scores of the banks included in the survey have been provided on Table 10. In general, the results of the survey indicate low levels of transparency arising from poor disclosure quality especially about risk exposures and risk management skills. The median score of 26 is not even 50% of the total possible score of 90. The two financial institutions with American Depositary Receipts (ADRs) ICICI Ltd. and ICICI Bank Ltd. obtained the highest transparency scores. This is not surprising considering that the Security Exchange Commission of the U.S.A. requires bank with ADRs to provide additional disclosures as per US accounting standards that are not required as per Indian accounting standards. These additional disclosures focus on the risk exposure and the corporate governance area.

The inadequate transparency of accounting disclosures hinders the effectiveness of the RBI's supervisory process as well as the market's disciplining mechanism. From the perspective of the asymmetric information framework, better quality public disclosures reduce the level of information asymmetry between bank managers and investors and thereby enhance investor confidence in a bank's stock and in the banking industry. The analysis presented in this section indicates that the quality of accounting disclosures and the level of transparency is rather low in the Indian case.

In an environment where the regulatory enforcement mechanism is weak, such as in India, the lack of quality disclosures and transparency results in a lack of market discipline (Chipalkatti, 2002).

Conclusions

The Indian banking sector reforms were intended to reduce market asymmetries and promote the functioning of a market disciplining mechanism as a regulatory device. The

analysis presented in this paper suggests that the reform process has been largely unsuccessful in this regard. Indian banks are plagued by weakening balance sheets, poor asset quality, and low transparency.

The exhaustive post-reform analysis of Indian banking presented above highlighted the existence of a lending boom to mask declining profits in Indian banks and emphasized the criticality of the NPA problem in the sector. The market uncertainty generated by such deterioration in bank balance sheets is only compounded by the weak regulatory environment in India and the moral hazard created by the government safety net. In effect, market uncertainties can potentially worsen existing asymmetries between would be depositors and banks that are unable to assess the true extent of risk in their loan portfolio. Under these circumstances, an environment that encourages new entry and competition puts increased pressure on banks as investors have alternative institutions to invest their funds in. Although, banks themselves have access to capital markets for funds, most banks that have tapped capital markets are faring poorly on the stock exchange – no doubt due to the high volume of NPAs in their portfolios. The result is a vicious cycle of deteriorating bank balances sheets and a rise in market risk that feeds upon itself and propels banks to assume even greater risk by “diversifying” into more volatile assets. The market risk created by this dynamic generates further aggravations which manifest themselves as dwindling net worth ratios and declining equity cushions. Studies have demonstrated that net worth can theoretically perform the same function as collateral and that declines in the same can exacerbate the adverse selection and moral hazard problems in financial markets (Bernanke and Gertler 1989).

Where policy is concerned, it is the view of this paper is that before launching into a “second generation” of reforms of privatization of the public sector banks, the government has to

ensure the creation of a credible regulatory system in India that is free from government and bureaucratic influence. This independent regulatory body should also monitor banks' accounting and disclosure practices in order to bring those (especially with respect to risk exposure) more in line with international standards. Furthermore, capital adequacy norms should be strictly enforced and investment by foreign investors or raising capital in foreign capital markets should be encouraged. The government has to also be able to clearly signal its unwillingness to bail out weaker banks that should instead be encouraged to consolidate and merge with stronger banks.

Table 1: Performance of Banks

A. Net Interest Income (Spread) as a Percentage of Total Assets

	1997	1998	1999	2000	2001
Nationalized Banks	2.97	2.78	2.77	2.66	2.9
State Bank of India Group	3.48	3.14	2.85	2.76	2.76
Total Private Sector Banks	2.92	2.46	2.09	2.16	2.33

B. Return on Assets

	1997	1998	1999	2000	2001
Nationalized Banks	0.41	0.62	0.37	0.44	0.33
State Bank of India Group	0.84	1.06	0.51	0.8	0.55
Total Private Sector Banks	1.13	1.04	0.68	0.88	0.71

C. Return on Stockholders Equity

	1997	1998	1999	2000	2001
Nationalized Banks	5.58	8.99	6.26	7.99	6.36
State Bank of India Group	17.49	20.5	8.62	17.34	12.74
Private Sector Banks	17.04	15.94	11.85	14.45	13.41

D. Total Assets/Total Stockholders Equity (Leverage)

	1997	1998	1999	2000	2001
Nationalized Banks	13.61	14.49	16.91	18.17	19.28
SBI	20.82	19.34	21.65	21.67	23.16
Private Sector Banks	15.08	15.33	17.43	16.43	18.41

E. Capital Adequacy Ratio

	1997	1998	1999	2000	2001
Nationalized Banks	8.7	10.53	10.95	11.14	10.98
State Bank of India Group	10.44	12.55	11.89	11.95	12.43
Total Private Sector Banks	13.7	12.95	12.31	12.87	12.36

Table 2: Spread between Deposit Rates and Lending Rates

	SBI Advance Rate	Deposits			Spreads		
		1 to 3	3 to 5	Above 5	1 to 3	3 to 5	Above 5
1996	16.5	12	13	13	4.5	3.5	3.5
1997	14.5	11.5	12.5	12.75	3	2	1.75
1998	14	10.75	11.75	11.75	3.25	2.25	2.25
1999	13	10	11	11	3	2	2
2000	12	9	10.25	10.25	3	1.75	1.75
2001	11.5	8.75	9.75	9.75	2.75	1.75	1.75

Source

From RBI: Handbook on Statistics on Indian Economy

Table 3**NPA Percentages****A. Gross NPAs/Gross Advances**

	1997	1998	1999	2000	2001
Nationalized Banks	19.05	16.88	16.02	13.91	12.19
State Bank of India Group	15.81	14.57	15.67	14.08	12.73
All Private Sector Banks	8.49	8.67	10.81	8.17	8.48

B. Net NPAs/Net Advances

	1997	1998	1999	2000	2001
Nationalized Banks	10.07	8.91	8.35	7.8	7.01
State Bank of India Group	7.7	6.89	7.74	6.77	6.26
All Private Sector Banks	5.37	5.26	7.41	5.41	5.44

C. Gross NPAs/Total Assets

	1997	1998	1999	2000	2001
Nationalized Banks	8.3	7.24	6.83	6	5.45
State Bank of India Group	7.03	6.67	6.52	5.88	5.11
All Private Sector Banks	4.19	3.93	4.48	3.61	3.7

D. Net NPAs/Total Assets

	1997	1998	1999	2000	2001
Nationalized Banks	3.95	3.48	3.26	3.15	2.95
State Bank of India Group	3.12	2.89	2.94	2.6	2.34
All Private Sector Banks	2.54	2.29	2.83	2.3	2.26

E. Allowances/Total Assets (C -D)

	1997	1998	1999	2000	2001
Nationalized Banks	4.35	3.76	3.57	2.85	2.5
State Bank of India Group	3.91	3.78	3.58	3.28	2.77
All Private Sector Banks	1.65	1.64	1.65	1.31	1.44

F. Allowances/Gross NPAs (E/C)

	1997	1998	1999	2000	2001
Nationalized Banks	52.41%	51.93%	52.27%	47.50%	45.87%
State Bank of India Group	55.62%	56.67%	54.91%	55.78%	54.21%
All Private Sector Banks	39.38%	41.73%	36.83%	36.29%	38.92%

Source

Trend & Progress of Banking in India

Table 4

Total Advances, Unsecured Advances and Non-Performing Assets by Sector: 1997-2001

Figures in Rupees Crores

A. Total Net Advances

	1997	1998	1999	2000	2001	Growth Rate
SBI** Group (8)	82,902	97,566	108,425	129,034	150,391	16.06%
Nationalized Banks (19)	137,349	162,336	188,925	223,076	264,237	17.77%
Private Sector Banks (31)*	28,631	35,420	42,713	55,742	68,058	24.17%

B. Unsecured Advances

	1997	1998	1999	2000	2001	Growth Rate
SBI Group (8)	1,786	3,269	6,120	7,439	17,149	76.03%
Nationalized Banks (19)	12,256	15,356	17,960	21,708	30,490	25.59%
Private Sector Banks (31)*	2,147	2,774	3,348	6,330	9,589	45.37%

C. Gross NPA

	1997	1998	1999	2000	2001	Growth Rate
SBI Group (8)	14,367	15,522	18,641	19,773	20,191	8.88%
Nationalized Banks (19)	29,209	30,130	33,096	33,521	32,983	3.08%
Private Sector Banks (31)*	2,538	3,186	4,655	4,931	6,078	24.40%

D. Gross NPA/ Net Advances (C/A)

	1997	1998	1999	2000	2001	Average
SBI Group (8)	17.33%	15.91%	17.19%	15.32%	13.43%	15.84%
Nationalized Banks (19)	21.27%	18.56%	17.52%	15.03%	12.48%	16.97%
Private Sector Banks (31)*	8.86%	8.99%	10.90%	8.85%	8.93%	9.31%

Table 5

Indian Economy: Macroeconomic Performance Indicators

	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
<u>SBI Advance Rate</u>	16.50%	14.50%	14.00%	13%	12%	11.50%
<u>Real GDP Growth Rate</u>	7.30%	7.80%	4.80%	6.50%	6.10%	5.20%
<u>Growth in Agricultural Production (Real)</u>	0.42%	6.94%	(5.92)%	7.62%	(0.62)%	(5.37)%
<u>Growth in Industrial Production (Real)</u>	12.83%	12.19%	1.01%	4.09%	6.68%	4.71%
<u>No. of (Sick) Cases Registered with Bureau for Industrial & Financial Reconstruction (BIFR)</u>	97	233	370	413	429	463

Table 6: Estimated Understatement of NPAs

Figures in Rs. Crores (other than percentages)

A. Total Advances

	1997	2001	Growth Rate
SBI** Group (8)	82,902	150,391	16.06%
Nationalized Banks (19)	137,349	264,237	17.77%
Private Sector Banks (31)*	28,631	68,058	24.17%

B. Gross NPA

	1997	2001	Growth Rate
SBI** Group (8)	14,367	20,191	8.88%
Nationalized Banks (19)	29,209	32,983	3.08%
Private Sector Banks (31)*	2,538	6,078	24.40%

C. Gross NPA/ Net Advances

	1997	2001	Average
SBI** Group (8)	17.33%	13.43%	15.38%
Nationalized Banks (19)	21.27%	12.48%	16.87%
Private Sector Banks (31)*	8.86%	8.93%	8.90%

D. Estimated Understatement Using the Average Gross NPA/Net Advances ratio

Estimated Understatement(1)	Estimated NPA	Reported NPA	Estimated Understatement	Total Assets	Understatement/ Total Assets
SBI Group (8)	23,127	20191	2,936	402877	0.73%
Nationalized Banks (19)	44,588	32983	11,605	626892	1.85%
Private Sector Banks (31)*	6,056	6078	-22	163380	-0.01%

E. Estimated Understatement Using the Matching of Growth Rates Approach

Estimated Understatement(2)	Estimated NPA	Reported NPA	Estimated Understatement	Total Assets	Understatement/ Total assets
SBI Group (8)	26,050	20191	5,859	402877	1.45%
Nationalized Banks (19)	56,011	32983	23,028	626892	3.67%
Private Sector Banks (31)*	6,017	6078	-61	163380	-0.04%

Table 7: Equity Cushion Available to Absorb Estimated Understated NPAs

A. Networth-to–Total Assets Ratio (%)

	1997	1998	1999	2000
Nationalized Banks	6.66	6.9	5.91	5.51
SBI	4.8	5.17	4.62	4.62
Private Sector Banks	6.63	6.52	5.74	6.09

* Networth Ratio = (Capital (1) + Reserves & Surplus (2)) / Total Assets

B. Net NPAs/Total Assets (%)

	1997	1998	1999	2000
Nationalized Banks	3.95	3.48	3.26	3.15
State Bank of India Group	3.12	2.89	2.94	2.6
All Private Sector Banks	2.54	2.29	2.83	2.3

c. Cushion/Total Assets (%)

	1997	1998	1999	2000
Nationalized Banks	2.71	3.42	2.65	2.36
State Bank of India Group	1.68	2.28	1.68	2.02
All Private Sector Banks	4.09	4.23	2.91	3.79

Table 8A: Maturity Gap Analysis: Interest Rate Risk Exposure of Banks

Private Banks

(Amount in Rs. lakh)

	1-28 days		1-3 Years		3-5 Years		5+ Years	
	2000	2001	2000	2001	2000	2001	2000	2001
Deposits	3028032	2982668	3240283	5211333	235574	514791	196593	377058
Borrowings	38581	17322	34820	18945	12353	30163	12392	24348
Foreign Currency Liabilities	1632462	828644	59348	101587	4107	16485	403	0
Total	4699075	3828634	3334451	5331865	252034	561439	209388	401406
Loans and Advances	2448093	2220194	1615457	2416065	397283	521392	328230	448802
Investments	86595	873525	958996	1202984	646955	937402	1196402	1969121
Foreign Currency Assets	1938816	2105696	7368	6886	2331	5860	1309	1412
Total	4473504	5199415	2581821	3625935	1046569	1464654	1525941	2419335
GAP	-225571	1370781	-752630	-1705930	794535	903215	1316553	2017929
Total Assets	13656600	16338000	13656600	16338000	13656600	16338000	13656600	16338000
GAP to Total Assets (%)	-1.65%	8.39%	-5.51%	-10.44%	5.82%	5.53%	9.64%	12.35%

Source: Trend and Progress of Banking In India: 2002, RBI website

Table 8B: Maturity Gap Analysis: Interest Rate Risk Exposure of Banks

**Nationalized
Banks**

(Amount in Rs. lakh)

	<u>1-28 days</u>		<u>1-3 Years</u>		<u>3-5 Years</u>		<u>5+ Years</u>	
	2000	2001	2000	2001	2000	2001	2000	2001
Deposits	2722060	6293949	12254664	24305069	1098559	3546344	2099957	4001885
Borrowings	107563	312046	58245	130038	18119	85194	9938	100841
Foreign Currency Liabilities	1514069	1293092	731284	664880	10258	68519	238615	152241
Total	4343692	7899087	13044193	25099987	1126936	3700057	2348510	4254967
Loans and Advances	1899477	4466457	3860296	8697298	1472007	3099383	1409976	3385643
Investments	83625	381155	1374297	2985725	2190061	3984643	7008886	14215088
Foreign Currency Assets	1874063	1402239	379497	423007	136350	96093	306225	85030
Total	3857165	6249851	5614090	12106030	3798418	7180119	8725087	17685761
GAP	-486527	-1649236	-7430103	-1.3E+07	2671482	3480062	6376577	13430794
Total Assets	55462500	62689200	55462500	62689200	55462500	62689200	55462500	62689200
GAP to Total Assets%	-0.88%	-2.63%	-13.40%	-20.73%	4.82%	5.55%	11.50%	21.42%

Source: Trend and Progress of Banking In India: 2002, RBI website

Table 8C: Maturity Gap Analysis: Interest Rate Risk Exposure of Banks**State Bank Of India Group**

(Amount in Rs. lakh)

	1-28 days		1-3 Years		3-5 Years		5+ Years	
	2000	2001	2000	2001	2000	2001	2000	2001
Deposits	3028032	2982668	11170276	16353002	2792735	4171875	577551	806636
Borrowings	38581	17322	82587	112480	40578	63584	52826	36541
Foreign Currency Liabilities	1632462	828644	474838	728452	4725	3789	5917	82
Total	4699075	3828634	11727701	17193934	2838038	4239248	636294	843259
Loans and Advances	2448093	2220194	4114972	5200533	1131276	894340	799307	1731763
Investments	86595	873525	1741023	3122507	2600500	2067799	5305342	7692005
Foreign Currency Assets	1938816	2105696	129290	80246	23972	30999	15432	33624
Total	4473504	5199415	5985285	8403286	3755748	2993138	6120081	9457392
GAP	-225571	1370781	-5742416	-8790648	917710	-1246110	5483787	8614133
Total Assets	33632700	40287700	33632700	40287700	33632700	40287700	33632700	40287700
GAP to Total Assets%	-0.67%	3.40%	-17.07%	-21.82%	2.73%	-3.09%	16.30%	21.38%

Source: Trend and Progress of Banking In India: 2002, RBI website

Table 9A: Investments of Scheduled Commercial Banks

Rs Crores

A. Amount of Investment

	2001	2000	1999	1998	1997	1996
Shares and Debentures of Joint Stock Companies	65317.00	52163.21	38604	27366.8	19973.12	17677.94
Mutual Funds	3679.00	1993.75	1481	593.58	532.2	513.83
Foreign Countries Securities	1899.00	4276.81	2558	2181.02	1030.06	1592.27
Total	70895	58434	42643	30141	21535	19784

B. Percentage of Total Investments

Shares and Debentures of Joint Stock Companies	16.2	15.7	13.8	11.5	10.3	10.0
Mutual Funds	0.9	0.6	0.5	0.3	0.3	0.3
Foreign Countries Securities	0.5	1.3	0.9	0.9	0.5	0.9
	17.6	17.6	15.2	12.7	11.1	11.2

C. Percentage of Total Assets

Total Assets	1344570	1152532	986411	825175	693734	617629
Percentage	5.27%	5.07%	4.32%	3.65%	3.10%	3.20%

Source: Trend and Progress of Banking In India: 2002, RBI website

Table 9B: Investments of Scheduled Commercial Banks

	2001	SBI	Nationalized	Private
Total Assets		402877	626892	163380
Total Investments		157192	236915	62037
Shares		1191	2034	1519
Debentures and Bonds		14758	41896	17888
Rest of the Investments		141243	192985	42630
Percentage of Total Assets		3.96%	7.01%	11.88%
Percentage of Investments		10.15%	18.54%	31.28%

	1996	SBI	Nationalized	Private
Total Assets		18676798	31907694	4551741
Total Investments		5562861	10703816	1230952
Shares		49013	111642	17836
Debentures and Bonds		412317	1029293	142060
Rest of the Investments		5101531	9562881	1071056
Percentage of Total Assets		2.47%	3.58%	3.51%
Percentage of Investments		8.29%	10.66%	12.99%

Source: Trend and Progress of Banking In India: 2002, RBI website

Table 10

BANKS INCLUDED IN SAMPLE WITH DETAILS OF THEIR BANK TRANSPARENCY SCORES

(BTS)

BANK NAME	BTS (90)	A (7)	B (15)	C (20)	D (15)	E (4)	F (15)	G (3)	H (6)	I (3)	J (2)	R A N K
BANKBARODA	38.0	5.0	3.0	11.0	9.0	1.0	7.0	0.0	0.0	1.0	1.0	3
BANKINDIA	29.0	6.0	7.0	2.0	6.0	1.0	5.0	0.0	0.0	1.0	1.0	7
BANKMADURA	23.0	5.0	4.0	1.0	7.0	0.0	4.0	0.0	0.0	1.0	1.0	14
BANKPUNJAB	22.0	5.0	2.0	2.0	6.0	0.0	5.0	0.0	0.0	1.0	1.0	16
BANKRAJAS	25.0	6.0	4.0	1.0	5.0	1.0	6.0	0.0	0.0	1.0		11
CORPBANK	26.0	5.0	4.0	1.5	8.0	1.0	4.5	0.0	0.0	1.0	1.0	10
DENABANK	26.0	4.0	6.0	2.0	8.0	0.0	4.0	0.0	0.0	1.0	1.0	9
HDFCBANK	34.0	4.0	4.0	10.0	7.0	1.0	6.0	0.0	0.0	1.0	1.0	4
ICICI	51.0	6.0	9.0	13.0	10.0	1.0	10.0	0.0	6.0	1.0	1.0	1
ICICIBANK	42.5	6.0	5.5	10.0	10.0	2.0	7.0	0.0	0.0	1.0	1.0	2
IDBI	31.5	5.0	6.0	11.0	4.0	1.0	4.5	0.0	0.0	0.0	0.0	6
IDBIBANK	31.5	5.0	5.5	5.0	8.0	0.0	6.0	0.0	0.0	1.0	1.0	5
IFCI	24.5	6.0	4.5	1.0	3.0	1.0	9.0	0.0	0.0	0.0	0.0	12
J&KBANK	22.5	5.0	2.5	3.0	6.0	0.0	5.0	0.0	0.0	1.0	0.0	15
SBIN	27.0	5.0	5.0	5.0	5.0	1.0	4.0	0.0	0.0	1.0	1.0	8
SOUTHBANK	24.0	4.0	4.0	2.0	6.0	0.0	6.0	0.0	0.0	1.0	1.0	13
SYNDIBANK	20.0	5.0	2.0	1.0	6.0	4.0	0.0	0.0	1.0	1.0		17
Mean	29.3	5.1	4.6	4.8	6.7	0.9	5.5	0.0	0.4	0.9	0.8	
Median	26.0	5.0	4.0	2.0	6.0	1.0	5.0	0.0	0.0	1.0	1.0	
Stnd. Dev.	8.2	0.7	1.8	4.3	2.0	1.0	2.2	0.0	1.5	0.3	0.4	

NOTES:

- Section A:** Financial statements
- Section B:** Basic business, management and corporate governance information
Financial
- Section C:** performance
Financial position (including capital, solvency and
- Section D:** liquidity)
- Section E:** Risk management strategies and practices
- Section F:** Credit risk exposure
Market risk
- Section G:** exposures
- Section H:** Interest rate risk
- Section I:** Currency risk
- Section J:** Liquidity Risk

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