IMPACT OF SUBPRIME CRISES ON INDIAN BANKING SECTOR

–Dr. Sanjay Srivastava

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By

Dr. SANJAY SRIVASTAVA

Director,

Ansal Technical Campus, Lucknow.

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427, Palhar Nagar, RAPTC, VIP-Road, Indore-452005 (MP) INDIA
Phone: +91-731-2616100, Mobile: +91-80570-83382
E-mail: **contact@isca.co.in** , Website: **www.isca.me** , **www.isca.co.in**

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PREFACE

The banking industry in India seems to be impervious to the global slowdown in the economy. This slowdown originated from United States in the last quarter of 2008. The astonishing fact came to surface that banks in India were least affected by the financial turbulence emanating from the West and seemed to be well supported by strong fundamental base. The Indian banking industry emerged well placed as compared to it's western counterparts which are vying for government bailout and stimulus package. This research work characterized the study of insulation of Indian Banks to global financial crisis and means to augment the growth rate.

Although, United States is the fastest growing country with highest stability , however currency exchange has suddenly started devaluating even in the home country as well as in the international market. This has initiated the economic crisis in the world market. Though the surface causes of it were known but it was required to explore in depth the causes of this decline. It was imperative to ascertain as to why Indian economy as a whole did not get much impact of it and at the same time find out new methods to be exercised in terms of regulation of Indian financial system so that Indian economy keeps growing with much faster rate.

At the top are concerns of a direct impact on financial institutions in India. The Reserve Bank of India has clarified that the exposure of Indian banks and institution to the crisis is marginal. State bank of India, ICICI Bank, Bank of Baroda and Bank of India are set to bookmark market losses on their foreign offices to credit derivatives. The estimated total of these losses is around US$ 3 billion for the four banks put together and the provisioning made by these banks so far has been quite small. Given the size of the banks and their balance sheets, even if these figures were accurate, there would be little impact on the overall performance of the banks. In short the direct fallout effect of the collapse of the Subprime mortgages to institutions in India is likely to be quite insignificant.

Public sector banks have been very proactive in there restructuring initiatives, be it in technology implementation or pruning their loss assets. While the likes of SBI have already made attempts towards consolidation, others are keen to take that direction. Incremental provisioning made for asset slippages have safe guarded the banks from witnessing a sudden impact on their bottom lines. Retail lending (especially mortgage financing) that formed a significant portion of the portfolios for most banks in the last two years lost some weightage on the banks portfolios due to the inherent risk. However, on the liabilities side, with better penetration in the semi urban and rural areas, the banks garnered a higher proportion of low cost deposits thereby economizing on the cost of funds.

Apart from streamlining their processes through technology initiatives such as ATMs, telephone banking, online banking and web based product, banks also restored to cross selling of financial products such as credit cards, mutual funds and insurance policies to augment their fee based income. The strong economic growth in the past, low defaulter ratio, absence of complex financial products, regular intervention by central banks, adjustment of monetary policy coupled with close banking culture has turned the tables in favor of Indian banking industry.

Thus this research has been carried out to ascertain the reason behind the sustainability of the Indian banking sector in global financial turmoil. Further a rigorous comparison between the Indian nationalized banks and the private multinational banks has been done. The rate of growth of Indian banking sector has been analyzed along with means to augment it. In order to sustain the growth of Indian banking in future certain methods have been suggested.

It is an exploratory research and the basic aim of research is to gain familiarity with the Indian banking sector and to achieve new insight. So the study has tried to understand the feasibility of regulations imposed by RBI.

Research work has been based on secondary data which was collected from text books, journals, newspapers, articles and web material. Summary reports of Indian Govt. and World bank were referred to. The data collection was carried out by means of Interview method and Questionnaire. This was done on the basis of personal interviews information in research work.

The work embodied in the book entitled STRUCTURAL AND BIOLOGICAL ASPECTS OF TRANSITION METAL COMPLEXES OF SUBSTITUTED OXAZOLE AND THIAZOLE was carried out by Dr. SANJAY SRIVASTAVA for the Ph.D. in COMMERCE from DEPARTMENT OF COMMERCE, UNIVERSITY OF LUCKNOW, LUCKNOW (INDIA) under the esteemed supervision of PROF ARVIND KUMAR in the year 2012.

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Sanjay Srivastava

(Sanjay Srivastava)

CONTENT

SUMMARY

Chapter-1 begins with defining the subprime used in the lending industry to define a borrower who does not have a good credit history and hence is not able to qualify for best market rates vis-à-vis the prime category borrower. The term "subprime" reflects not the lending rate but the borrower's credit status. Potential sub-prime borrowers may comprise of financially troubled people, meaning thereby that the sub-prime lenders take a higher degree of risk. Hence to offset the risk to an extent the lenders increase the interest rates. Sub-prime lending may be utilized for sub-prime mortgages, sub-prime car loans, sub-prime credit cards etc. Subprime mortgages totaled $600 billion in 2006, accounting for about one-fifth of the US home loan market.

The subprime mortgage crisis is a commonly used term to describe the international financial crisis that was initiated by problems in the U.S. mortgage market in early 2007. It all started in 2006 with US Market tumbling down due to defaults by the subprime borrowers. The doubled edged sword, increase in interest rates and simultaneously fall in property prices, hit the market leading to subprime mortgage crisis. Between the years 2000-2005, along with very low interest rates, property prices were also on a rising trend and the subprime borrowers were able to meet their obligations as they were building equity by selling the properties or getting the properties refinanced. However, in 2005, the property prices started falling, interest rates started touching the roof top, leaving no room for the subprime borrowers to meet their liabilities leading to meltdown of the US subprime mortgage industry.

Sub Prime Mortgages can be classified in 3 categories:

1. Interest-only mortgages, which allow borrowers to pay only interest for a period of time, typically 5-10 years.
2. "Pick a payment loans", for which borrowers choose their monthly payment (fullPayment, interest only, or a minimum payment which may be lower than the payment required reducing the balance of the loan).
3. Initial fixed rate mortgages that can be converted to variable rates

Mortgage-backed securities resemble bonds, instruments issued by governments and corporations that promise to pay a fixed amount of interest for a defined period of time. They are created when a company buys a bunch of mortgages from the primary lender and then uses monthly installment payments of borrowers as the revenue stream to pay investors who have bought chunks of the offering. They allow lenders to sell the mortgages they make, thus replenishing their capital and allowing them to lend again.

RISKS ASSOCIATED WITH SUB-PRIME MORTGAGE

There are four primary categories of risks involved with subprime mortgage which can lead to subprime crisis:

Credit Risk. This risk is borne by the lending institution and is the risk of prospectivedefault by the mortgage seeker. However, with the introduction of MBS, this risk is covered to an extent.

Asset Price Risk. This risk relates to the valuation of MBS, whether it will be able toovercome the credit risk or not. However, valuation of MBS is very subjective. It is derived by calculating the collection chances of subprime mortgage along with existence of viable market into which these assets can be sold. Due to increasing mortgage delinquency rates, value of MBS has started declining. On the other hand, Banks and Institutional investors have recognized substantial losses on revaluation of their securities downwards due to Mark to Market accounting. This is due to asset price risk.

Liquidity Risk. This risk is on account of wiping or reduction of liquidity in market onaccount of above two risks. To run its operations, and generate cash, many companies rely on access to short-term funding markets such as commercial papers and repurchase market. Companies often obtain short-term loans by issuing commercial paper by pledging MBS. Investors provide cash in exchange for the commercial paper, receiving money-market interest rates. However, because of concerns regarding the value of the MBS due to subprime crisis, the ability of many companies to issue such paper has been significantly affected leading to liquidity risk.

Counterparty Risk. This is risk on account of related parties affected by the vicious circle of subprime crisis. Investment banks help companies and governments raise money by issuing and selling securities in the capital markets (both equity and debt), as well as providing advice on transactions such as mergers and acquisitions. Major Investment Banks and other financial institutions have taken significant positions in credit derivative (MBS) transactions. However, due to above mentioned risks, the financial health of investment banks has taken a southward position, potentially increasing the risk to their counter-parties and creating further uncertainty in the market.

The securitization of mortgages played a critical role in improving liquidity in the mortgage market. Hereby, individual assets were pooled and used as collateral for the issuance of securities.

The Subprime Mortgage Market. The current crisis, also referred to as the credit crunch, started in the U.S. subprime mortgage market. In order to understand the causes and effects of the subprime mortgage crisis, a description of the U.S. subprime mortgage market needs to be constructed. The most important elements of the subprime mortgage market.

Chapter-2 deals with causes & effects of subprime mortgage crisis. The subprime mortgage market has experienced a huge growth from 1994 to 2007. Together with a steady increase in house prices, historical low interest rates, abundant liquidity, and loan incentives, borrowers were encouraged to consume mortgages, believing that they would be able to refinance it due to the favorable economic conditions. Also, borrowers' and investors were willing to take on more risk, thinking that the market could absorb it. However, this Situation changed at the end of 2006 when the housing bubble came to an end and interest rates began to rise. Warning signals began to emerge for a potential financial crisis when investors and lenders realized that they had been too optimistic about the economic conditions. Warning signals began to emerge for a potential financial crisis when investors and lenders realized that they had been too optimistic about the economic conditions. When in the beginning of2007 home sales continued to fall, serious concerns emerged when many borrowers turned out to be in financial difficulties and could not refinance or sell their homes to pay off mortgages when they were unable to make monthly payments The uncertainty about the health of large financial institutions, the ratings and quality of structured products, and the magnitude of future write downs and the duration of the crisis, caused financial institutions to become unwilling to provide liquidity to others which in turn led to a liquidity crisis in the financial system. It has forced some major financial institutions to be taken over, and even others to fill for bankruptcy. Also, it has brought the asset backed commercial paper market to a halt with a sharp fall in the new issuance of securitized products. The end of the crisis is not yet in sight since the weaknesses and the vulnerability of the financial markets still remains visible with losses at leading financial institutions topping $500billion as of July 2008.

FACTORS CONTRIBUTED TO THE US SUBPRIME MORTGAGE CRISIS

Economic conditions such as rising interest rates and the flattening of house price appreciation certainly played an important role in the subprime mortgage crisis. However, these economic factors emphasized the essential important underlying factors that triggered the crisis, namely the initial weaknesses of the subprime mortgage market.

Increasing risk characteristics of subprime products. After the recession in 2001 when interest rates declined, borrowing demand increased, Mortgage lenders expanded their businesses, and new lenders entered the market. Together with the U.S. housing bubble which caused U.S. housing prices to rise with 34 percent, adjusted for inflation, between 2002 and 2005 (Getter et.al, 2007), an appetite for risk, and the economic recovery, an environment was created in which investors and lenders were encouraged to seek instruments that offered high returns resulting in an increase in demand for securitized subprime mortgages. Due to this Rapid growth of subprime mortgages, it became easier for borrowers to obtain loans.

The weaknesses in risk management and risk measurement. Another contributing factor according to the Financial Stability is the weaknesses in the risk management and risk monitoring across financial institutions. According to many, the current crisis has emphasized once more the importance of adequate risk management and risk measurement. Financial institutions were affected by this crisis in numerous ways because for a small part they had actually invested in subprime market securities directly but more importantly they had provided backup credit lines for special purpose vehicles that held those securities. When some of them started to suffer from severe losses, financial institutions became very concerned about the liquidity and capital implications. Hence, adequate risk management and risk measurement of securitization business is important because it seeks to ensure the investor's ability to fund increases in assets and meet obligations as they come due.

The role of rating agencies. A third factor, is the role of rating agencies and the extent to which they have misjudged the risk associated with subprime loans and the misunderstanding between investors and rating agencies due to unexpected rating agency downgrades. Investors started to lose faith in the ratings of these structured securities, which as a result raised concerns about the valuation of such securities. Questions were raised about the effectiveness of the methodologies used by the agencies to model the probability of default and the loss given default when the number of delinquencies, defaults and foreclosures rapidly increased.

The lack of transparency and disclosure. Another factor is the lack of transparency and disclosure which affected many players in the financial markets since it worsened the uncertainty and damaged the confidence in the financial markets. For example, many investors were surprised by the magnitude of the sometimes excessive write-downs by financial institutions and the exposures of off-balance sheet assets to losses.

The creditworthiness of monocline insurers. Monocline insurance companies are service providers in the capital markets that guarantee the timely repayment of bond principal and interest when an issuer defaults. By providing credit enhancements to capital market transactions, they provide investors and issuers with financial security and liquidity. The two largest monoclines, MBIA endameba, were founded in the 1970s and provided insurance of municipal bonds and debts issued by hospitals and nonprofit groups.

The effects of the subprime mortgage crisis. Liquidity in the market for ABSs and CDOs backed by subprime mortgages has been evaporated which led to an overall liquidity crisis. Leading banks have suffered significant losses, consolidation has accelerated as large financial institutions have acquired subprime mortgage originators and servicers, and some even experienced bankruptcy. Furthermore, underwriting standards have significantly been tightened in the form of greater income, employment and asset verification, higher minimum credit scores, and the elimination of 100 percent financing.

The difficulty in valuation. Many price assumptions of instruments had to be re-evaluated because they were below their true values due to an increased level of uncertainty associated with the valuation. Because of the increased uncertainty in the financial markets caused by the credit crisis, lenders refused to extend credit causing liquidity and funding problems. The unwillingness of lenders and investors to provide funding resulted in a lack of liquidity and contributed to a decline in the fair value of financial instruments. As a result, the uncertainty in relation to the valuation of the securitized products backed by subprime mortgages increased as well.

Potential spillover effects. Almost 12 months after the financial turmoil started in the U.S. subprime mortgage market, the effects are far from over yet. While first the focus was on limiting the huge losses on exposures from the U.S. subprime mortgage market, concerns have shifted towards the risk that the crisis will affect the real economy. In April the IMF (2008) already in its Global Financial Stability Report published that several spillover effects might spread to credit markets and market participants. The first effect that is mentioned is that the looser credit standards may extend beyond the subprime sector. Subprime market allowed significant loose underwriting standards due to competitive pressure. The IMF warns that there is a risk that other high quality mortgage collateral may be subject to the same underwriting weaknesses.

Chapter-3 depicts the historical evaluation of Indian banking system. The partition of India in 1947 adversely impacted the economies of Punjab and West Bengal, paralyzing banking activities for months. India's independence marked the end of a regime of the Laissez-faire for the Indian banking. The Government of India initiated measures to play an active role in the economic life of the nation, and the Industrial Policy Resolution adopted by the government in 1948 envisaged a mixed economy. This resulted into greater involvement of the state in different segments of the economy including banking and finance. The major steps to regulate banking included:

- The Reserve Bank of India, India's central banking authority, was nationalized on January 1, 1949 under the terms of the Reserve Bank of India
- In 1949, the Banking Regulation Act was enacted which empowered the Reserve Bank of India (RBI) "to regulate, control, and inspect the banks in India."
- The Banking Regulation Act also provided that no new bank or branch of an existing bank could be opened without a license from the RBI, and no two banks could have common directors.

Financial Structure comprises the following institutions: **1.** Commercial banks a. Public sector b. Private sector c. Foreign banks d. Cooperative institutions (i) Urban cooperative banks (ii) State cooperative banks (iii) Central cooperative banks **2**. Financial institutions a. All-India financial institutions (AIFIs) b. State financial corporation's (SFCs) c. State industrial development corporations (SIDCs) **3**. Nonbanking financial companies (NBFCs) **4**. Capital market intermediaries. About 92 percent of the country's banking segment is under State control while the balance comprises private sector and foreign banks. In the early 1990s, the then Narsimha Rao government embarked on a policy of liberalization, licensing a small number of private banks. These came to be known as New Generation tech-savvy banks, and included Global Trust Bank (the first of such new generation banks to be set up), which later amalgamated with Oriental Bank of Commerce, Axis Bank(earlier as UTI Bank), ICICI Bank and HDFC Bank. This move, along with the rapid growth in the economy of India, revitalized the banking sector in India, which has seen rapid growth with strong contribution from all the three sectors of banks, namely, government banks, private banks and foreign banks.

The next stage for the Indian banking has been set up with the proposed relaxation in the norms for Foreign Direct Investment, where all Foreign Investors in banks may be given voting rights which could exceed the present cap of 10% at present it has gone up to 74% with some restrictions.

The new policy shook the Banking sector in India completely. Bankers, till this time, were used to the 4-6-4 method (Borrow at 4%, Lend at 6% & Go home at 4) of functioning. The new wave ushered in a modern outlook and tech-savvy methods of working for traditional banks. All this led to the retail boom in India. People not just demanded more from their banks but also received more.

Currently banking in India is generally fairly mature in terms of supply, product range and reach-even though reach in rural India still remains a challenge for the private sector and foreign banks. In terms of quality of assets and capital adequacy, Indian banks are considered to have clean, strong and transparent balance sheets relative to other banks in comparable economies in its region. The Reserve Bank of India is an autonomous body, with minimal pressure from the government. The stated policy of the Bank on the Indian Rupee is to manage volatility but without any fixed exchange rate-and this has mostly been true.

With the growth in the Indian economy expected to be strong for quite some time-especially in its services sector-the demand for banking services, especially retail banking, mortgages and investment services are expected to be strong. One may also expect Merger & Acquisitions, takeovers, and asset sales.

In March 2006, the Reserve Bank of India allowed Warburg Pincus to increase its stake in Kotak Mahindra Bank (a private sector bank) to 10%. This is the first time an investor has been allowed to hold more than 5% in a private sector bank since the RBI announced norms in 2005 that any stake exceeding 5% in the private sector banks would need to be vetted by them.

In recent years critics have charged that the non-government owned banks are too aggressive in their loan recovery efforts in connection with housing, vehicle and personal loans. There are press reports that the banks' loan recovery efforts have driven defaulting borrowers to suicide.

The Indian Banking industry, which is governed by the Banking Regulation Act of India, 1949 can be broadly classified into two major categories, non-scheduled banks and scheduled banks. Scheduled banks comprise commercial banks and the co-operative banks. In terms of ownership, commercial banks can be further grouped into nationalized banks, the State Bank of India and its group banks, regional rural banks and private sector banks (the old/ new domestic and foreign). These banks have over 67,000 branches spread across the country.

Current Scenario. The industry is currently in a transition phase. On the one hand, the PSBs, which are the mainstay of the Indian Banking system, are in the process of shedding their flab in terms of excessive manpower, excessive non-Performing Assets (NPAs) and excessive governmental equity, while on the other hand the private sector banks are consolidating themselves through mergers and acquisitions.

Aggregate Performance of the Banking Industry banks have been forced to explore other avenues to shore up their capital base. While some are wooing foreign partners to add to the capital others are employing the M& A route. Many are also going in for right issues at prices considerably lower than the market prices to woo the investors.

Interest Rate Scene. The two years, post the East Asian crises in 1997-98 saw a climb in the global interest rates. It was only in the latter half of FY01 that the US Fed cut interest rates. India has however remained more or less insulated. The past 2 years in our country was characterized by a mounting intention of the Reserve Bank of India (RBI) to steadily reduce interest rates resulting in a narrowing differential between global and domestic rates.

Governmental Policy. After the first phase and second phase of financial reforms, in the 1980s commercial banks began to function in a highly regulated environment, with administered interest rate structure, quantitative restrictions on credit flows, high reserve requirements and reservation of a significant proportion of lendable resources for the priority and the government sectors

Policy Issues in the Banking Sector NPA Problem Optimism. The NPAs of public sector banks were recorded at about Rs457 billion in 1998. (By 1997/98 banks had managed to recover Rs250 billion and provisioned for Rs181.39 billion. But since new sets of loans go bad every year, the absolute figures could be increasing. About 70 percent of gross NPAs are locked up in “hard-core” doubtful, and loss assets, accumulated over years. Most of these are backed by securities, and, therefore, recoverable. NPAs in Indian banks as a percentage of total assets are quite low. The NPA problem of banking institutions in India is exaggerated by deriving NPA figures based on percentage against risk assets instead of total earning assets. The Indian banking system also makes full provisions and not net of collaterals as practiced in other countries.

Main Causes of NPA . One of the main causes of NPAs in the banking sector is the directed loans system under which commercial banks are required to supply a prescribed percentage of their credit (40 percent) to priority sectors. Loans to weaker sections of society under state subsidy schemes have led borrowers to expect that like a nonrefundable state subsidy, bank loans need not be repaid. Directed loans supplied to the “micro sector” are problematic of recoveries especially when some of its units become sick or weak. Nearly 7 percent of PSB’s net advances were directed to these units. Clearly, these units are one of the most significant sources of NPAs, rather than bank mismanagement on the scale that has been seen in Japan and some Southeast Asian countries. The weakness of the banking sector revealed by the accumulated NPAs stems more from the fact that Indian banks have to serve social functions of supporting economically weak sectors with loans at subsidized rates.

Small-Scale Industries: Decline in sick unit & non-performing assets. The RBI has called for half-yearly reports from banks to monitor progress in industrial rehabilitation. In addition, it has also issued guidelines to banks on the need for proper coordination between them and term lending institutions in the formulation and implementation of a rehabilitation program. The main causes of industrial sickness in non-SSI units were internal factors such as deficiencies in project management (44.8 percent of the cases) and shortcomings in project appraisals (7.2 percent), as well as external factors such as non-availability of raw materials, power shortages, transport and financial bottlenecks, increases in overheads, changes in Government policy, and demand shortfalls. The SSI sector accounted for about 99 percent of the total sick units, but the share in total bank credit outstanding to such units was only 26.2 percent.

Chapter-4 deals with performance of Indian banking sectors in the post-liberalization period with new approaches. There cannot be a discussion on financial sector in India without the mention of the banking industry. Banking industry is considered as the backbone of Indian economy. After liberalization of the policies by the government, the banks have to be more competitive and performance-oriented in the new environment. It has become quite difficult for them to survive, perform and succeed in the market. Under these circumstances, there is a need to have a look at the emergence of the Indian banking system right from it early days till now.

The poor performance of the public sector banks was increasingly becoming an area of concern. The continuous decline of profitability and rise of Non-Performing Assets (NPAs) of banks posed a significant threat to the stability of the financial system. Till the early 1990s, the financial sector could be described as a classic example of 'financial repression' The Government of India framed its policies in the year 1991-92, keeping in view the benefits of liberalization. It was expected that in the process of opening up its economy to the outside world, increased competition could turn the banks more efficient, bring about improvement and ultimately benefits the customers (ICFAI, 2004).Some of the root causes that were behind the dull performance of the banks prompted the initiation of the banking sector reforms. Some of these causes were: Greater emphasis on directed credit programmes; Regulated interest rate structure; Excessive regulations on organization's structure and managerial resources; Lack of focus on profitability; Lack of competition; Lack of proper Accounting and Risk Management System; Lack of operational transparency and Excessive support from government. The reforms were initiated with an aim to bring about a paradigm shift in the banking industry. Hence, banking reforms were made an integral part of the liberalization process. The financial sector reforms started in 1991 had provided the necessary platform for the banking sector to operate on the basis of operational flexibility and functional autonomy; enhancing productivity, efficiency and profitability.

Impact of liberalization on the performance of Indian banking sector. Banking sector plays an important role in the economic development of a country. The banking sector reforms in India were started as a follow up measure of economic liberalization and financial sector reforms in the country. The banking sector being the life line of the economy was treated with utmost importance in the financial sector reforms. The reforms were aimed at to make the Indian banking industry more competitive, versatile, efficient, and productive, to follow international accounting standards and to free from the government's control. The reforms in the banking industry started in the early 1990s have been continued till now. The Indian banking registered tremendous growth in the post-liberalization era. Since the beginning of 1991, there has been a sea change in the rule, regulation, organization, and scope and activity level of Indian financial sector. The Indian banking industry has witnessed a rapid growth after economic reforms. It has shifted from regulated to de-regulated market economy and defined a new role for the banks. All these reforms have changed the Indian banking market from 'Sellers market' to 'Buyers market' Some of the important financial liberalization measures are: Reduction in pre-emption of funds through reduction of CRR and SLR .Introduction of prudential provisioning and Capital Adequacy norms. Phasing out the directed credit programmes. Deregulation of interest rates. Infusion of competition (Entry of Private Sector Banks).Imparting transparency .Introduction of universal banking. Mergers and Acquisitions. Development of technology. Emphasis on corporate governance. The winds of change gained momentum in the last few years, such as globalization of Indian economy and opening up of financial services under WTO. It is expected that the banking sector will undergo mergers and acquisitions (M&A), consolidation, globalization of operations, development of new technology, best corporate governance practices and universalisation.

Aggregate Deposits and Credit of Scheduled Commercial Banks. The demand deposits of scheduled commercial banks (SCBs) had increased from Rs. 2,104 crore in 1969 to Rs. 5,24,310 crore as on March 2008. However, time deposits of banks increased to Rs. 26,72,630 crore from Rs. 2,542 crores during the same period. The growth of time deposits in absolute terms has been more than demand deposits. The high growth of time deposits over demand deposits is mainly due to higher interest rates being offered by the banks on such deposits as well as availability of tax benefits to certain deposit schemes.

Priority Sector Lending. The flow of credit to priority sectors increased to Rs. 7,38,686 crore in March 2008 as compared to Rs. 1, 82255 crore in March 2001 and Just Rs. 504 crore in June 1969. Credit flow to the priority sector is mainly to Agriculture, Small scale industries, Housing and service sector. The share of priority sector advances to total credit has increased to 32.9 per cent as on March 2008 as compared to 14.00 per cent in June1969. The increase shows more than double the increase in priority sector advances to total advances over 40 years. But it remains same during the beginning of post-reform period to till date.

Credit-Deposit Ratio. The credit-deposit ratio (CD ratio) of all scheduled commercial banks over a period of time has increased from 53.5 per cent in March 2001 to 74.6 per cent in March 2008. The increase in demand for commercial credit and also food and non-food credit has led to an increase in total credit of scheduled commercial banks (SCBs) over the last few decades and as a result of this, the credit-deposit ratio continued to increase. But it started declining after 2007.

Cash-Deposit Ratio. The cash-deposit ratio during the period of nationalization of banks in 1969 was 8.2 per cent and the same has declined to 7.2 per cent as on March 2007. The declining trend of cash-deposit ratio reveals efficient management of cash flow of SCBs during the period concerned. But during 2007-08, the cash-deposit ratio increased to 9.7 per cent as compared to 7.2 per cent during the previous year. To measure the impact of liberalization, privatization and globalization on the performance of Indian banking sector, the following indicators were used to analyze the impact of various reforms: Profitability Indicators. Productivity Indicators. Assets Quality Indicators.(D Prudential norms like CRR, SLR, structure of Interest rates, priority, sector lending indicatory, competition and institutional features etc. Technology Development Indicators.

Prudential Norms. Since the beginning of financial sector reforms, an important task of the policymakers was to bring in an appropriate regulatory framework. The design of an appropriate regulatory framework is to encourage competition and efficiency in banking services and at the same time ensure a safe and sound banking sector. It may be very difficult and complex component of banking sector liberalization process. The Narasimham Committee - I report provided guidance on the actual design of the regulatory mechanism. The regulatory framework for banks known as 'Prudential Regulation' in the literature consists broadly of capital adequacy norms, restrictions on the lines of activities that banks can participate in, restriction on entry and deposit insurance (Sen and Vaidya, 1997).The prudential regulatory framework for banks has been designed to address the following issues: Market Structure, Capital Adequacy Norms, Accounting and Provision for NPAs, Supervision of the Banks, and Privatization of Banks. One of the most important components of prudential regulation of banks is the maintenance of minimum capital ratios. The Basel Committee on banking regulations and supervisory practices, known as Basel-I recommended adoption of common capital adequacy standards known as cook-ratio. The cook-ratio is a risk weighted approach to capital adequacy so that institutions with a higher risk profile maintain higher levels of capital. For the purpose of calculating capital, Bank of International Settlement (BIS) classified capital into two broad categories: Tier-I capital constituting share capital and disclosed reserves and Tier-II capital consisting of undisclosed and latent reserves, general provision, and hybrid capital and subordinated debt. The Capital to Risk weighted Asset Ratio (CRAR) suggested by BIS in 1992 was 8 per cent i.e. Tier-I and Tier-II capital should be equal to minimum of 12 percent of the total assets of the bank.

Computerization in Banks. The process of computerization, which marked the starting point of all technological initiatives, is reaching near completion for most of the banks. Public sector banks continued to provide adequate resources for computerization and development of communication networks. The cumulative amount spent from September 1999 to March 2008 aggregated Rs.15,016 crore (Report on Trend and Progress of Banking in India, 2007-08).A major development during 2007-08 was a significant increase in coverage of the number of branches providing core banking solution (CBS). The percentage of branches to total bank branches under CBS increased from 11.00 per cent in 2004-05 to67.00 per cent in 2007-08. At the end of March 2008, the number of fully computerized branches reached to 93.6 per cent as against 71 per cent at the end of March 2005.

Computerization of Branches in Public Sector Banks. The total number of nodes/PC in the computerized branches (fully and partially) increased by 61,437 during 2007-08 representing an increase of 11.1 percent. Table shows that public sector banks recorded significant progress after fully computerizing their branches. Of the 27 public sector banks, only 9 banks were fully computerized in the year 2004-05, while 6 banks could computerize their branches between 70 and 100 percent. However, the number of banks having their branches fully computerized increased to 20 in 2007-08 as against 9 banks in 2004-05. Up to March 2008, only 5 banks computerized their branches between 70 and 100. In a nut shell, most of public sector banks (PSBs) have fully computerized their branches at present. Only two banks, viz. Punjab and Sind Bank and UCO Bank are yet to computerize more than half of their branches.

Branches and ATMs of Banks. To provide their customers greater flexibility and convenience as well as to reduce servicing cost, banks have been investing to computerize their branches and introduce new delivery channels, such as ATMs, phone banking, internet banking and mobile banking etc. The total number of ATMs installed in the country was 17642 at the end of March 2005. New private sector banks constituted the largest share of ATMs. The percentage of ATMs to total branches was 333 per cent in the case of new private sector banks followed by the foreign banks which account for 329.3 per cent. In case of scheduled commercial banks (SCBs), the percentage of ATMs to total branches was 32.83 in 2004-05. Old private sector banks and public sector banks (PSBs) are lagging much behind as compared with the new private sector banks and foreign banks which account for 27.51 per cent and 21.13 per cent respectively at the end of March 2005.During 2007-08, the total number of ATMs installed by the banks increased by28.4 per cent to 34,789 representing 56.9 per cent of total branches at the end of March 2008. While, the ATMs installed by foreign banks and new private sector banks were nearly four and three times of their respective branches respectively. The ATMs to branch ratio was much lower for public sector banks (41.2 per cent) and for old private sector banks (47.2 per cent). While the ATMs to branch ratio were much higher in the case of new private sector banks (279.9 per cent) and foreign banks (334 per cent) as on 31st march 2008.Of all the ATMs installed in the country at the end of March 2008, new private sector banks had the largest share in the Off-site ATMs, while nationalized banks had the largest share in On-site ATMs.

Real Time Gross Settlement and Other Electronic Transactions. Although cash continue to be used heavily in retail transactions in India, the use of cheque and several other payment instruments such a Credit cards, Debit cards and Smart cards, on the whole, has been increasing in the recent years. The use of payment cards, both in volume and value terms, more than doubled in 2004-05.As a result of sharp increase in RTGS and other electronic transactions, the proportion of electronic transactions both in volume and value has increased sharply. Electronic payments are cheaper as compared to paper-based instruments. They can also be carried out faster in comparison with paper-based transactions. The increased use of electronic payments has, thus, increased the efficiency of the payment system.

Retail Electronic Payment Methods. The use of electronic payments, both retail and card-based, increased in recent years, reflecting the increased adoption of technology. The electronic payment systems such as electronic clearing service (ECS) - both debit and credit, national electronic funds transfer system (NEFT) and card based payment (credit and debit) are becoming increasingly popular as indicated by the increase in transaction through retail electronic payment methods. Both the variants of ECS, i.e., ECS (credit) and ECS debit for direct credit such as salary and pension payments; and the other for direct debits, such as collection of bills, insurance premium and equated monthly installment (EMI) payments of loans are being increasingly preferred. ECS is now available at all bank branches at 70 centers. The volume of electronic transactions increased by 41.4 per cent in 2007-08 as compared with 32.9 per cent in the previous year. Transactions in terms of value increased by almost three and a half times during 2007-08 mainly on account of large increase in transactions through ECS credit.

Chapter-5 bring out the banking sector performance during 2005-08. The Indian banking system, reaped the benefits of strong credit off take, improved risk management practices and a benign environment, has continued to report increase in earnings over the last five years, while improving on its solvency (Net NPAs as % of Net Worth) profile substantially. Gains from trading portfolios booked when interest rates were on a decline during April 2002-March 2004, also supported banks' earnings while helping them make higher provisions against NPAs (and thereby improved their Net NPAs and solvency). In the subsequent period, higher income (as a result of increase in proportion of higher yielding credit book), lower credit provisions and improving operating efficiency enabled banks to absorb the higher provisioning requirement on fixed income portfolio while continuing to show strong profitability*. Going forward, however, the opening up of financial sector, expected increase in credit provisioning, adoption of new capital adequacy framework and the revised AS-15 framework pose new challenges for the banking system as a whole. The systemic solvency indicators (Net NPAs as percentage of Net worth) continue to improve over the previous years and are estimated at fewer than 12% as on March 31, 2007 (13% as on March 31, 2006). It is however important to note that the solvency indicators for the public sector banks continue to improve while those of the private sector banks have deteriorated in 2006-07 on account of increased delinquencies. However, in absolute terms, the solvency indicators of the private sector banks (at around 8%) continue to compare favorably with public sector banks which are at around 13%. While no bank has its regulatory capital adequacy below the regulatory minimum of 9%, the solvency indicators (net NPA / net worth) of some of them still compare poorer at over 15%. With the top three private sector banks raising over US$7 million of equity capital in the first half of 2007-08 and some more planning to do so, the solvency indicators of the private sector banks is expected to improve further. The interest margins of the banking system, which have been declining (albeit marginally) over the last three years, reflect the performance of PSBs which hold around three fourth of total banking assets. Interest margins for PSBs have declined primarily on account of significant reduction in yields on investments, though lending spreads (Yields on advances minus cost of funds) have expanded by over 40 basis points over the corresponding period. At the same time with the private sector banks improving their deposit profile (increasing the proportion of CASA deposits) and being more pro-active in raising the lending rates, their interest margins continues to rise. The foreign banks have traditionally been able to maintain a strong CASA mix despite their limited branch network and coupled with their continues focus on retail and SME segment (wherein lending rates get re-priced faster), they have been able to improve their interest margins in 2006-07 as well.

Improvement on operating efficiencies with increased scale of operations. Strong growth in asset base coupled with rationalization of expenses has helped the banking system improve the operating efficiencies. In this regard, the public sector banks with their existing wide spread branch network have been primarily increasing their IT and employee expenditure, while the private sector banks are also incurring huge expenditure in expanding their branch network. Consequently, the operating efficiencies as defined by operating expenses as percentage to average total assets continue to improve for the public sector banks. However the branch expansion and incidental costs coupled with the expenses incurred in originating incremental retail assets (DSA/DMA route) lead to an increasing operating cost structure for the private sector banks. The cost to income ratio for public sector banks improved marginally while those of private sector banks deteriorated in 200-07. The foreign banks continue to compare favorably on the cost to income parameter on the back of their strong fee income profile.

Profitability levels improve for the banking system in 2006-07. Despite the competitive pressures, the banking system has been able to steadily improve its core operating profitability (net of treasury profits and provisions for credit & investments). The core profitability of the public sector banks continue to rise on the back of improving operating efficiencies while for the private sector banks, the improvement can be attributed to increase in interest margins and fee income. Any pressures on the net interest margins are likely to be offset by some improvement in the fee income and an improvement in operating efficiencies of the banks. The overall profitability of the foreign banks continues to out shadow those of its Indian counterparts by a wide margin.

Consolidation – a likely event in the medium term, but not devoid of risks. The debate for consolidation in the Indian banking sector is not new and we expect consolidation to gain pace as the Indian financial sector opens up by 2009. We have seen some consolidation in the recent past but they have been relatively few in number. In most of the cases, the consolidation process seem to have been driven more by the systemic problems that could arise with weak capitalization and/or distressed financial profile of some small public / private sector banks though "bank synergies" have been quoted as the reason.

Banking system should maintain profitability ratios in the current year. We expect the banks to maintain their interest margins, albeit with a downward bias consequent to the costly bulk deposits mobilized by them in the last quarter of 2006-07. We maintain our stand as most of the bank's lending are at floating rates and all banks have raised their lending rates in the past few months. Notwithstanding the steps taken by the public sector banks, fee income levels could at best be maintained while private sector banks are likely to continue their dominance on this front. Trading profits are likely to remain modest in the current year as well.

Chapter-6 deal with the findings of the research. Banks act as important players in the financial markets. They play a vital role in the economy of a country. The Recession that began in December 2007 impacted the revenues and profitability of businesses worldwide. In globalised world and no more immune to the things happening outside our country. Built on strong financial fundamentals, strict vigil on risk appetite and firm monetary guidelines, Indian banks have proved among the most resilient and sound banking institutions in the world. But there has been considerable divergence in the performance of the various banking institutions in the country as also among the public, private and foreign banks operating in India. The Indian banking system is relatively insulated from the factors leading to the turmoil in the global banking industry. Going by the performance for the calendar year 2008, Indian public sector banks have not only been able to weather the storm of global recession but have been able to moderate its impact on the Indian economy as well, compared to its peers among the foreign and private banks. The banking sector faces profitability pressures due to higher funding costs, mark-to-market requirements on investment portfolios, and asset quality pressures due to a slowing economy. But Indian banks' global exposure is relatively small, with international assets at about 6 per cent of the total assets. The strong economic growth in the past, low defaulter ratio, absence of complex financial products, regular intervention by central bank, proactive adjustment of monetary policy and so called close banking culture has favored the banking industry in India in recent global financial turmoil. Banks act as important players in the financial markets. They play a vital role in the economy of a country. The Recession that began in December 2007 impacted the revenues and profitability of businesses worldwide. The Indian banking system is relatively insulated from the factors leading to the turmoil in the global banking industry. Even as several top financial institutions and banks with footprint across several countries have crumbled under the relentless onslaught of a global financial turmoil, Indian banks and institutions have come out relatively unscathed from the recession. Built on strong financial fundamentals, strict vigil on risk appetite and firm monetary guidelines, Indian banks have proved among the most resilient and sound banking institutions in the world. Further, the tight liquidity in the Indian market is also qualitatively different from the global liquidity crunch, which was caused by a crisis of confidence in banks' lending to each other. While the main causes of global stress were less relevant here, Indian banks do face increased challenges due to domestic factors. The banking sector faces profitability pressures due to higher funding costs, mark-to-market requirements on investment portfolios, and asset quality pressures due to a slowing economy. CRISIL views the strong capitalization of Indian banks as a positive feature in the current environment. Indian banks' global exposure is relatively small, with international assets at about 6% of the total assets. Even banks with international operations have less than 11% of their total assets outside India. The reported investment exposure of Indian banks to distressed international financial institutions of about USD1 billion is also very small. The mark-to-market losses on this investment portfolio, will, therefore, have only a limited financial impact. Indian banks' dependence on international funding is also low.

Indian Banking sector challenged by domestic, not global factors. The reasons for tight liquidity conditions in the Indian market were quite different from the factors driving the global liquidity crisis. Some reasons include large selling by Foreign Institutional Investors (FIIs) and subsequent Reserve Bank of India (RBI) interventions in the foreign currency market, continued grow in advances, and earlier increases in cash reserve ratio (CRR) to contain inflation. RBI's recent initiatives, including the reduction in CRR by 150 basis points from October 11, 2008, cancellation of two auctions of government securities, and confidence-building communication, have already begun easing liquidity pressures. The strong capitalization of Indian banks, with an average Tier I capital adequacy ratio of above 8 per cent, is a positive feature in their credit risk profile. Nevertheless, Indian banks faced challenges in the Indian economic environment, marked by a slower gross domestic product growth, depressed capital market conditions, and relatively high interest rate regime. The profitability of Indian banks was expected to remain under pressure due to increased cost of borrowing, declining interest spreads, and lower fee income due to slowdown in retail lending. Profit levels were also likely to be impacted by mark-to-market provisions on investment portfolios and considerably lower profit on sale of investments, as compared with previous years. Moreover, those Indian banks considering accessing the capital markets for shoring up capital adequacy might be forced to curtail growth plans, if capital markets remain depressed. While these challenges played over the medium term, CRISIL expected the majority of Indian banks' ratings to remain unaffected, as they continued to maintain healthy capitalization, enjoy strong system support and benefits of government ownership in the case of public sector banks."

CONCLUSION

The prudential norms adopted by the Indian banking system and the better regulatory framework in the country have helped the banking system remain stronger even during the global slowdown. There is an apprehension among the customers and the people in the country about the strength of the banking system. The banking system today has Rs 36 lakh crore of deposits and Rs 26 lakh crore of advances. The money of the people is safe in Indian banks, unlike the western banks. The Indian banking system has the rule of dharma, which has taught the sector not to have greed. In the end, the banking industry is likely to be just fine. While some individual banks went down, and continue to struggle, the financial sector as a whole is doing okay, and is likely to recover from this recession without too much trouble. Hopefully, these profits mean that the banks will be more willing to help other companies that need access to credit. FICCI conducted a survey on the Indian Banking Industry to assess the competitive advantage offered by the banking sector, as well as the policies and structures required to further stimulate the pace of growth.1.A majority of the respondents, almost 69% of them, felt that the Indian banking Industry was in a very good to excellent shape, with a further 25% 2.Feeling it was in good shape and only 6.25% of the respondents feeling that the performance of the industry was just average.3.This optimism is reflected in the fact that 53.33% of respondents were confident in a growth rate of 15-20% for the banking industry in 2009-10 and a greater than 20% growth rate for 2014-15.4.Some of the major strengths of the Indian banking industry, which makes it resilient in the current economic climate as highlighted by our survey were regulatory system (93.75%), economic growth (75%), and relative insulation from external market (68.75%).5.On being asked to rate India on certain essential banking parameters (Regulatory Systems, Risk Assessment Systems, Technological System and Credit Quality) in comparison with other countries i.e. China, Japan, Brazil, Russia, Hong Kong, Singapore, UK and USA the following results emerged: a)Regulatory systems of Indian banks were rated better than China, Brazil, Russia, UK at par with Japan, Singapore and Hong Kong whereas all our respondents feel that we are above par or at par with USA. b)Respondents rated India's Risk management systems more advanced than China, Brazil and Russia; 75% of the respondents feel that we are above or at par with Japan, 55.55 % with Hong Kong, Singapore & UK and 62.5% with USA. c) Credit quality of banks has been rated above par than China, Brazil, Russia, UK and USA but at par with Hong Kong and Singapore and 85.72% of the respondents feel that we are at least at par with Japan. d) Technology systems of Indian banks have been rated more advanced than Brazil and Russia but below par with China, Japan, Hong Kong, Singapore, UK and USA. 6.Respondents perceived ever rising customer expectations and risk management as the greatest challenge for the industry in the current climate.7.93.75% of our respondents saw expansion of operations as important in the future, with branch expansion and strategic alliances the most important organic and inorganic means for global expansion respectively.8.An overwhelming 80% of respondents admitted that the primary strength of NBFCs over banks lies in their ability to provide reach to the last mile and were also were unanimous in the need to strengthen NBFCs further.9.Further, 81.25% also felt that there was further scope for new entrants in the market, as there continue to remain opportunities in unbanked areas. However, 57.14% felt that NBFCs may be allowed to be established as banking institutions but only if adequate capitalization levels, a tiered license that enables new entrants to enter into specific areas of the business only after satisfactorily achieving set milestones for the prior stages, cap on promoter's holdings and other regulatory limitations are ensured.10.73.33% of our respondents are 100% compliant with core banking solution requirements, with the remainder, comprising mostly of our public sector respondents, lagging behind in implementation in rural areas.11.Public Sector Banks, Private Sector Banks as well as Foreign Banks view difficulty in hiring highly qualified youngsters as the major threat to their HR practices ahead of high staff cost overheads, poaching of skilled quality staff and high attrition rates. 12. Due to long-term maturity, the trend for prime lending rates seems to be changing now. However, there are other factors which have led to the stickiness of lending rates such as wariness of corporate credit risk (33.33%), competition from government small savings schemes (26.67%).13.With regards to loan disbursement, while industry shows preference for a joint appraisal system, banks are happy with the current system and in fact 71.43% of our respondents felt that there was no need for standardized credit appraisal across the industry.14.Over 92% of the participants agree with recent stress test results that Indian banks have the capacity to absorb twice the amount of their current NPA levels.15.Almost 80% of the banks see personal loans as having the greatest potential for default, followed by corporate loans and credit cards.16.87.5% of the respondents consider credit information bureaus vital for the measurement of asset quality. Nevertheless, at the same time, over 60% of respondents felt the need for regulation capping FDI at 49% and voting rights to 10% in Credit Information bureaus.17.93% of participants still find rural markets to be to be a profitable avenue, with 53% of respondents finding it lucrative in spite of it being a difficult market.18.More than 81.25%of all respondents have a strategy in place to tap rural markets, with the remainder as yet undecided on their plan of action.19.All banks in our survey weigh Cost effective credit delivery mechanisms (100%) as most important to the promotion of financial inclusion, followed by factors such as identifying needs and developing relevant financial products (75%), demographic knowledge and strong local relations (62.5%) and ensuring productive use and adequate returns on credit employed (43.75%).20.Almost 62% of the respondents see consolidation as an inevitable process for their banks in the future, while the remainder does not consider it an essential factor for their future progress. 77.78% of public sector respondents were of the opinion that foreign banks should not be allowed to play a greater role in the consolidation process. Recent time has witnessed the world economy develop serious difficulties in terms of lapse of banking & financial institutions and plunging demand. Prospects became very uncertain causing recession in major economies. However, amidst all this chaos India's banking sector has been amongst the few to maintain resilience. The RBI paradox – Impact on prospects of growth of economy today, the prime lending rate (PLR) of the banks varies between 12.75% and 13.25%. That means no SME can get working capital loan at less than 15%. Compare that with the rest of Asia. China has a negative real interest of 2.64 % (interest rate on three-month loans at 3.86% minus inflation at 6.5%). South Korea's real interest rate is 3%. Thailand's is 1.45%. Malaysia's is 1.72%. Taiwan's is at a negative 0.5%. Even neighboring Pakistan has a real interest rate of 3.28%. In fact, it is well understood that real interest rates in excess of 3.5% universally hurt competitiveness and growth. Our high interest rates are not only hurting business, but have become a magnet for foreign portfolio funds. Which, in turn is rapidly appreciating the domestic currency, and giving foreign institutional investors (FIIs) and their P-note beneficiaries a double bonus: first through returns on their investment and then on the appreciating exchange rate. Between 2 January and mid-October, 2007 the rupee has appreciated 12.5% over the US dollar. Only the Thai baht has raised more at 13.2%. As a result, we are creating a bizarre situation where portfolio investors have been enjoying the fruits of an equity-led bull run, while those who work their backs off to produce goods and services are getting badly hammered by high interest rates. Today, there is more than anecdotal evidence to suggest that 7,000 to 8,000 workers have been laid-off in Tiruppur. Garment and leather exporters are getting crippled. Brassware industry is also deep in the loss making zone. Those who can are switching to the domestic market. And pity the poor entrepreneurs who, seeing the large export demand growth in 2005 and 2006, invested in ramping up their manufacturing capacities. They are lambs to the slaughter. If this hard interest rate regime were to continue it will surely break the back of industry and with it, economic growth.

CHAPTER-1

INTRODUCTION

Sub Prime as the word defines, means subordinate to primary. The word is used in the lending industry to define a borrower who does not have a good credit history and hence is not able to qualify for best market rates vis-à-vis the prime category borrower. The term "subprime" reflects not the lending rate but the borrower's credit status. Potential sub-prime borrowers may comprise of financially troubled people, meaning thereby that the sub-prime lenders take a higher degree of risk. Hence to offset the risk to an extent the lenders increase the interest rates. *Sub-prime lending may be utilized for sub-prime mortgages, sub-prime car loans, sub-prime credit cards etc.* Subprime mortgages totaled $600 billion in 2006, accounting for about one-fifth of the US home loan market.

Federal National Mortgage Association, a government sponsored enterprise of the US government has standards to differentiate between prime and subprime loans. Eligible borrowers for prime loans have a credit score above 620 (credit scores are between 350 and 850 with a median in the U.S. of 678 and a mean of 723), a debt-to-income ratio (DTI) no greater than 75% (meaning that no more than 55% of net income pays for housing and other debt), and a combined loan to value ratio of 90%, meaning that the borrower is paying a 10% down payment.

The subprime mortgage crisis is a commonly used term to describe the international financial crisis that was initiated by problems in the U.S. mortgage market in early 2007. It all started in 2006 with US Market tumbling down due to defaults by the subprime borrowers. The doubled edged sword, increase in interest rates and simultaneously fall in property prices, hit the market leading to subprime mortgage crisis. Between the years 2000-2005, along with very low interest rates, property prices were also on a rising trend and the subprime borrowers were able to meet their obligations as they were building equity by selling the properties or getting the properties refinanced. However, in 2005, the property prices started falling, interest rates started touching the roof top, leaving no room for the subprime borrowers to meet their liabilities leading to meltdown of the US subprime mortgage industry.

In 1994, less than 5% of total mortgages were subprime in US. But within 2005, that figure went up to 20%. The sudden changes in the banking system were mainly the reasons behind it. Earlier, mainly the commercial banks were used to serve the American communities and they offered fixed rate mortgages. As the competition increased several mortgage products and choices, such as subprime loans of different varieties for the consumers were offered along with adjusted rate mortgages. However, in 2005, the rates of interest began to increase. Therefore, demand for home came down which also brought down the property prices leading to start of subprime crisis this can be explained by following diagram.

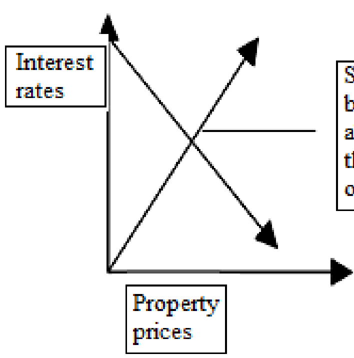


Fig. 1.1 a

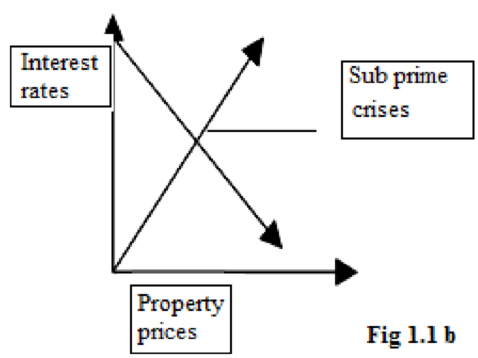


Fig 1.1 b

Figure: 1.1a Types of Sub Prime Mortgages

Figure: 1.1b Types of Sub Prime Mortgages

Sub Prime Mortgages can be classified in 3 categories:

4. Interest-only mortgages, which allow borrowers to pay only interest for a period of time, typically 5-10 years.
5. "Pick a payment loans", for which borrowers choose their monthly payment (full Payment, interest only, or a minimum payment which may be lower than the payment required reducing the balance of the loan).

6. Initial fixed rate mortgages that can be converted to variable rates.

For example, a borrower "X" with poor credit history approaches a lender/financial institution "B" for loan. Seeing his poor records, the financial institution declines the mortgage to him at prime lending rates. However, "B" has an appetite to take risk by charging higher interest rate from "X". This is called sub prime rate and subprime mortgage market. "X" agrees to avail loan at sub prime rate. "B" further securitizes these loans i.e. it converts these home loans into financial securities, which promise to pay a certain interest. This is called investment in Mortgage Backed Securities (MBS). The subprime home loans were given at floating rate of interests. So as interest rates increased, the rates on floating home loans too went up, and so did the monthly installments needed to service these loans. Simultaneously, the property prices declined hitting the subprime borrowers who started defaulting. Once, more and more subprime borrowers started defaulting, payments to the institutional investors who had bought the financial securities stopped, leading to huge losses falls. Diagrammatic presentation of subprime crisis is as below-

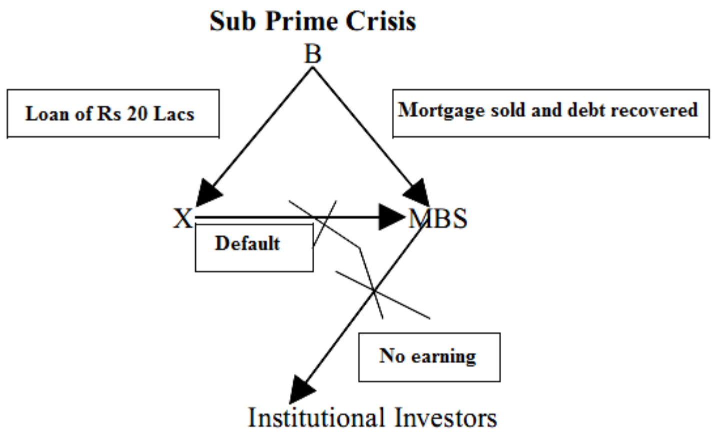


Figure 1.2 a

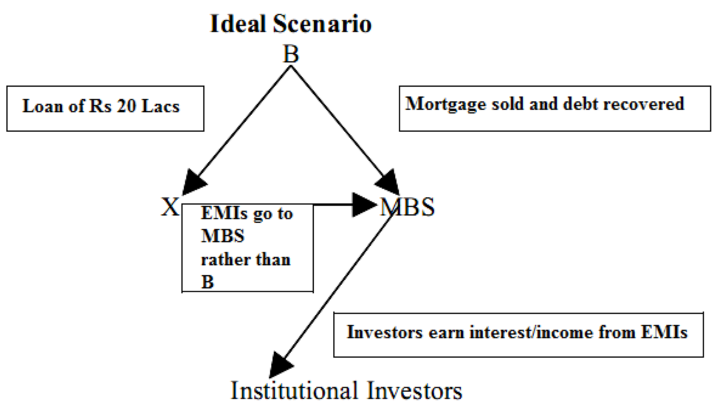


Figure 1.2 b

Mortgage-backed securities resemble bonds, instruments issued by governments and corporations that promise to pay a fixed amount of interest for a defined period of time. They are created when a company buys a bunch of mortgages from the primary lender and then uses monthly installment payments of borrowers as the revenue stream to pay investors who have bought chunks of the offering. They allow lenders to sell the mortgages they make, thus replenishing their capital and allowing them to lend again. For their part, buyers of mortgage- backed securities take security in the knowledge that the value of the bond doesn't just rest on the creditworthiness of one borrower, but on the collective creditworthiness of a group of borrowers. When the housing market is doing well and interest rates are low, investing in a mortgage-backed security is a fairly safe bet. So long as homeowners stay current with their payments, holders of mortgage-backed securities receive a stream of payments. Even those investors who buy lower- quality mortgage-backed securities, in the hopes of receiving higher interest payments, generally fare well in a bull market. But when the housing market goes south, or if interest rates rise, even the safest of these investments are in serious jeopardy. Rising interest rates reduce the value of securities that pay a fixed rate of interest. The stream of payment available to holders of mortgage-backed securities declines when borrowers default, on mortgage.

And when a firm has borrowed heavily to finance the purchase and trading of such securities, it doesn't take much of a fall in value to trigger serious problems.

RISKS ASSOCIATED WITH SUB PRIME MORTGAGE

There are four primary categories of risks involved with subprime mortgage which can lead to subprime crisis:

Credit Risk: This risk is borne by the lending institution and is the risk of prospective default by the mortgage seeker. However, with the introduction of MBS, this risk is covered to an extent.

Asset Price Risk: This risk relates to the valuation of MBS, whether it will be able to overcome the credit risk or not. However, valuation of MBS is very subjective. It is derived by calculating the collection chances of subprime mortgage along with existence of viable market into which these assets can be sold. Due to increasing mortgage delinquency rates, value of MBS has started declining. On the other hand, Banks and Institutional investors have recognized substantial losses on revaluation of their securities downwards due to Mark to Market accounting. This is due to asset price risk.

Liquidity Risk: This risk is on account of wiping or reduction of liquidity in market on account of above two risks. To run its operations, and generate cash, many companies rely on access to short-term funding markets such as commercial papers and repurchase market. Companies often obtain short-term loans by issuing commercial paper by pledging MBS. Investors provide cash in exchange for the commercial paper, receiving money-market interest rates. However, because of concerns regarding the value of the MBS due to subprime crisis, the ability of many companies to issue such paper has been significantly affected leading to liquidity risk.

Counterparty Risk: This is risk on account of related parties affected by the vicious circle of subprime crisis. Investment banks help companies and governments raise money by issuing and selling securities in the capital markets (both equity and debt), as well as providing advice on transactions such as mergers and acquisitions. Major Investment Banks and other financial institutions have taken significant positions in credit derivative (MBS) transactions. However, due to above mentioned risks, the financial health of investment banks has taken a southward position, potentially increasing the risk to their counterparties and creating further uncertainty in the market.

This event is unique in its kind given the causes and the magnitude of its effects. For example, numerous mortgage companies filed for bankruptcy, historically high delinquencies and foreclosures, large subprime write downs on senior securities, uncertainty about the size and the potential duration of the securities' losses, rating agencies who are downgrading triple A-rated securities to junk, and a huge pressure on accounting institutions to provide more guidelines for the valuation and related disclosure of illiquid complex products. Also, the subprime crisis has led to a liquidity crisis in the banking system when financial institutions became unwilling to provide funds and liquidity to others due to the uncertainty about the size of potential losses and the duration and effects of the crisis. The International Monetary Fund (IMF) reported that the total costs of the subprime crisis could total $1 trillion. However, it seems that the end of the crisis is not yet in sight with the presence of an economic slowdown, accelerating inflation caused by a drastic increase in oil and food prices and a loss in confidence. The question remains how this could happen. Analysts seem to agree that the crisis was caused by a combination of industry trends along with financial and economic factors (Sabry and Schopflocher, 2007)

In the last two decades, the US mortgage market has experienced some radical changes. This can be explained by different factors. An important factor is the rise of the subprime mortgage market. Other factors that changed the US mortgage market are the innovations in mortgage funding, mortgage products, and underwriting. In order to understand these changes, Apgar Jr. and Herbert (2006) investigated the remarkable restructuring of the mortgage banking industries over the past 25 years. They concluded that, between 1975 and 1997, the number of banking organizations decreased with 40 percent as a result of industry consolidations and banking failures. Many smaller banking firms ceased their mortgage lending activities while large independent mortgage and finance companies started to compete with banking organizations in mortgage markets. This had also implications for the source of funding for mortgages.

Traditionally, most mortgage loans were originated and kept in portfolios of depository institutions. In the 1950s, more than half of the mortgages were funded by bank deposits and another 22 percent was in hands of the commercial banks. This meant that the supply of funds was dependent on the ability of depository institutions to raise funds (Fabozzi and Modigliani, 1992). Meanwhile, the secondary mortgage industry, a market where existing mortgages and mortgage backed securities (MBS) are traded, was still developing slowly because underwriting standards and mortgage documents were not standardized but varied across the banking organizations and there were no adequate credit enhancements available to reduce the risk (Apgar Jr. and Herbert , 2006). As a response to the problem of continued dependence on depository institutions, the U.S. government carried out several interventions. A strong secondary mortgage market, developed by new mortgage designs and security structures, was needed to make mortgage loans more attractive to other financial institutions. In 1968 for example, the Federal National Mortgage Association (also referred to as Fannie Mae), founded in 1938, was divided into the current Fannie Mae and Ginnie Mae (the Government National Mortgage Association) to support the secondary mortgage market. Two years later, Congress also created the Federal Home Loan Mortgage Corporation (also referred to as Freddie Mac) to provide support for the secondary mortgage market. Furthermore, the government also wanted to stimulate the development of the private sector market as an alternative to the government-sponsored entities (GSEs) to improve liquidity and more importantly, to reduce the risks of having huge, potential liabilities in case of massive homeowner defaults. Aside from creating federal institutions, several legislative acts and regulatory changes were developed to further stimulate the secondary mortgage market. An example is the Tax Reform act (TRA) of 1986 which made the structuring of private mortgage-related securities less costly from a tax perspective (Fabozzi and Modigliani, 1992).

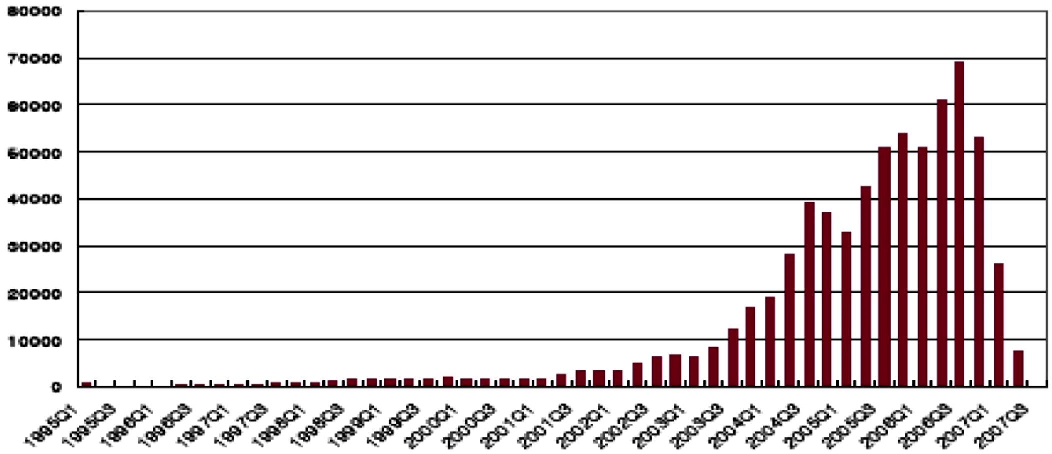
The securitization of mortgages played a critical role in improving liquidity in the mortgage market. Hereby, individual assets were pooled and used as collateral for the issuance of securities. In the 1970s, the first mortgaged-backed security (MBS) was issued but it was not until the 1990s that this market experienced explosive growth (Peterson, 2007). Over the past two decades the secondary market developed and matured. A new mortgage delivery origination system was introduced and replaced the traditional one. The reliance on depository institutions decreased because of the ability of lenders to sell their mortgage loans to other institutions that would securitize them. As a result of the growing secondary mortgage market, the diversification of mortgage products increased, as well as the underwriting standards (Apgar Jr. and Herbert, 2006).But these developments are not the only reasons for drastic changes in the US mortgage market. One of the most important factors is the growing market of subprime mortgages. Subprime mortgages are characterized by borrowers who would, for several different reasons, be denied for credit. For instance, they do not meet the credit requirements in the traditional (i.e. prime) mortgage market; they have a poor credit history, an unstable income and other characteristics that do not qualify for a mortgage (Cutts and van Order, 2005). This market initially started in the 1970s but developed drastically in the 1990s. Between 1998 and 2000, the subprime market experienced its first crisis, caused by credit concerns from the Russian debt crisis in 1998, which in turn was caused by the reduced liquidity that was a result from the Asian financial crisis in 1997 that increased the cost of borrowing (Dannis and Pennington-Cross, 2005). After the crisis the mortgage market experienced renewed growth and investors were optimistic as the economy recovered. Between 2001 and 2005, the subprime mortgage market expanded drastically supported by a strong economic growth, ample liquidity, a U.S. housing bubble and an appetite for risk. While in 2001, subprime originations in the U.S. were amounted to $190 billion, in 2006 the number of subprime originations exceeded to $600 billion. However, when in 2006 house prices started to deflate and when short-term interest rates increased significantly while initial, teaser (i.e. below-market) rates on adjustable rate mortgages (ARMs) expired, borrowers started to experience difficulties to make higher payments, and defaults and foreclosure activities drastically increased (DiMartino and Duca, 2007). While at the end of 2006, some warning signals were already flashing; in the summer of 2007 the weaknesses of the U.S. mortgage market became apparent and caused a financial turmoil in the market. In Chapter 3, I will provide more details of the effects of the crisis.

So far, the subprime mortgage crisis has already affected many banks but still it remains unclear what the precise effects of this crisis are on the global economy.

The subprime mortgage market. The current crisis, also referred to as the credit crunch, started in the U.S. subprime mortgage market. In order to understand the causes and effects of the subprime mortgage crisis, a description of the U.S. subprime mortgage market needs to be constructed. The most important elements of the subprime mortgage market. In the first section, the developments in the U.S. subprime mortgage market will be described. The subprime mortgage market has experienced rapid growth in the last two decades due to several factors such as legal developments, adoption of credit-scoring techniques, relaxed underwriting standards, and the use of securitization instruments.

Historical overview of the subprime mortgage market. The most important developments in the U.S. mortgage market that may have influenced factors that triggered the subprime mortgage crisis. Multiple drastic changes in the U.S. mortgage market were discussed and one of the most important factors of the changing features of the U.S. mortgage market is the fast growing market for subprime mortgages. In the 1990s this market already began to expand but especially in the first half of this decade the subprime market experienced explosive growth. In 2003 the dollar amount of subprime loans outstanding was $332 billion. In 2007 the total amount of subprime loans outstanding was $1.3 trillion, a percentage increase of 292%1. In the following figure a graphic development of the subprime mortgage origination volume is depicted between 1995 and 2007. In a table is presented of several mortgage origination statistics between 2001 and 2006.

Figure 1.3 Subprime mortgage origination volume 1995 Q1 - 2007 Q3



Source: Cho, M. (2008). "Subprime Mortgage Market: Rise &Fall and lessons for Korea". KDI School

Subprime lending is a relatively new and rapidly growing segment of the mortgage market. The subprime mortgage market is focused on lower-income borrowers who would, for several different reasons, be denied for credit. For instance, they do not meet the credit requirements in the traditional (i.e. prime) mortgage market; they have a poor credit history, an unstable income and other characteristics that do not qualify for a mortgage (Cutts and van Order, 2005).

Table 1.1 Mortgage origination statistics between 2001 and 2006

Year	Total Mortgage Originators (Billions $)	Subprime Originators (Billions $)	Subprime share in Total Originators (% $ value)	Subprime Mortgage Backed Securities (Billions $)	% Subprime Securitized (% $ value)
2001	2,215	190	8.6	95	50.4
2002	2,885	231	8.0	121	2.7
2003	3,945	335	8.5	202	60.5
2004	2,920	540	18.5	401	74.3
2005	3,120	625	20.0	507	81.2
2006	2,980	600	20.1	483	80.5

Source: *Joint Economic Committee (2007). The Subprime Lending Crisis: The Economic Impact on Wealth, Property Values and Tax Revenues, and how we got there. Available at*

In the 1990s, the market for subprime mortgages began to expand. Many factors contributed to this growth but the most important factor was that it became legal to charge high fees and rates to borrowers. In particular, there were three legal acts developed in the 80s that were essentially important for the expansion of subprime mortgages. In 1980, the Depository Institutions Deregulation and Monetary Control Act (DIDMCA) were adopted and preempted state interest caps and allowed lender to charge higher interest rates. The Alternative Mortgage Transactions Parity Act in 1982 permitted lenders to use variable interest rates and balloon payments. And in 1986, the Tax Reform Act (TRA) was adopted which increased the demand for homeownership and refinancing mortgages because it prohibited the deduction of interest rates on consumer loans but allowed the deduction on mortgages. A second important factor that contributed to the growth of subprime lending was the increased use of credit-scoring techniques. Due to technological advances there was an increasingly usage of credit-scoring techniques as an objective indicator for the risk of borrowers. These techniques made it possible to sort borrowers by creditworthiness and to offer them an appropriate risk-based loan rate. The most frequent used global credit scores are the FICO credit scores developed by the Fair Isaac Corporation. In general the highest rating is an A (i.e. prime borrowers) followed by a B, C and D borrower level that are sequentially riskier. An Alt-A level is an indicator for a borrower who has the same characteristics as a prime borrower but cannot provide full income documentation or has a higher risk. By using the credit scores, lenders could create schedules of interest rates and objectively test the creditworthiness of borrowers. The credit ratings and their rating agencies are further explained in chapter two. A third important factor that has led to drastic growth in the subprime mortgage market is the growth of the mortgage securitization. The drop in volume of originations in the prime market and the increasing interest rates stimulated the growth and developments of the secondary mortgage market. This growth was funded by mortgage securitization which gave mortgage lenders greater access to the capital markets, lowered transaction costs and spread risk more broadly. From 1995 to 2005, the volume of securitized subprime mortgages rose from 28 percent to 78 percent (Zywicki and Adamson, 2008).

Essentially, the above mentioned factors increased liquidity, reduced costs of lending, expanded the opportunity for previously unqualified borrowers to obtain loans and facilitated the expansion of homeownership. However, between 1998 and 1999, the subprime mortgage market experienced its first crisis partly due to the East Asian crisis in 1997 and the Russian Financial crisis in 1998. Also subprime loan delinquencies turned out to be higher than expected. This can be explained by the fact that subprime lending was a relatively new feature and seemed to be profitable. However, the performances of the loans in the long run were simply not known. These trends seemed to be transitory because between 2000 and 2005 the volume of subprime mortgage originations and securitization rates rapidly recovered. Subprime lending drastically grew due to a rapid rise in U.S. housing prices and dropping interest rates (Kiff and Mills, 2007).

Another factor that was important for the developments of the subprime mortgage market was the shift by banks from a traditional originate-and-hold banking model to an originate-and-distribute model. During the 1990s, financial innovations led to a growth in the market for credit risk transfer (CRT) instruments due to improvements of risk management techniques and a shift by banks from a traditional originate-and-hold banking model to an originate-and-distribute financial business model. Traditionally, the bank had a direct relationship with its customers by providing loans to them and receiving repayments and interest. However, in the 80s a new banking system emerged that made it possible for banks to a wider range of capital market activities by diversifying their income stream and risks. As a result, banks could generate profit not only from interest income but also from for example fee and commission income. In this new model, instead of providing loans to customers, the banks sold the loan to another bank. In addition, the bank selling the loan had no direct relationship with the customer and therefore limited incentives and interests to closely monitor the customer's ability to repay the loan (Kregel, 2008). An important risk of this model is therefore the threat that credit monitoring will weaken and that the standards of credit origination will relax. Moreover, in the current subprime crisis this new banking model received serious criticism for encouraging financial institutions to engage in aggressively risk-taking activities and for creating moral hazard problems.

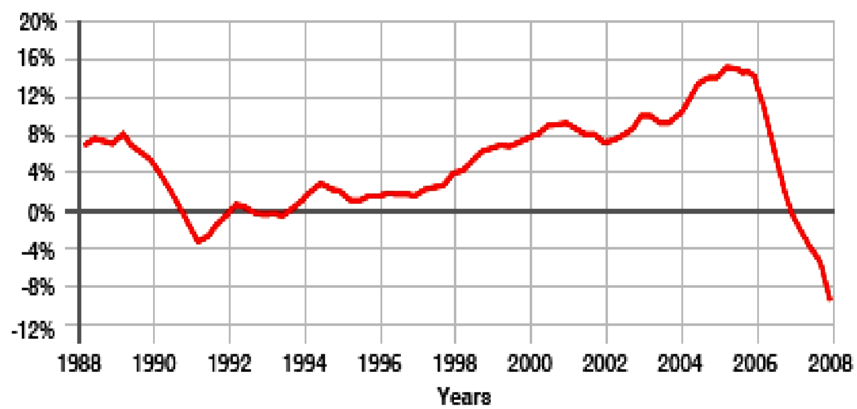


Figure 1.4 Overview of U.S. house price trend from 1998 to 2008 (Annual % change)
Source: *BBC News, March 18 2008, Global Credit Crunch, facts and figures*

This growth in the market for credit risk transfer instruments also affected the securitization market by the development of collateralized debt obligations (CDOs). Although this instrument had been already used in the 1970s and 1980s, its use became popular in the 1990s in line with the shift to an originate-and-distribute model. CDOs divide streams of income from the mortgages intro tranches that reflects both the quality of the underlying loan and the assignment of progressive default losses. The lowest-rated tranches absorb the first defaults on the pool of underlying loans, whereas the highest-rated tranches reflect the lowest probability of default. The increase in high yielding subprime MBS and CDOs consisting of subprime MBS led to a high liquidity in the financial markets but at the same time stimulated greater risk-taking as already mentioned before. During the first half of this decade, the developments of new financial products and a high confidence of the performance of these products together with a low interest rate led to a dramatic growth of the subprime market. However, the assumptions of investors about the performance of subprime products were based on the first half of the current decade which was characterized by a period of rapid home price increases, low default rates and a tolerance for high risk taking. These expectations of the performance of these products and also, the performance of the state of the economy turned out to be too optimistic when problems began to emerge in late 2006 (Bank for International Settlements, 2003, DiMartino and Duco, 2007, DiMartino, Duco and Rosenblum, 2007).

In the summer of 2005 short-term interest rates started to increase while in 2006 housing prices started to drop as shown in the figure above. Borrowers suffered from increasingly difficulties to make monthly payments. As a result, default rates, delinquencies and foreclosures on subprime and Alt-A mortgages increased significantly in late 2006 and 2007. Mortgage lenders who provided the loans were the first to be affected because they did not receive the monthly payments anymore. However, soon, financial institutions followed when they experienced huge losses from exposures from the U.S. subprime mortgage market. Turmoil in the financial market was triggered; large write downs followed, together with a sharp decline in share values of financial institutions, the evaporation of liquidity in the market, and almost no trading activity in the commercial paper market (Kirk, 2007). While initially, the crisis was expected to only affect the U.S. housing market, almost one year later, the crisis has spread across the world and now threatens to affect the real economy. As of July 2008, financial institutions reported losses up to almost $500 billion while the International Monetary Fund (2008) warns that the total costs of the subprime crisis could top approximately $1 trillion. The crisis is far from over.

Features of a subprime mortgage loan. The characteristics of a subprime mortgage loan and the differences between the prime and subprime mortgage market are numerous. There are a number of different types of mortgages but there are two features of mortgages that apply across all credit sectors in the U.S., namely fixed-rate mortgages (FRM), which have an interest rate fixed for the life of the loan and have constant periodic payments, and adjustable-rate mortgages (ARM), which have variable periodic interest rates which means that the period payments differ. There are several benefits of a fixed-rate mortgage including a constant monthly payment for the term of the mortgage and the interest rate paid by the borrower is fixed for the whole life of the loan, regardless of the market interest rate. Thus, FRMs offer insurance against interest rate fluctuations. ARMs, however, have interest rates that vary over the term of the loan, usually in relation with an index. Typically, rates on ARMs are lower than FRMs because the borrower is bearing some of the market risk. Furthermore, a distinction can be made between several different types of ARMs, such as the hybrid ARM, the interest-only ARM, the payment-option ARM, the Negative-Amortization Mortgage (NegAM) and the No Income, No Job, and no Asset (NINJA) loans. The hybrid ARM has characteristics of both ARM and FRM. For the first two or three years they have a fixed, low interest rate. After that period they revert to the traditional ARM structure with a variable periodic interest rate. An interest-only ARMs allows a borrower to pay only the interest for a specified numbers of years, thus making the monthly payments lower. After that period, the borrower must repay the principal and the interest and the monthly payment increases. The payment-option ARM allows a borrower to choose among several payment options each month including a minimum payment, a traditional payment of principal and interest or an interest-only payment. The negative-amortization mortgage allows a borrower to pay less than the current interest and results in a higher loan balance and higher future payments. The NINJA loans are subprime loans and issued to borrowers with no income, no job and no assets (McDonald and Thornton, 2008). These different types of ARM are also referred to as alternative mortgage products (AMPs). In recent years, there has been an increasingly use of these products. As a consequence, many borrowers were not able to make their monthly payments when interest rates rose. But apart from these two broad features, mortgages can be diversified into several categories such as prime, subprime, Alt-A, conforming or conventional, and Jumbo mortgages. In the figure below the total mortgage market is depicted subdivided into its different categories. In the second quarter of 2007 the total U.S. mortgage market amounted for a total of $ 6.8 trillion, whereas the subprime mortgage market covered $ 1.3 trillion of the total mortgage market.

The main distinction between a prime and a subprime loan is the risk profile of the borrower. Generally, the prevailed prime mortgage rates are given to borrowers with good credit scores based on their past mortgage or rent payment behavior, previous bankruptcy filings, debt-to-income (DTI) ratio, and the level of documentation provided to verify income. Another distinguishing feature between prime and subprime mortgages is the upfront and continuing costs which are higher for subprime mortgages. Upfront costs include application fees, appraisal fees and other costs associated with originating mortgages. The continuing costs include mortgage insurance payments, principal and interest payments, late fees and fines for delinquent payments. Alt-A mortgages are originated to borrowers who have relatively good credit scores but cannot provide sufficient documentation to verify income or have high DTI ratios. An example of this kind of borrowers is small businessmen. Mortgages that are eligible for purchase by Fannie Mae or Freddie Mac are known as conforming or conventional loans. These loans are characterized by their size and must satisfy certain underwriting criteria. Typically, their Loan to Value (LTV) ratio is not more than 80 percent and generally the underwriting criteria states that the credit risk of a borrower should be the same as an 80 percent LTV mortgage made to borrowers with good credit history. Finally, Jumbo mortgages are referred to as mortgages with principal amounts that exceed the conforming loan limit set by Fannie Mae and Freddie

Mac (Chomsisengphet and Pennington-Cross, 2006).

Benefit and risk factors associated with subprime lending. Subprime lending is a relatively new and growing segment of the mortgage market and expands the credit for mortgages to borrowers with high credit risk, poor credit histories, and unstable incomes resulting in a lower probability of full repayment of the mortgages. In contrast of subprime mortgages, prime mortgages are the traditional type of loans and are typically made to borrowers who have a strong credit history and can demonstrate the capacity to repay their loans. As already mentioned before, in the first two decades of the rapid expansion of subprime lending investors were confident about the performance of subprime mortgage loans and the emphasis was put on the multiple benefits of subprime lending. However, the current subprime mortgage crisis has demonstrated the reverse side of this type of lending. This section will discuss the potential benefits and risks of subprime lending. But because it is a relatively recent phenomenon, still little is known about the potential benefits and risks of subprime lending.

Benefits of subprime lending. Collins, Belsky and Case (2004) did research whether subprime lending can achieve greater efficiency. They argue that subprime lending is dependent on several factors such as the business practices, consumer behavior, and if the structure and analysis of information accurately captures the underlying risk. Furthermore, the efficiency gains are only achieved if credit risk can be measured, predicted and priced for by the industry. This can be problematic since the relatively new subprime credit pricing system has not yet proven to work accurately in estimating expected losses or benefits from subprime lending. That is why they conclude that in order to achieve greater efficiency gains from subprime lending, this phenomenon should be closely monitored and if necessary adjusted for potential failures. Aside from that they do discuss three primary potential benefits that could lead to efficiency gains whereas only the first benefit has been clearly realized.

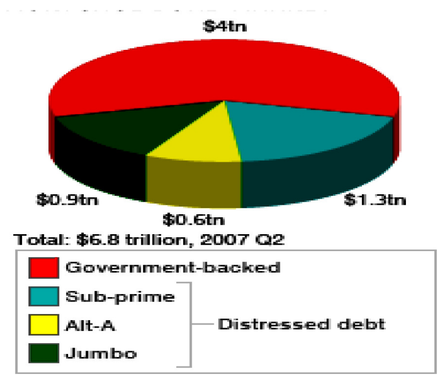


Figure 1.5 The total mortgage bond market in the second quarter of 2007

Source: *BBC (2007). The US sub-prime crisis in graphics.*

The first benefit is the completion of a truncated market. By using the concept of a truncated market they refer to the mortgage market which some decades ago only offered possibilities to borrowers with typically a strong credit history and providing full documentation. Due to the rapidly emergence of the subprime mortgage market, it became possible to expand credit to a wider range of borrowers with blemished credit or no credit history, to develop a market that did not yet exist and also increase the liquidity in the credit market. Furthermore, this new market could result in some additional efficiency. For example, subprime lending made it possible for consumers to substitute lower cost, long-term mortgage loans for higher interest rate credit card and other consumer debt. Second, the cost of mortgage capital is often lower than the cost of comparable credit that is not secured by a primary residence. This can be explained by the Tax Reform Act of 1986. Interest on mortgage loans became tax deductible while other forms of loans did not have this benefit and often, the value of the home exceeds the value of the debt. And in general people need houses to live in so when they have to choose between to default on a mortgage loan or on another loan, they probably will choose the last option.

The second benefit is the increased efficiency in allocation. This can be explained by the theory of Akerlof (1971). Before the emergence of the subprime mortgage market, mortgage credit was based on imperfect information resulting in adverse selection; riskier borrowers pushed out less risky ones also referred to as the lemon problem. These borrowers increased losses in the mortgage market and as a result, lenders charged higher rates for all borrowers in the market and therefore the average costs in the market were higher. This led to an under pricing of high-risk loans and an over pricing of low-risk loans which encouraged high-risk borrowers to enter and low-risk borrowers to exit the market. Due to the emergence of subprime lending, the adverse selection problem was partly reduced as a result of an improvement in information and the possibility of classifying the rates of loans related to the risk profile of borrowers.

The last benefit that Collins, Belsky and Case (2004) discuss is the increased positive externalities of subprime lending. They mention that recent research suggests that there are significant private benefits to homeownership. The most remarkable are asset accumulation and better educational outcomes for children. Furthermore, data suggests a much larger market share for minorities and low-income borrowers in the subprime than prime market which suggests that subprime lending offers minorities and low income borrowers the possibility to also obtain loans to benefit from homeownership. Subprime lending results in more credit expansion to predominantly minority and low-income communities than in prior credit rationing systems. They conclude that opening the market to a broader range of borrowers may overcome the negative externalities associated with denying credit to certain communities and categories of borrowers.

In summary, the most acknowledged benefit of subprime mortgage loans is that it developed new market opportunities for both originators as investors. But in the literature today, not much has been written about the potential benefits of subprime lending. In general, the emphasis has been put on the social benefits for the American society also due to a political agenda that stimulates homeownership (Utt, 2008).

Risks associated with subprime lending. The emergence of subprime lending and completing the market also carriers risks with it. Both Vigdor (2007) and Collins, Belsky and Case (2004) discuss risks related to subprime lending. The last authors consider four risks as primarily important which are underestimating risk, principal-agent problems, asymmetric information and negative externalities. Vigdor (2007) is more concerned with the risk characteristics inherent to subprime mortgages.

Collins, Belsky and Case (2004) mention that the benefits associated with subprime lending are dependent on the quality and accuracy of the risk measures and pricing mechanisms in use. When lenders and investors misjudge credit risk, collateral risk and loss severity, the market will face a correction as occurred in 1997 and 1998 when the subprime market faced its first serious crisis. Especially, when default rates and losses are greater than anticipated on, investors and lenders will face significant losses and in turn will reduce the rate of return of capital and result in misallocation of resources in the economy. Thus, the enhancement of market efficiency due to subprime lending is dependent on the ability of investors and lenders to better evaluate risk by finer categories and therefore, underestimating risk is of significant importance. For example, analytical advances in the form of better default and loss models and the availability of proper, useful and relevant data can enhance the ability to measure risk. Critics, however, caution that most credit and default models are estimated with data from the last 12 years which include the longest and strongest expansion of the U.S. housing market that has kept the American economy out of a recession since 2001. Subprime lending has never been tested by a severe downturn in house prices and other stressed conditions. This lack of testing under stressed conditions could lead to an underestimation of the risk at macro level associated with subprime lending. This is also happening now during the recent subprime crisis since the historical loss rates are not useful at all to predict the actual losses in the portfolios.

The second risk is the principal-agent problem. This problem refers to the misalignment of incentives between principals in a transaction and the agents acting on their behalf. For example, most subprime loans are sold into the secondary market by originators who pass the risk of default on to the ultimate holder of the mortgage. Hereby, the originator has an incentive to make the transaction looks as good as possible to keep origination volume as high as possible, and limit their incentives to manage and monitor credit risk. Similarly, Government Sponsored Enterprises (GSEs) have an incentive to accept risk that they would otherwise decline because of the existence of private mortgage insurance which covers a substantial portion of default risk for loans with greater than 80% LTV (Loan-to-Value). Because of competitive pressure, mortgage insurers have tended to accept the GSE's underwriting criteria. In both examples, the originator and the GSE's, however, do not bear the full cost of a default and as a result, decisions will probably lead to more risk than would otherwise be efficient.

The third is the risk associated with asymmetric information. As already mentioned before, the subprime markets have led to very complex pricing structures which cause the asymmetric information between buyers and sellers to increase. As a result, the chance for unfair, discriminatory, and inefficient transactions has grown too.

Finally, the authors also discuss the risk of negative externalities associated with subprime lending. Different types of research has been done which consistently found that subprime loans tend to be disproportionally concentrated in low-income minority communities with limited financial resources which can increase the risk of default and foreclosures. Foreclosures can also cause other negative externalities such as crime, vacant properties, underinvestment and abandonment. Hence, lenders who made the foreclosed subprime loans and borrowers who accepted them create costs for others.

Vigdor (2007) also discussed some of the risks inherent to subprime mortgage loans. He argues that every loan has a default risk, when viewed from the borrower's perspective, or a credit risk, when viewed from the lender's perspective. Subprime loans contain several characteristics that might magnify the risk of default. These are the characteristics of the loans, the borrower, the lender, and the housing market. Many subprime loans have the characteristic of negative amortization. This means that the initial monthly payments of the loan are less than the interest accruing on the loan (also referred to as teaser rates). As a result, the principal of the loan will grow during the introductory period. In general, at the end of the period the interest rate will reset to a much higher rate which can cause the monthly payments to increase. This is also referred to as a payment shock which can increase the risk of default for the borrower. In addition, some subprime loans contain prepayment penalties that require a borrower to pay a penalty or a fee when the mortgage is repaid within a certain time period. The limited financial resources of the borrower are a characteristic that can also increase the risk of default. Collins, Belsky and Case (2004) already mentioned that research concluded that subprime loans tend to be disproportionally concentrated in low-income minority communities with limited financial resources which increased the risk of default. The behavior of lenders may also affect the risk of the loan. For example, many believe that lenders should approve alternative mortgage products on the basis of the ability of the buyer to repay after the interest rates reset. Credit risk can increase when borrowers are approved based on their abilities to make payments during the introductory period and they borrow more money than they can truly afford. Also, since lenders have an incentive to sell as much loans as possible and due to an increasing competitive pressure, lenders accepted less strict underwriting criteria. As a result, lenders are faced with less assurance of the borrower's ability to pay which ultimately could increase credit risk. Finally, the characteristics of the housing market itself could also increase the risk of default. In the U.S., homeownership became increasingly popular, especially after the burst of the Dot-com bubble in 2001. The Dot-come bubble was a sharp increase in value of stock markets caused by the rapid growth of the new internet sector from 1995 to 2001. In 2001, a U.S. housing bubble emerged where homeownership reached its peak in 2004 with a rate of 69,2 percent and that ended in the summer of 2005. During this bubble, borrowers and lenders may have believed that housing prices continued to climb indefinitely. However, when the housing market falls, borrowers with little or no equity do not have the ability to compensate the impact of payment shocks.

The securitization process. The process by which most mortgage loans are funded is referred to as securitization. In this process mortgages are converted into Mortgage-Backed securities (MBS) (Rosen, 2007).

History of securitization market in U.S. According to Vink and Thibeault (2007) the securitization market has grown to become one of the most prominent first income sectors in the U.S. and is one of the fastest evolving and growing sectors around the world. In 2004, the largest sectors of this market were home-equity backed securities (25 percent), credit card-backed securities (21 percent), collateralized debt obligations (15 percent) and automobile-backed securities (13 percent) (Sabarwal, 2006). The securitization market can be categorized into three categories: asset-backed securities (ABS), mortgage-backed securities (MBS) and collateralized debt obligations (CDO). The first form of asset securitization began in the 1970s and involved the securitization of MBS. In its traditional form, the securitization process was only practiced by financial institutions who transformed home mortgage loans into MBS (Alles, 2001). For decades before this new form of finance was used, banks were essentially portfolio lenders whereby loans were held until they matured or were paid off. These loans were funded by deposits and sometimes by debt. However, after the World War II, the demand for housing credit was rising which caused financial institutions to seek other ways to increase the sources of mortgages funding (Administrator of National Banks, 1997). As a result, in the 1970s the first ABS were developed and guaranteed by the US Government National Mortgage Association and Fannie Mae to attract new investors. Though, only government and agency-guaranteed MBS existed which caused the supply of securitized products to be rather limited (Hill, 1997). In the 1980s, the traditional securitization market expanded and also started to include non-guaranteed MBS and non-mortgage ABS. After this expansion, the securities market became increasingly diversified and expanded to a wider range of asset classes, such as credit card receivables, cars and student loans. Also, asset securitization was not only practiced by financial institutions anymore but varied from financial institutions to trade and manufacturing firms (Thomas, 2001). Another difference is that structured financing was introduced as an extension to asset securitization. Structured financing has two broad categories. The first category is securitization (ABS, MBS and CDO) and the second category is pure credit derivatives, such as Credit Default Swaps (CDS), Fixed Rate Recovery and Total Return Swaps (TRS) (Jobst, 2007a). However, this paper will only focus on the first category securitization. Structured financing made the original securitization process more complex by structuring the trading securities into several classes of derivative securities with different characteristics. These several classes of derivative securities are also referred to as tranches which have varying seniority and maturity and represent different slices of risk. This made it possible to match the different investment needs of investors to those different characteristics. With the introduction of credit derivative securities, a new type of securitization emerged in the form of synthetic securitization. Rather than the direct transfer of ownership of the pool of assets, the credit risk attached to the assets was transferred to a third party (Allas, 2001).

Based on the findings above, the traditional objectives of asset securitization developed beyond just a regulatory arbitrage tool associated with capital requirements of the Basel Capital Accord. Initially, securitization was used as means to reduce regulatory capital requirements, by moving assets off balance or by raising cash by borrowing against balance sheet assets without increasing the capital base or risk-weighted assets defined in Basel 1 and Basel 2 issued by the Basel Committee on Banking Supervision who provides a framework relating to the bank's financial strength (Tier 1 and Tier 2 capital). But since the structured financing technique has been introduced, asset securitization has also become an effective method for allocating asset risks to different investors and broader capital markets and to diversify asset exposure via the different tranches. Securitization has become a substitute for capital market-based finance for credit finance without any disintermediation. Furthermore, for investors, securitization has provided an increasing choice of high-quality investments available. It provides diversification alternatives to traditional fixed income and credit risk can be managed or reduced because securitization assets have different credit and payout characteristics. However, as a result, the securitization process increasingly consists of complex and complicated structures demanding more specific knowledge from analysts and causing investors to experience increasing difficulties to understand the process (Jobst, 2007a).

Process of securitization. The Office of the Comptroller of the Currency (1997) defines asset securitization as "the structured process whereby interests in loans and other receivables are packaged, underwritten and sold to in the form of asset-backed securities. This enables them to transfer some of the risks of ownership to parties more willing or able to manage them."

Roever and Fabozzi (2003) mention that the central element in the securitization process is that the cash flows generated by a company's financial assets can be used as a collateral of one or more securities that may have a higher credit quality than the company's secured debt. This means that investors focus on the cash flows created by the assets rather than the payment promise of the issuer.

Although securities can be structured in multiple different ways, the process of securitization has some common features. In the figure below, a simple form of the securitization process is depicted.

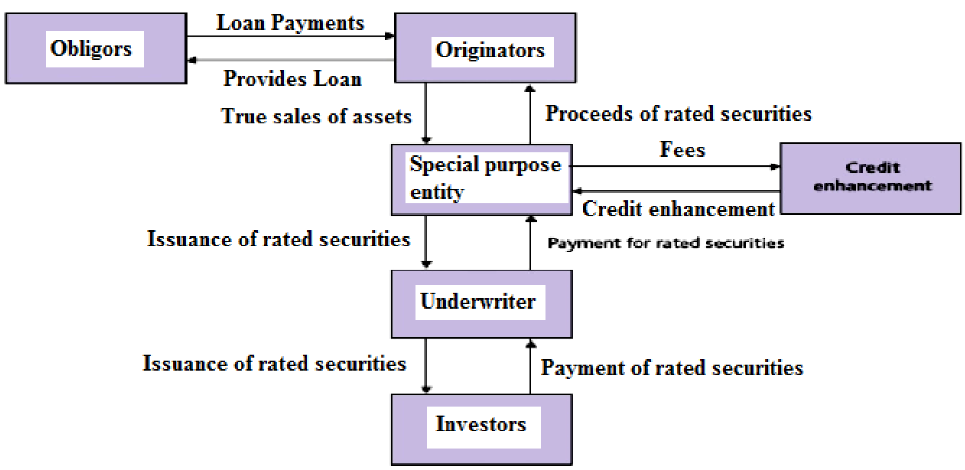


Figure 1.6 The securitization process

Source: *Telpner (2003). "A securitization primer for first time issuers". Global Securitization and Structured Finance 2003*

In the process of securitization, the risk will be redistributed and involves a number of specialized roles such as the originator, the servicer, the credit enhancer, the underwriter, the rating agency, and the investor. According to Kane (1997) the securitization process starts by identifying cash-flow-producing assets (receivables or loans) that are owned by a company, called the originator. After identification of several assets, they are pooled together and then sold to a specially created third-party, a SPV, which conducts a securitization transaction by purchasing the pool of cash-flow-producing assets and by structuring and issuance of new securities. The SPV is used to structure the assets by isolating and distributing the credit risk, to address tax issues and to manage cash flows. Furthermore, the SPV issues several classes of equity and debt securities that consist of tranches of investments grade debt and tranches of non-investment grade debt or equity. The tranches, utilized by several forms of credit enhancements, represent different levels of allocated risks and investment returns (i.e., interest repayments and principal). Credit enhancements are used to provide investors protection against the risk that security's payments will not be paid. The ownership of the pool of cash-flow-producing assets is transferred from the originator to the SPV. The originator moves the receivables off its balance and can use the proceeds to issue new loans and it also reduces regulatory capital requirements. After issuing the securities, the servicer, who is usually the same as the seller, collects the returns of the loan and allocates them to the investors, the seller and the servicer. The allocation of the return depends on the structure of the transaction. Another important aspect of securitization is that the transferred assets are a true sale at law, which is a sale executed on an arm's length basis that effectively transfers the ownership of the assets for bankruptcy purposes. The transfer of the assets must constitute a sale for accounting purposes to assure that the assets are secluded from the original seller and to move the assets off-balance to make sure that the pool of assets will not be affected by risks associated with the originator (Telpner, 2003, Sabarwal, 2006).

To summarize, securitization is a form of financing where illiquid assets or loans are being converted into liquid, marketable securities. As depicted in figure multiple parties are involved starting with the obligor, a creditor who owes debt to the originator. In return, the provider of the debt, the originator, sells the assets to a SPV who then issues the securitized debt to investors. During the process, there are multiple complex forms to structure the securitized products by means of credit enhancements to meet the needs of the various characteristics of investors and the products are provided by so called credit ratings by rating agencies.

Key players in the securitization process. The securitization process has several general features that consist of pooling and transferring the receivables, structuring and issuing the securities, and servicing and allocating the payments. These transactions are executed by several key players in the securitization process, such as the asset originator, the issuer, rating agencies, credit enhancement providers, liquidity facility providers, an underwriter, a servicer, and investors (Telpner, 2003). One more party is the borrower. The borrower is responsible for the payments of the underlying loan of the assets that are securitized. Therefore, it is really gathering information about for example the credit history of the borrower since the payments are the performance of the ABS. The following table presents the different borrower credit quality categories.

This means that an A-quality borrower has a detailed credit history, with few or no delinquencies while a D-quality borrower has a really poor or limited credit history, with a number of delinquencies and might have had a recent bankruptcy. The asset originator provides the loan to the borrower and transfers the assets to a securitization entity.

The underlying assets are acquired by the issuer, a passive SPV, and are then issued. The SPV is a separate legal entity from the originator. This also means that the assets, bank accounts and recordkeeping must be separated from the originator and that the SPV has to pay its own expenses out of its own funds. Furthermore, a SPV is usually required to have a board of independent directors. And the originator must state to all its creditors that the assets of the SPV are not available for their claims (Swarcz, 1994). These are measures to preserve the rights of investors.

Rating agencies are rating the tranches that are contained by the securities. Telpner (2003) as well as Roever and Fabozzi (2003) argue that rating agencies are one of the most important players in the securitization process because investors rely on the ratings of the securities. Credit enhancements are used to protect investors if the cash flows of the underlying assets are insufficient to pay interest and principal in a timely matter. They can be categorized into internal and external enhancements. Internal credit enhancements are generated by the cash flows of the underlying asset while external credit enhancements are liquidity facilities provided by financial institutions.

Underwriters are taking care of the placement of the securities from the issuer with the investors. They are responsible for the pricing and marketing of the rated tranches of the securities and to advise the seller on how to structure the security.

A servicer collects the payments and is monitoring the assets and can often be the asset originator as well. The service is responsible for routine asset portfolio administration duties, such as bills that must be sent, collections that must be processed and obligator that must be reminded to pay (Roever and Fabozzi, 2003, Telpner, 2003).

Rating agencies and credit enhancements. In the last section, some key players of the securitization process were discussed. Telpner (2003) and Roever and Fabozzi (2003) mentioned that one of the most important players of this process are the rating agencies. According to them, rating agencies are responsible for the comparability of the payment risks faced by investors from one market to another. For example, a triple A-rated ABS should be comparable to that of a triple A-rated corporate obligation. However, the method to rate an ABS is significantly different from the method to rate a corporate obligation in the way that securitized products are rated ex ante, while corporate obligations are rated ex post. This means that corporate obligations are analyzed on the ability of an existing company to repay its debt while ABS is analyzed on the basis of expected cash flows of the underlying assets. Every cash flow differs in their timing and consistency of such flows which makes the analyses more subjective.

Furthermore, since those securities have different tranches, the performance of each of those securities varies dependent on the tranches but can also be enhanced by one or more forms of credit enhancements to achieve a greater rating. These specific structures of securities, the involvement of multiple third parties and the incorporation of credit enhancements usually cause the transactions of ABS to be very complicated (Fan et. al, 2006).

Table 1.2 Borrower Credit Quality Categories

Generic Borrower Credit Quality Description	Mortgage Credit	Other Credit	Recency of Bankruptcy	Debt to Income Ratio	Loan-to-Value Guidelines
A: Standard agency quality	1 x 30 last 12 months	No derogatories	5 yrs.	36%	97%
A-: Very minor credit problems	1 x 30 last 12 months 2 x 30 last 24 months	Minor derogatories explained	5 yrs.	42%	90%
B: Minor to moderate credit problems	4 x 30 last 12 months 1 x 60 last 24 months	Some prior defaults	3 yrs.	50%	75%
C: Moderate to serious credit problems	6 x 30 last 12 months 1 x 60 & 1 x 90 last 12 months	Significant credit problems	18 months	55%	70%
D: Demonstrated unwillingness or inability to pay	30-60 constant delinquent, 2 x 90 last 12 months	Severe credit problems	12 months	60%	65%

Source: *OCC (1997). Securitization of Asset Comptroller's Handbook for National Bank Examiners*

In analyzing the credit risk of the securities, generally, rating agencies tend to focus on three different aspects, namely the credit quality of the collateral, the cash flow stress and payment structure, and the quality of the servicer. By analyzing the credit quality of the collateral, the rating agencies are primarily concerned with ensuring the securitization has a claim of the underlying assets that is legally superior to all other claims. Furthermore, the rating agencies are looking at the underlying borrower's ability to pay and its share of equity in the asset. By evaluating its share of equity, the rating agencies can determine if the borrower has an economic incentive to default or to sell the asset and pay off a loan. The second aspect the rating agencies are focused on is analyzing the cash flow stress and payment structure. As a result, the rating agencies can determine if the collateral's cash flows is matching the payments that must be made by the issuer (Roever and Fabozzi, 2003). The cash flow of the collateral consists of interest and principal repayment. Important elements that influence the financial performance of the underlying pool of assets for instance are the borrower's credit score, credit history, key financial ratios such as loan-to-value ratio and debt-service coverage ratio, and payment patterns over the years. The third aspect is the analyses of the quality of the servicer because the servicer can significantly affect the cash flows because it controls the collection policy and the ability to perform the tasks of the servicers discussed in section 1.3 (Sabarwal, 2006).

Also, the rating agency plays a critical role in determining the amount of credit enhancements necessary for an issue to receive a particular credit rating. Credit enhancements serve to help protect investors from the risk that the collateral is not repaid as expected (Telpner, 2003). From the literature above, the conclusion can be drawn that rating agencies play a critical role in the securitization process. They are responsible for determining the riskiness of the securitized products reflected in their credit ratings and making it possible for investors to compare different types of securities to one another. During the current subprime mortgage crisis, rating agencies received a lot of criticism for grading subprime investments too high and were blamed for not reacting actively to downgrade the security's ratings in time.

Types of Credit Enhancements. There are different types of credit enhancements to achieve an AAA rating which is the highest credit quality rating of the credit rating agency Standard & Poor's or an 'Aaa' rating which is the highest credit quality rating of the credit agency Moody's Investors Service as can be seen below. In the U.S. the three dominant rating agencies are Standard & Poor's, Moody's and Fitch Ratings (Kirk, 2007). These ratings can also be categorized into investment grade ratings (i.e., Baa rating or BBB rating and higher) and non-investment grade ratings (i.e., Ba rating or BB rating and lower). The higher the rated investment grade, the lower the company's cost of capital (Dwight Asset Management Company, 2005).

Table 1.3 The credit quality ratings of Moody's and Standard & Poor's

Quality	Moody's[1]	Standard & Poor's[2]
Investment-Grade		
Highest Quality	Aaa	AAA
Very Good Quality	Aa	AA
Good Quality	A	A
Medium Quality	Baa	BBB
Below-Investment-Grade		
Lower Medium Quality	Ba	BB
Low Quality	B	B
Poor Quality	Caa	CCC
Highly Speculative	Ca	CC
In Default	C	D

1. Moody's ratings from Aa to Ca may be modified by the addition of a 1, 2, or 3 to indicate relative strength within each category.
2. Standard and Poor's ratings may include a plus or minus to indicate relative strength within each category.

Source: *Dwight Asset Management Company (2005). Fixed Income Primer: Asset-Backed Securities. Dwight Asset management company 2005*

However, issuers do not always seek to achieve a triple A-rating for all the securities in the portfolio. The reason is that there are certain cost of credit involved; the costs of enhancing a structure to obtain a triple A-rating. The issuer has to outweigh the cost of credit versus the reduction in the increase in price (i.e., the yield) at which it can offer the securities due to a triple A-rating (Roever and Fabozzi, 2003).

Now, to return to the different types of credit enhancements, a distinction can be made between internal and external credit enhancements. The most common forms of internal credit enhancements are senior/subordinate structure, an excess spread, spread account, and overcollateralization (Fabozzi, 1995). Senior/subordinate structures have two main classes, namely the senior (A) class of the security and the subordinated or junior (B, C etc.) classes.

When the underlying loan of the pool of assets defaults, the loss that results from the default will first affect the subordinated classes so that the senior tranches will be protected. This means that the senior tranches will be unaffected unless the total loss of default will exceed the total subordinated tranches (Dwight Asset Management Company, 2005). This form of credit enhancement is possible by using overcollateralization which means that the face value of the loan or receivables of the collateral pool exceeds the issued securities. The interest payments and the principal can still be made even if the loan payments are late or default (Sabarwal, 2006).Credit enhancements generated by the internal structure and is depicted in figure 1.7.

A third form of internal credit enhancement is the protections against loss by the excess spread. This is the difference between the interest costs received and the costs of the issued security such as the coupon and servicing costs. Thus the excess spread is a residual amount that can be used as a reserve to protect the senior tranches. However, there is a problem with excess spread. The problems is that it is a flow which means that it is either used in the current period as a credit enhancement or it will revert to the seller. This problem can be solved by building a reserve fund that can be used at future date to offset losses or to meet expenses, also referred to as a spread account (Telpner, 2003).

An advantage of internal credit enhancements is the lack of event risks that might arise from external credit enhancements. However, an advantage of using external credit enhancements is that there are certain economics of the transaction. Roever and Fabozzi (2003) mention the example that markets for many types of structured subordinated risk can be limited or too expensive. By paying a fee to a third party guarantor, this problem can be solved so that the issuer obtains a better advance rate and lower transactions costs.

The most common forms of external credit enhancements are surety bonds, wrapped securities, a letter of credit (LOC), cash collateral accounts (CCA) and cash invested amounts (CIA).Surety bonds and wrapped securities are financial guarantees or insurance policies by third-parties, the so called mono line insurers. It represents a guarantee on all scheduled payments of principal and interest. The difference between a surety bond and a wrapped security is that the last one has a policy that reimburses the ABS up to a specified amount. The surety bonds have no limits, however. A LOC provide protection against losses from the collateral up to a specified amount. A fee is paid to a financial institution so that they cover certain losses from specific tranches. Although a Cash Collateral Accountant is sometimes also categorized as an internal credit enhancement, a

CCA is a form of credit enhancement whereby the issuer borrows an amount needed for the credit support from a commercial bank and deposits the amount in short-term highly rated investments. This deposit of cash can be used to cover shortfalls in promised cash flows. This is also depicted in figure 2.4. A cash invested amount is similar to a CCA but instead of putting the obtained funds in a CCA, it is used to purchase an un-certificated ownership interest in the underlying assets (Dwight Asset Management Company, 2005, Fabozzi, 1995, OCC, 1997).

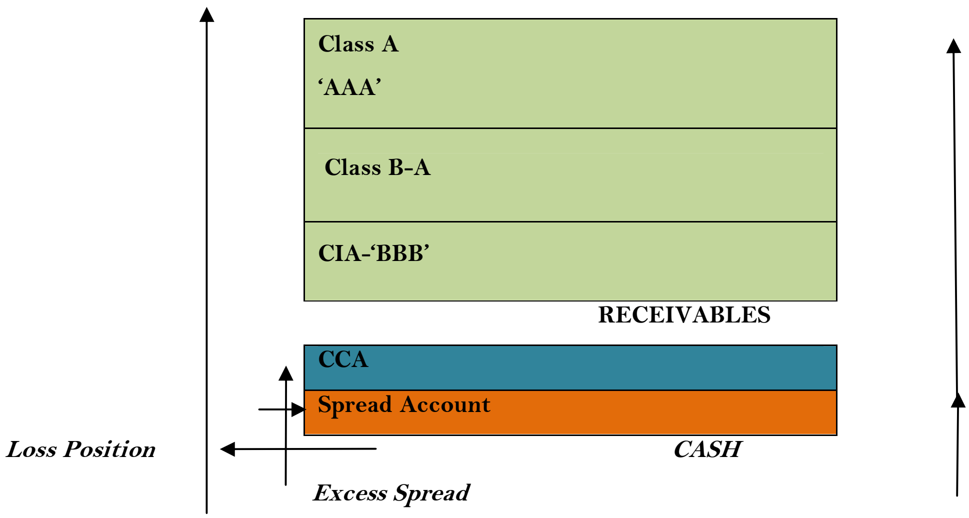


Figure 1.7 Credit Enhancements

Source: *OCC (1997). Asset Securitization Comptroller's Handbook for National Bank Examiners*

BENEFITS AND RISKS OF SECURITIZATION

According to Sabarwal (2006), the securitization market has emerged as an attractive new tool to finance business and can provide attractive alternatives for investors.

Benefits of securitization. Securitization can achieve different objectives for the originator. First of all, it offers a flexible off-balance financing tool that serves to reduce economic cost of capital, by isolating the assets from potential bankruptcy risk of the originator. The cost of capital is depending on its credit rating. By properly structuring a security, the issuer can obtain a higher credit rating on the security than the credit rating of the securities the originator issues itself. This can be explained by the fact that the pool of assets is separated from the originator which means that the risks associated with the activities of the originator will not affect the security. Second of all, it can reduce regulatory minimum capital requirements by the sale of assets since the pool of the assets is removed from the balance sheet of the originator. As a result, the balance sheet's leverage of the originator will be reduced meeting, for example, the requirements of the Basel Committee on Banking Supervision. In addition, by using this form of off-balance financing, securitization might have a positive effect on key financial ratios.

Furthermore, securitization can serve as a risk management tool by diversifying asset exposure by transferring assets into a portfolio that has different tranches with varying risk sensitivity. The credit risk from the originator of the loan will be transferred to different parties making it possible to transfer risks from parties that do not want to bear the risk, to parties that do. Also, it offers a flexible way to manage rapid portfolio growth by selling assets through securitization which makes it possible to quickly raise capital but avoid capital requirements by keeping assets and debts off-balance.

Furthermore, it can enhance financial performance by transferring illiquid assets or loans into securities with greater liquidity and reduced credit risk because of the diversified portfolio and the credit enhancements. Another benefit is that securitization reduces the mismatch between assets and liabilities that occurs when the financial terms such as the maturity or the duration of the assets and liabilities do not correspond. Finally, an important benefit that is often mentioned in the existing literature is that securitization is a form of financing that enhances the liquidity in the capital market since it provides liquidity to a broader range of investors. In return, this enables originators to serve the needs of more investors and extent their client base (Telpner, 2003, Jobst, 2007b, Fabozzi and Modigliani, 1992, and Roever and Fabozzi, 2003).

According to Jobst (2007b) from an investor's perspective, securitization extends the choice of different high-quality investment instruments. It increases the liquidity in the secondary market and provides more flexibility because the payment streams of securities can be structured to meet investors' requirements. It enables investors to quickly adjust their investment holdings at low transaction costs when personal risk sensitivity, market sentiment or consumption preferences are changing. It also increases the liquidity in the secondary market by offering more choice, financial sources and instruments to investors. For instance, Roever and Fabozzi (2003) argue that securitization provides a source of liquidity because small and medium-sized firms are limited in their growth by having a limited ability to borrow from traditional sources.

Risks of securitization. Based from the above, it can be concluded that the securitization process offers multiple benefits to various parties. When used in the proper way, securitization can lead to reduced costs of capital and regulatory minimum capital requirements. The security design allows users to transfer asset risks in almost an infinite numbers of ways meeting the different risk preferences. However, according to Sabarwal (2006) the complexity and scope of asset securities have grown increasingly which caused the risks associated with them to grow as well. In addition, he mentions some examples of problems that could arise due to the complexity and scope of asset securities. For instance, originators that faces problems with their reputation when their securitized assets do not perform as expected. They might lose an attractive source of financing and rating agencies that are concerned with the increasing complexity of the securities which could influence the accuracy of the rating process.

Furthermore, asset securitization can allow companies to pretend that there are less risky than they really are which can give rise to conflicts between shareholders and management. In the worst case, these misunderstood risks can affect the likelihood of systemic crises in financial markets.

Furthermore, the complicated financial structures also affect how credit risk, market risk, liquidity risk, operational risk and legal risk (i.e. altogether the investment risks) are combined into securitized debt. Credit risk or default risk is the risk concerned with the inability to meet payments on time associated with the securitized asset of the underlying portfolio. The portfolio of the underlying assets is an important indicator because it provides the basis for the risks and returns of a securitized investment (Jobst, 2006). Credit ratings can be used to evaluate the risks and returns of the portfolio and credit enhancements can be a tool to attain a desired credit risk. Market risk, liquidity risk and operational risk are the risks that are associated with the structure of the securitized products. The structure of the securitized product can influence the collectability of the principal and interest payments as well as the stability of collections. Market risk is the risk that the value of the securitized product will decrease due to market factors. The market risk associated with securitized products is mainly caused by adverse effects of interest rates and exchange rate movements. Liquidity risk has to do with the inability to trade securitized products caused by for example high trading costs associated with a small volume of outstanding securitized debts issues and low trading activity in asset securitization markets. In general, operational risk is a very broad type of risk that is associated with the risk arising from a company's business functions and from the implementation of the management's strategy. These risks can arise due to the complexity of the structural arrangements of securitization transactions (Bank of Japan, 2008). Based on the above findings, it can be concluded that the structure of the securitized products are essential for the risk associated with them. When the complexity of the structure grows, it is likely that the risks associated with the structure grow as well. Chapter three will find that the risks associated with the structure of the securitized products were important contributors to the subprime mortgage crisis.

The third type of risk, the legal risk, is associated with the risk of legal uncertainty from securitized products. This can be explained in the way that asset securitization involves a variation of legal issues such as trade law compliance of a true sale structure, the implementation of legal claims, information disclosure and income tax liability. Altogether, originators and investors have to find a balance between the different types of investment risks and the economic benefits of securitization.

Another important risk is the presence of information asymmetry since it can impose costs on efficient asset securitization. For example, when the interests of originators and investors are not aligned, moral hazard problems can arise when they do not bear the full costs of their actions. This can be the case when there is a valuation uncertainty. Jobst (2006) discussed an example of ex ante and ex post moral hazard. There could be a possibility that the originator will retain a large share of high quality assets from the pool of securitized assets and replace them by assets of lower quality (extant moral hazard) or neglect the contractual restrictions of securitized transactions (ex post moral hazard).

In the case of the subprime mortgage crisis, moral hazard problems arose in the process where originators passed risk on to issuers, while the issuers passed the risk on to financial institutions, and financial institutions passed it on to other investors. As a result, these various parties had no incentives for due diligence or monitoring and in addition, this process created incentives for reckless lending practices and an increased risk-taking.

CHAPTER-2

CAUSES & EFFECTS OF SUBPRIME MORTGAGE CRISIS

The subprime mortgage market has experienced a huge growth from 1994 to 2007. Together with a steady increase in house prices, historical low interest rates, abundant liquidity, and loan incentives, borrowers were encouraged to consume mortgages, believing that they would be able to refinance it due to the favorable economic conditions. Also, borrowers' and investors were willing to take on more risk, thinking that the market could absorb it. However, this

Situation changed at the end of 2006 when the housing bubble came to an end and interest rates began to rise. Warning signals began to emerge for a potential financial crisis when investors and lenders realized that they had been too optimistic about the economic conditions. When in the beginning of2007 home sales continued to fall, serious concerns emerged when many borrowers turned out to be in financial difficulties and could not refinance or sell their homes to pay off mortgages when they were unable to make monthly payments (Dilation, Duca and Rosenblum, 2007). In addition, in March, two of the largest mortgage lenders, New Century Financial and Accredited Home Lenders, experienced serious difficulties and in April the second-biggest subprime mortgage lender in the U.S., New Century Financial, filed for bankruptcy. Uncertainty started to increase but problems for the credit and housing market as a whole were expected to be limited. In mid-June, expectations were fading away when the weaknesses of the housing market became apparent in the form of loan-quality problems, rising defaults on subprime and Alt-A mortgages, a sharp decline in value of subprime mortgages and shares of financial institutions, deteriorating credit quality, and an increasing uncertainty (Borio, 2008). Rating agencies were forced to downgrade MBS and CDO bonds backed by subprime mortgages as a result of the rising defaults on subprime and Alt-A mortgages. For example, on June 15, rating agency Moody's downgraded the ratings of 131 ABSs backed by subprime home loans and placed about 250 bonds on review for downgrades. The reassessment on risks and the increasing uncertainty in the financial markets about the value and potential losses related to subprime mortgage products made investors exchange from their risky securities to relatively safe government securities. On June 20, reports suggested that two Bear Stearns' hedge funds invested in securities backed by subprime mortgage loans were about to collapse. And on July 11, the number of U.S. foreclosures nationwide was 87 percent above its level the previous year. Uncertainty and worries spread rapidly across the financial system which as a result caused market liquidity for mortgage related securities and structured credit products to disappear. The crisis started to show aspects of accredit crunch, as the uncertainty about the size of losses and the duration of the crisis began to affect the ability to obtain funds. Financial institutions became more reluctant to provide liquidity to others and while liquidity in the market evaporated, major banks experienced increasing difficulties to value their own holdings, turning liquid into illiquid assets and in addition led to an increasing uncertainty in the financial system. Furthermore, on July 30, the subprime crisis expanded to Europe when the German bank IKB warned of losses related to the fallout in the U.S. subprime mortgage market. Also, BNP Paribas, the largest bank in France reported that three investment funds invested in ABSs needed to shut down due to difficulties in valuation of these funds. In August, the ECB and the FED decided to intervene and injected billions of reserves in the financial markets as an attempt to restore confidence and to help decrease the pressure in the market turmoil. In September, the turbulence on the credit markets seemed to have spillover effects on the economy when the U.S. government reported that the employment rate experienced a decline for the first time in four years (Bank for International Settlements, 2007). Bad news related to the subprime mortgage crisis continued to be in the headlines throughout 2007 and the first half of 2008 and just when investors thought that the worst should be over, in July 2008 the U.S. was shocked by the third-largest bank collapse of Indy Mac and fears about the financial health of the nation's two largest mortgage firms, Freddie Mac and Fannie Mae. Now, almost one year later the credit crisis that started has not only affected the financial markets but also the real economy in the U.S., Europe, Australia and Asia. The uncertainty about the health of large financial institutions, the ratings and quality of structured products, and the magnitude of future write downs and the duration of the crisis, caused financial institutions to become unwilling to provide liquidity to others which in turn led to a liquidity crisis in the financial system. It has forced some major financial institutions to be taken over, and even others to fill for bankruptcy. Also, it has brought the asset backed commercial paper market to a halt with a sharp fall in the new issuance of securitized products. The end of the crisis is not yet in sight since the weaknesses and the vulnerability of the financial markets still remains visible with losses at leading financial institutions topping $500billion as of July 20083 (Institute of International Finance, 2008, Financial Stability Forum, 2008,Senior Supervisors Group, 2008).

FACTORS THAT CONTRIBUTED TO THE U.S. SUBPRIME MORTGAGE CRISIS

Economic conditions such as rising interest rates and the flattening of house price appreciation certainly played an important role in the subprime mortgage crisis. However, these economic factors emphasized the essential important underlying factors that triggered the crisis, namely the initial weaknesses of the subprime mortgage market. This section will discuss the most important factors that contributed to the U.S. subprime mortgage crisis.

Increasing risk characteristics of subprime products. After the recession in 2001 when interest rates declined, borrowing demand increased, Mortgage lenders expanded their businesses, and new lenders entered the market. Together with the U.S. housing bubble which caused U.S. housing prices to rise with 34 percent, adjusted for inflation, between 2002 and 2005 (Getter et.al, 2007), an appetite for risk, and the economic recovery, an environment was created in which investors and lenders were encouraged to seek instruments that offered high returns resulting in an increase in demand for securitized subprime mortgages. Due to this Rapid growth of subprime mortgages, it became easier for borrowers to obtain loans. According to Krinsman (2007), the Financial Stability Forum (2008), the IIF (2008), the CRMPG (2008), and the Senior Supervisors Group 92008) one of the most important factor that contributed to the current crisis is the increasing risk characteristics of subprime mortgages resulting from relaxed underwriting criteria. These risk characteristics were already discussed. This problem is also referred to as risk layering where the loan is characterized with for example little or no documentation provided by the borrower, with little or no down payment made, and with a low initial teaser interstate that resets to a new, higher rate after a period of two or three years. Lenders developed and offered subprime mortgage loans that combined the lowest possible down payments and monthly payments with relaxed underwriting criteria as a response to the rapid home price appreciation, the increasing competition among lenders and a political agenda that encouraged home ownership. However, the subprime loans that were originated and suffering from poor underwriting standards were characterized by multiple weaknesses such as less creditworthy borrowers, high cumulative loan-to value ratios, and limited or no verification of the borrower's income. In general, prime and subprime borrowers had to provide full documentation about their income and assets which then would be verified by lenders. However, in recent years, low or no documentation loans became available to persons with impaired credit histories and to first time borrowers. Furthermore, in 2005 and 2006, loans referred to as piggybacks became more common. Hereby, subprime borrower was allowed to have two mortgages on their homes. In addition to a first mortgage for 80 percent of the total purchase price, a second mortgage for the remaining 20 percent was made so that the borrower would not have to make a down payment. However, these types of loans were provided under the assumption that housing prices would continue to rise. Borrowers could easily refinance their homes or sell it at profit so that delinquency rates remained low. When in 2006, house price appreciation started to slowdown and interest rates began to raise many borrowers in the subprime market found it impossible to refinance on favorable terms and were unable to maintain their mortgage payments when their loans reset and as a result, default rates began to increase (Getter et.al, 2007).

The weaknesses in risk management and risk measurement. Another contributing factor according to Blommestein (2008), Borio (2008), the Financial Stability Forum (2008), the IIF (2008), the CRMPG (2008), and the Senior Supervisors Group (2008) is the weaknesses in the risk management and risk monitoring across financial institutions. According to many, the current crisis has emphasized once more the importance of adequate risk management and risk measurement. Financial institutions were affected by this crisis in numerous ways because for a small part they had actually invested in subprime market securities directly but more importantly they had provided backup credit lines for special purpose vehicles that held those securities. When some of them started to suffer from severe losses, financial institutions became very concerned about the liquidity and capital implications. Hence, adequate risk management and risk measurement of securitization business is important because it seeks to ensure the investor's ability to fund increases in assets and meet obligations as they come due. Typical financial features of risk management are maturity transformation, leveraging of balance sheets, and market-to-market valuations. The risk management by banks will need to be able to deal with complex interactions between changes in assets values, leverage, and liquidity risk. This requires the ability to draw information from various operations of the banks and assess the impact of external events by for example performing value-at risk analyses (VAR), stress tests, scenario analyses, and other risk measures. Most quantitative models are back-word looking which means that they analyze historical data. The historical data used was not suitable to respond to the market developments. Maintaining volumes and compensation for expected losses have been the main focus in the financial sector. However, the real threats and risk costs arose from the potential for unexpected losses arising from the combination of risk factors associated with subprime and other originate-and-distribute business models. According to the Basel Committee on Banking Supervision (2008) the risk measures had focused too much on firm-specific shocks instead of a combination of firm-specific and market-wide shocks. As a result, default risk, market risk and liquidity risk were underestimated and the nature, magnitude and duration of the current crisis across the global financial system were not fully anticipated by the financial sector. In addition, several financial institutions were not aware of the large exposures they had to their off-balance sheet assets simply due to the complexity of the securitized products, the inadequate internal communication and weak controls over the risks of the products.

THE ROLE OF RATING AGENCIES

A third factor, mentioned by Blommestein (2008), (Borio, 2008), the IIF (2008), and the Financial Stability Forum (2008) is the role of rating agencies and the extent to which they have misjudged the risk associated with subprime loans and the misunderstanding between investors and rating agencies due to unexpected rating agency downgrades. Investors started to lose faith in the ratings of these structured securities, which as a result raised concerns about the valuation of such securities. Questions were raised about the effectiveness of the methodologies used by the agencies to model the probability of default and the loss given default when the number of delinquencies, defaults and foreclosures rapidly increased. In 2007, many blamed rating agencies for failing to downgrade subprime securities in a timely manner. The crisis has showed that market participants and rating agencies underestimated the risk since there have been several examples were subprime securities were downgraded from triple A to junk. Furthermore, there was a misunderstanding between investors and ratings agencies about the scope of the ratings. Noyer (2008) mentioned two reasons for this misunderstanding. The first reason is the confusion about the actual scope of the ratings. Ratings agencies only estimate the credit risk, while many investors expected that the ratings would cover all the risks, especially liquidity risk. The other reason is concerned with the methodologies used by the agencies to model the ratings. Rating agencies have a long history of providing ratings for corporate bonds. However, this is not the case for structured products which is also mentioned by Aschcraft and Schermann (2007) where ratings for structured products rely heavily on the use of quantitative models, forecasts of economic conditions since structured products represent claims on cash flows from portfolio of underlying assets, whereas corporate debt ratings rely essentially on analyst judgments, and are based on neutral economic conditions and firm-specific risk characteristics. This means that the consequences of assigning ratings to a structured security and a corporate bond are not the same because their risk profiles differ significantly. The potential volatility for a structured security is far greater than for a corporate bond. In addition, just like the risk measurements of banks, the risk models of rating agencies did not include the so called tail-risk events (the risk of extreme events that can cause large losses). Furthermore, the securitization of nonconforming mortgage loans is a relatively recent innovation which means that there is a limited ability to measure historical performance to determine the correlation between credit scores of borrowers and the probability of their ability to meet cash commitments. Also, much of the subprime loans were originated without proper documentation. These factors adversely affected the ability of the rating agencies to make appropriate credit assessments (Kregel, 2008). Both the IIF (2008) and the Financial Stability Forum (2008) concluded in their reports that the rating agencies provided insufficient information about the assumptions, criteria and methodologies used for their models. Also, the models and methodologies used to establish the ratings contained several weaknesses and did not cover all the risks associated to the structured products. Finally, more attention should have been paid to the conflict of interests during the rating process.

The lack of transparency and disclosure. Another factor mentioned by Crouhy and Turnbull (2008), the IIF (2008), and the Financial Stability Forum (2008) is the lack of transparency and disclosure which affected many players in the financial markets since it worsened the uncertainty and damaged the confidence in the financial markets. For example, many investors were surprised by the magnitude of the sometimes excessive write-downs by financial institutions and the exposures of off-balance sheet assets to losses. Another example is the level and diversity of commitments by financial institutions. As a result of the severe competition, many banks offered to extend credit and liquidity to for example SIVs but the total magnitude of the commitments was often not fully disclosed in a timely manner. The IMF (2008) does also mention this in their Global Financial Stability Report in which they refer to the crisis of confidence that can easily emerge when losses are unknown and off-balance sheets commitments are not transparent. According to Crouhy and Turnbull (2008) the problem of the lack of transparency can be explained by a number of issues that are associated with the transparency in credit markets. The first issue is the complex nature of structured products. Many investors did not possess the required knowledge to fully understand the underlying assumptions used in their pricing or their behavior in difficult economic conditions and thus relied completely on the ratings of rating agencies. Second is the lack of transparency in the valuation of illiquid assets the third issue is the lack of transparency of the exposure of the subprime markets. Many investors were unable to obtain information about the types of assets within a vehicle, such as the percentage of CDOs, subprime or prime mortgages. The fourth issue is the lack of transparency in the total magnitude of the commitments a financial institution has given. For investors this is important to know because the fulfillment of the commitments can have a serious impact on the liquidity of the institution.

The creditworthiness of monocline insurers. Monocline insurance companies are service providers in the capital markets that guarantee the timely repayment of bond principal and interest when an issuer defaults. By providing credit enhancements to capital market transactions, they provide investors and issuers with financial security and liquidity. The two largest monoclines, MBIA endameba, were founded in the 1970s and provided insurance of municipal bonds and debts issued by hospitals and nonprofit groups. The total amount of outstanding papers insured by the monocline companies reached $3.3 trillion in 20064. In recent years, much of monoclines' growth has been unstructured products, such as ASBs and CDOs. According to the Association of Financial Guaranty Insurers (AFGI), prior to 2007, no member company has ever failed to fulfill its payment obligations to insured bond investors when due. However, the current market conditions have caused monocline insurers significant problems. When mortgage delinquencies rose, monolines started to suffer severe losses from insurance of structured products backed by mortgages. In November 2007, the monoline CIFG, which had exposure of approximately $ 6 billion to the US subprime market, received a $1.5billion injection from two French banks. The only single A-rated insurer, ACA, reported a loss of $1billion, it stock was delisted from the NYSE due to a low market price and a negative net worth, and in December ACA was downgraded to CCC by S&P. MBIA and AMBAC wrote assets down by a combined $8.5 billion in the third quarter of 2007. In the fourth quarter, MBIA added an additional$3.5 billion of write-downs on its credit derivatives portfolios and reported a loss of $2.3 billion. Serious concerns did arise about whether monoline insurers had sufficient resources to honor their commitments. As a result of the multiple downgrades and reported losses, credit agencies placed monoline insurers under review and concerns about the credit worthiness caused disruptions in the market. Investors lost confidence in the municipal bond market, the market was no longer willing to pay the traditional premium for monoline backed papers and in addition, structured credit issuance ceased (Crouhy and Turnbull, 2008).

The effects of the subprime mortgage crisis. Liquidity in the market for ABSs and CDOs backed by subprime mortgages has been evaporated which led to an overall liquidity crisis. Leading banks have suffered significant losses, consolidation has accelerated as large financial institutions have acquired subprime mortgage originators and servicers, and some even experienced bankruptcy. Furthermore, underwriting standards have significantly been tightened in the form of greater income, employment and asset verification, higher minimum credit scores, and the elimination of 100 percent financing. Also, the FED and the ECB have injected billions of dollars, to restore investors' confidence and to prevent the crisis to get further worsen. However, beside from these effects, the crisis also had an important impact on some other important aspects such as the valuation of securitized products and potential spillover effects.

The difficulty in valuation. Many price assumptions of instruments had to be re-evaluated because they were below their true values due to an increased level of uncertainty associated with the valuation. Because of the increased uncertainty in the financial markets caused by the credit crisis, lenders refused to extend credit causing liquidity and funding problems. The unwillingness of lenders and investors to provide funding resulted in a lack of liquidity and contributed to a decline in the fair value of financial instruments. As a result, the uncertainty in relation to the valuation of the securitized products backed by subprime mortgages increased as well. The level of defaults has, in many cases, exceeded the projections of the valuation model used to structure and assign ratings to securities backed by subprime mortgage loans. Investors have experienced severe price volatility as a result of the increased credit risk and the reduced liquidity in the market. Crouhy and Turnbull (2008) explain this uncertainty in valuation by the use of the fair value accounting framework from the Financial Accounting Standards Board (FASB) and the issues related to non-standard instruments. The fair value is defined by the framework as the amount for which an asset could be exchanged or a liability settled between knowledgeable, willing parties in an arm's length transaction. The framework uses three levels to classify the type of fair valuation employed. Level 1 applies to clear market prices, Level 2 applies to valuation using prices of related instrument and Level 3 applies to prices that cannot be observed. The institutions need to use a model approach to arrive at a fair value. Level 3 applies ton on-standard instrument that are illiquid when for example there is no market anymore and when no related observable market data are available. Model prices can cause great uncertainty when the use of parameters needed to model the prices becomes problematic as in the case of the current crisis. The International Financial Reporting Standards (IFRS) published by the International Accounting Standards Board (IASB) (2007) also provides a similar framework to determine the fair value. According to this framework, quoted prices in an active market provide the best evidence of fair value and must be used when available. In the absence of such quoted market prices, an entity uses evaluation technique to determine what the transaction price would have been on the measurement date in an arm's length transaction. For an active market to exist there needs to be readily available prices and regularly occurring transaction on an arm's length basis. Furthermore, in order to use a valuation technique, all current market conditions, including current credit spreads and the relative liquidity of the market, has to be included. The method must reflect how the market could be expected to price the instrument in the conditions that exist at the measurement date (Global Public Policy Committee, 2007). As a result, the market conditions, at the year-end of 2007, creating a liquidity and credit crisis, caused significant challenges for users, preparers and auditors of financial statements. Since an active market for ABSs and CDOs did not exist anymore, there was severe pressure on accounting institutions to develop more common guidelines for valuation and related disclosures, in particular for illiquid complex products, in order to review valuation, accounting and risk disclosure issues associated with structured products and certain financial derivatives (Center for Audit Quality, 2007).

Potential spillover effects. Almost 12 months after the financial turmoil started in the U.S. subprime mortgage market, the effects are far from over yet. While first the focus was on limiting the huge losses on exposures from the U.S. subprime mortgage market, concerns have shifted towards the risk that the crisis will affect the real economy. In April the IMF (2008) already in its Global Financial Stability Report published that several spillover effects might spread to credit markets and market participants. The first effect that is mentioned is that the looser credit standards may extend beyond the subprime sector. Subprime market allowed significant loose underwriting standards due to competitive pressure. The IMF warns that there is a risk that other high quality mortgage collateral may be subject to the same underwriting weaknesses. For example, observations shows that Alt-A mortgages have higher leverage ratios, lower credit scores, lower levels of documentation, more lax requirements for insurance, and other risk characteristics. The second effect is a starting deterioration for the wider market of structured products, particular ABS CDOs. Structured products with lower-rated tranches of subprime ABS forming 50 to 60 percent of the collateral are especially sensitive to deterioration in mortgage credit quality. A third potential effect is that other consumer credit markets, including credit-card backed ABS and CDO structured could experience significant losses. Due to the house price appreciation before 2005, homeowners were able to extract equity from their homes and pay down higher interest rate credit card and other debt. But when the house prices started to flatten in 2006, this became more difficult so that homeowners experienced more financial problems and delinquencies and foreclosures rose sharply.

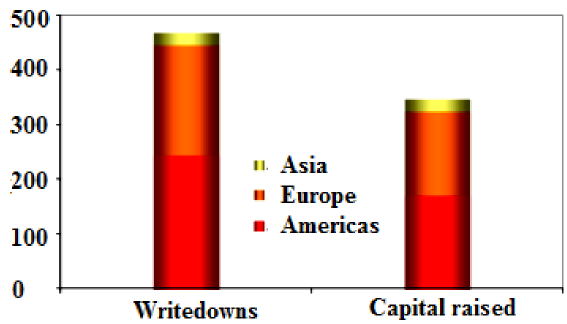


Figure 2.1 Potential spillover effects

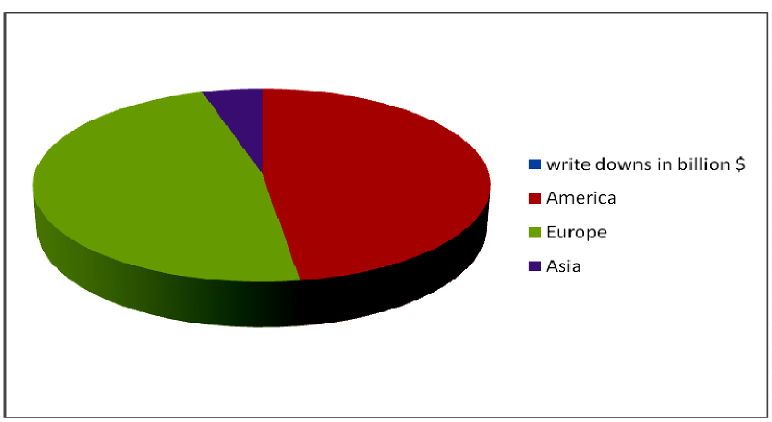
However, while the huge losses are widely acknowledged and financial institutions have succeeded to raise additional capital, new concerns emerged. In July, the IMF published a market update warning that the global financial markets continue to be fragile and that the policy trade-offs between inflation, growth and financial stability are becoming increasingly difficult. They identified several factors that could contribute to this threat.

1. The overall credit risk is still very high since delinquencies and foreclosures are still rising sharply as already mentioned in the report of April. Moreover, the third-largest collapse of Indy Mac, the concerns about the healthiness of Freddie and Fanny May, and the expectation that major banks such as Citigroup, Merrill Lynch and JPMorgan Chase will disclose billions of dollars of write-downs, quarterly losses and profit declines, causes the uncertainty about future losses to persist.

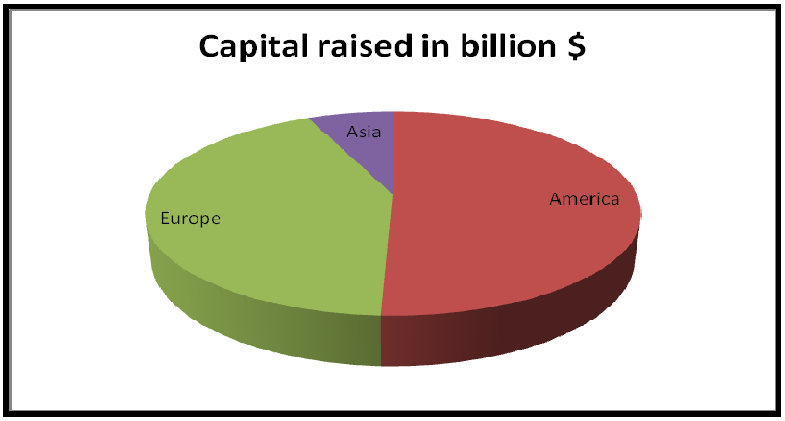
2. The banking sector is still under severe pressure due to for example a sharp decline in their share prices, high funding costs, limited liquidity, falling credit quality and a loss in confidence. Banks already succeeded to raise additional capital to limit their losses, however, as depicted in the figure below, their write downs still exceeds their losses. And because of the persistent problems on the financial markets, it becomes more difficult to raise additional capital.

Figure 2.2 Bank write downs and capital raised (in billions of U.S. dollars)

Write downs in billion $	
America	250
Europe	250
Asia	25



Capital raised in billion $	
America	190
Europe	160
Asia	25



Source: *IMF (2008). Global Financial Stability Report Market Update. Retrieved on August 11*

3. The tightening credit conditions as a result of the crisis makes it harder to obtain funds and credit, slowing the credit growth in for example the U.S. and Europe. In addition, the falling U.S. house prices are expected to continue and house prices in Europe flattened showing signals for potential risks in those markets. Also, aside from the new problems caused by the crisis, the latest forecasts for the world economy does not give any reason to be optimistic. According to the IFM the global growth will slow down from 5 percent in 2007 to 4.1 percent in 2008 and 3.9 percent in 2009 due to rising inflation, high energy, oil and food prices, a weak housing sector, a softening labor market and in addition instability in financial markets. In summary, the crisis seems far from over with the above prospects in mind.

Table 2.1 Overview of events related to the subprime crisis

Date	Event
8/02/2007	HSBC, an European bank and one of the largest mortgage lenders in the U.S., warns investors for the negative impact of bad loans from the American mortgage market
14/03/2007	New Century Financial Corp, one of the largest mortgage lenders in the U.S., is experiencing financial difficulties due to customer who are not able to repay their mortgage loans.
14/03/2007	Accredited Home Lenders, also one of the largest mortgage lenders is facing financial difficulties because they are unable to repay their creditors.
2/04/2007	New Century Financial announces bankruptcy.
14/06/2007	Bear Stearns published its Q2 results. Net profit decreases with 33 percent.
21/06/2007	Merrill Lynch seizes CDOs as collateral from two Bear Stearns' hedge funds totaling $800 million and seeks bids to sell them.
22/06/2007	Investors expect the two hedge funds of Bear Stearns to collapse
25/06/2007	Bear Stearns rescues one hedge fund with $3.2 billion bailout. However, the other goes bankrupt.
18/07/2007	Bear Stearns warns investors that there is little value left in the two hedge funds.
20/07/2007	FED warns that the crisis might cost up to $100 billion
24/07/2007	Troubles on subprime markets hits profit of Countrywide, the largest mortgage lender.
26/07/2007	Bear Stearns seized assets from one troubled hedge fund
30/07/2007	German bank IKB issues a profit warning as a result of exposures to the U.S.subprime crisis. IKB is taken over by a German state bank, KfW
1/08/2007	Standard and Poor's lists 10 CDOs for a potential downgrade

1/08/2007	Macquarie Bank of Australia announces to investors that they may lose 25 percent of their money in their funds.
1/08/2007	Bear Stearns stopped investors from pulling out money of a third failing fund and announced the bankruptcy of the two failing hedge funds
1/08/2007	American Home Mortgage Investment is unable to repay creditors and is experiencing financial difficulties
3/08/2007	American Home Mortgage Investment almost bankrupt.
3/08/2007	Standard & Poor considers to downgrade the credit rating of Bear Stearns
9/08/2007	BNP Paribas, the largest bank of France, is unable to value three investment funds worth €1.6 billion and freezes them.
9/08/2007	Amsterdam NIBC, a Dutch merchant bank, announces profit warning and disclosed €137 million of losses on ABS.
10/08/2007	Concerns about the impact of the credit crisis increases. Some large European banks such as Deutsche Bank, Commerz bank, Fortis and BNP Baripas provided credit lines to Home banc, an American mortgage lender. Home banc is in financial difficulties, having debt totaling $4.5 billion.
15/08/2007	KKR Financial Holdings announces losses up to $40 million and warns for further losses. In addition, KKR is unable to refinance mortgages
16/08/2007	Countrywide Financial, the largest U.S. mortgage lender, borrows $11.5 billion since it suffers from liquidity problems.
23/08/2007	Bank of American buys preferred stocks worth $2 billion from Countrywide Financial. This enables Countrywide to provide loans again.
31/08/2007	Barclays spends $1.6 billion to rescue a debt fund active in the U.S. subprime market
3/09/2007	German bank IKB announces an expected loss of €700 million for this year.
14/09/2007	The Bank of England provides emergency credit to Northern Rock, the largest mortgage bank in England. Northern Rock suffers liquidity problems due to the financial crisis.
17/09/2007	Deutsche Bank announces profit warning. Also, there are rumors about Northern Rock having financial difficulties.
28/09/2007	Rumors about Northern Rock borrowing another €7.1 billion from the Bank of England to avoid a bankruptcy.
1/10/2007	The large Suisse banks UBS and Credit Suisse, experience problems due to the subprime crisis and announce profit arnings. The impact resulted for UBS in its first quarterly negative result in nine years. In addition, total impairments amounted €2.4 billion.
1/10/2007	Citigroup announces profit warning for Q3 but expects better results in Q4.
5/10/2007	Merrill Lynch announces impairments totaling $4.5 billion and as a result negative results in Q3.
14/10/2007	A Dutch newspaper releases that U.S. banks such as Citigroup, Bank of America, and JPMorgan Chase, will cooperate together and start a fund of approximately €56 billion to help SIVs that face problems due to the subprime crisis.
15/10/2007	Citigroup announces a profit decline of 57 percent in Q3.
17/10/2007	AEGON press release: AEGON's US subprime portfolio experiences no Downgrades
17/10/2007	JPMorgan Chase reports Q3 results. Net profit is better than expected ($3.4 billion).
18/10/2007	Bank of America, the second largest bank of America, published its Q3 results. They were lower than expected.
19/10/2007	Lehman Brothers releases Q3 results. The net earnings are better than expected. However, Lehman Brothers impaired its portfolio with €501 million.

20/10/2007	Wachovia, the fourth bank of America reports an impairment of €900 million in the third quarter. Furthermore, the net profit decreases with 10 percent compared to Q2.
20/10/2007	Morgan Stanley reports Q3 results. Net profit declines with 17 percent, impairments totaled €670 million.
21/10/2007	American bank Bearn Stearns reports its Q3 results. Profits declined with 62 percent.
21/10/2007	Despite significant losses, Goldman Sachs achieved better results than expected (€2.03 billion).
21/10/2007	British banks Barclays and Royal bank of Scotland start a fund worth $30 billion to finance American customers who are in trouble due to the subprime crisis.
24/10/2007	Merrill Lynch reports Q3 results. It was the first negative result in 6 years (a net loss of $2.2 billion) due to impairments totaling $7.9 billion.
30/10/2007	USB announces profit warning
31/10/2007	31/10/2007 Deutsche bank reports Q3 results. Results are better than expected (net profit is€1.62 billion).
1/11/2007	Publication of report about Citigroup which reports that Citigroup probably needs $30 billion to solve financial problems.
1/11/2007	Credit Suisse reports Q3 results. The results are 31 percent lower compared to last year's Q3 results due to impairments on subprime assets.
2/11/2007	Rumors about Merrill Lynch attempting to delay losses from subprime crisis. Investors are worried about financial condition of bank.
5/11/2007	The American Citibank adjusts its Q3 earnings downwards and expects an additional impairment between $8 and $10 billion in Q4
7/11/2007	ING press release financial results Q3, negligible impact from liquidity crisis, no material impairments. Results are higher than expected.
8/11/2007	Fortis press release financial results Q3. A positive result of €798 million, no direct impact from US subprime crisis but results were lower than expected and ABM Amro results are not published.
8/11/2007	AEGON press release financial results Q3. AEGON experienced no impairments in its subprime investment holdings during the quarter
9/11/2007	Wachovia reports another impairment of $1,1 billion due to the financial crisis.
15/11/2007	Barclays announces impairments of €1,8 billion due to the credit crisis
19/11/2007	Swiss Re, the largest global reinsurer, announces impairments of €730 million due
19/11/2007	Citigroup announces potential additional impairment of $15 billion the next two quarters.
23/11/2007	Abu Dhabi Investment Authorities, a sovereign wealth fund, invests $7.5 billion in Citigroup to reduce their financial losses as a result of the subprime crisis.
27/11/2007	American bank Wells Fargo announces a $1.4 billion pretax charge due to increased losses on home equity loans.
29/11/2007	German newspaper publishes news that German bank Landes bank Baden Wurttemberg (LBBW) has to impair €800 million as a result of the credit crisis.
29/11/2007	ING shifts 2 of her investment funds worth €23.4 billion back onto her own balance sheet due to financial difficulties from the subprime crisis
6/12/2007	Royal Bank of Scotland upgrades profit expectations. The impairments due to the credit crisis are lower than expected.
10/12/2007	UBS announces additional impairments of €6.8 billion and profit warning.
13/12/2007	Bank of America, PNC Financial Services and Wachovia announce profit warnings

15/12/2007	Goldman Sachs exceeds earnings estimates and announced its annual and fourth quarter report. They are one of the few who benefits from the crisis, they reported an additional profit of €2.8 billion
16/12/2007	Citigroup moves to rescue seven funds in crisis
27/12/2007	Goldman Sachs' analyst predicts higher losses and more impairment for Citigroup Merrill Lynch and JP Morgan in the fourth quarter.
3/01/2008	Centro Properties, an Australian Company that is one of the largest owners of shopping malls in the U.S. is in financial troubles due to difficulties in obtaining credit.
9/01/2008	Rumor that Citigroup has to take $16 billion additional impairments in Q4.
11/01/2008	Countrywide Financial, the largest U.S. mortgage lender, will be taken over by Bank of America.
12/01/2008	Merrill Lynch expects a $15 billion write-down from soured mortgage investments.
15/01/2008	Hypo Real Estate, a German bank, surprised investors with the announcement of unexpected write-downs of €390 million due to the subprime crisis.
15/01/2008	Citigroup announces Q4 results. Citigroup suffers from the worst quarterly loss ever ($9.83 billion) due to the huge impairments of structured credit portfolios. The results were worse than expected.
16/01/2008	JPMorgan announces Q4 results. Profit decreases with 34 percent
16/01/2008	Wells Fargo announces Q4 results. Profit decreases with 38 percent
17/01/2008	AEGON closes British property fund due to shortage of liquidity
18/01/2008	Merrill Lynch announces Q4 results. Quarterly loss totaled $9.38 billion and is three times worse than expected.
18/01/2008	Financial products from ABN Amro are downgraded by Moody's
19/01/2008	Two large insurance companies, or the so called monolines, Ambac and MBIA suffer from weaker financial conditions
21/01/2008	Ambac is downgraded from triple A to AA by Fitch. Moody's and S&P will probably follow soon.
21/01/2008	Another German bank, West LB is in financial difficulties and reports a loss of €1 billion.
23/01/2008	Ambac is for sale due to losses from the crisis.
23/01/2008	Bank of America and Wachovia announces huge impairments which causes their profits to evaporate.
27/01/2008	Fortis announces profit warning
30/01/2008	UBS announces profit warning
5/02/2008	Euro American Investors is not able to repay its creditors as a result of declining sales caused by the problem in the U.S.
7/02/2008	Euro American Investors, a large real estate finance company, is bankrupt
11/02/2008	Again, IKB suffers from financial difficulties
12/02/2008	American International Group, the largest global insurer, reports a loss four times bigger than expected
12/02/2008	Credit Suisse reports Q4 results. Investors reacted positively
15/02/2008	UBS reports Q4 results. Results were worse than expected (a loss of €7.5 billion).

20/02/2008	Credit Suisse shocks investors by announcing additional impairments of $2.85 billion on credit portfolios a week after Q4 results.
20/02/2008	ING press release financial results Q4. Negative revaluations of €751 million before tax on subprime and Alt-A RMBS and CDOs. But profits are better than expected.
28/02/2008	ABN Amro suffers from larger losses than expected. In 2007 it experienced a total loss of €1.56 billion and in the last quarter an additional impairment amounted for €900 million.
29/02/2008	Swiss Re, the largest global reinsurer, reported better results than expected (a profit of €2.6 billion). No significant impact from crisis.
6/03/2008	AEGON press release financial results Q4. Impairments on their subprime portfolio totaled €17 million. Investors were pessimistic.
7/03/2008	Fortis press release financial results Q4. The US subprime crisis negatively impacted the financial results. This resulted in impairments of €2.4 billion. This had an impact of € 0.9 billion on net profit.
13/03/2008	American GMAC Rescap, an originator of mortgage loan, is forced to stop providing mortgage loans in the Netherlands immediately now that the liquidity in the credit market has dried up. Rescap is unable to securitize the originated loans
14/03/2008	Bear Stearns is having financial difficulties and is rescues by an emergency loan from the FED.
17/03/2008	Bear Stearns, one of the five largest banks of America, is sold to JP Morgan for an amount of $200 million dollar. A year ago, the fair value of Bear Stearns was $20 billion.
18/03/2008	Lehman Brothers and Goldman Sachs report Q1 results. They are better than expected.
19/03/2008	Morgan Stanley reports Q1 results. The profit decreased but was better than expected.
1/04/2008	UBS announces additional impairment of $19 billion related to the U.S. real estate market
1/04/2008	UBS and Deutsche Bank announce massive impairments topping a combined $23 billion. Investors react moderately positive.
3/04/2008	Bayern LB, a public German bank, announces impairment of €4.3 billion related to the credit crisis
11/04/2008	GE reports unexpected profit drop due to U.S. economy and credit crisis.
14/04/2008	Wachovia reports unexpected credit loss
15/04/2008	Bear Stearns' profit nearly evaporates
16/04/2008	JPMorgan reports profit decline of 50 percent but beats expectations
16/04/2008	Wells Fargo reports profit decline of only 11 percent. Investors react moderately positively.
17/04/2008	Merrill Lynch announces Q1 results: a loss of $1.96 billion and impairments of $6.6 billion
18/04/2008	Citigroup reports loss of $5.1 billion. Investors are optimistic
18/04/2008	RBS is planning to raise cash from its shareholders due to a shortage of liquidity in the market.
21/04/2008	Bank of America reports profit decline of 77 percent
21/04/2008	National City, a major regional bank in the U.S., reports profit decline of 27 percent.
24/04/2008	Ambac reports Q1 results. A loss of $1.66 billion, more than investors expected.
24/04/2008	Credit Suisse reports first quarterly loss of $2.1 billion. Results were worse than expected but investor expects the write-downs to be higher than necessary.
29/04/2008	Deutsche bank and IKB report losses. Deutsche bank announces impairment of $4 billion.

6/05/2008	Swiss Re reports profit decline of 53 percent as a result of impairments due to the credit crisis. The net profit was €382 million while investors expected a higher profit.
6/05/2008	Wachovia reports unexpected loss $708 million instead of $393 million over the first quarter
6/05/2008	Fannie Mae announces loss of $2.5 billion, a dividend cut and profit warnings for the coming quarters.
7/05/2008	Commerzbank announced profit decline of 54 percent. The profit was lower than expected (€280 million).
8/05/2008	AEGON press release financial results Q1. Profit is €153 million while investors expected a profit of €437 million.
9/05/2008	American insurer AIG publishes unexpected large losses in Q1 ($7.8 billion).
9/05/2008	Citigroup plans to shed $400 billion of assets within three years.
13/05/08	Fortis press release financial results Q1. The impact of the crisis resulted in a total of €380 million of impairments of their CDO portfolio. Profit was lower than expected.
14/05/2008	ING press release. The downturn in the financial market led to a %15,2 decline in earnings. However, impairments on assets due to the crisis remained limited to €55 million after tax. Investors were optimistic.
14/05/2008	BNP Par bias reports better results than expected, a net profit of €1.96 billion.
15/05/2008	Barclays announces large impairment of €1.2 billion due to the subprime crisis. This is received as good news since investors hope that the worst is over
2/06/2008	Bradford & Bingley, a British lender specialized in riskier loans, issues profit warning and reduces price of an emergency share sale. Investors saw this as a signal for further difficulties in the British banking system.
4/06/2008	JPMorgan Chase issues report which states that European bank are likely to make additional impairments of €9.5 billion in 2008.
6/06/2008	Moody's and Standard & Poor's publish report about creditworthiness of Ambac and MBIA. They may be downgraded from triple A to double A which, according to analysts, might be crucial for both of them. Together they guarantee for more than
	$1000 billion in debt.
10/06/2008	Lehman Brother announces unexpected large loss of $2.8 billion due to the subprime crisis.
17/06/2008	Goldman Sachs releases Q2 results. Profit declines with 11 percent but better than expected.
18/06/2008	Goldman Sachs warns that the financial sector needs to raise additional capital of $65 billion in order to cope with the credit losses.
18/06/2008	Morgan Stanley issues Q2 results. Profit declines with 50 percent due to the subprime crisis.
19/06/2008	British bank HBOS expects impairments of €1.26 billion due to the subprime crisis.
19/06/2008	Rabo bank expects to experience losses from impairments of structured credit portfolios in Q2.
26/06/2008	Goldman Sachs issues report about Citigroup. According to the report, they have to take additional impairments of $8.9 billion due to the subprime crisis.
26/06/2008	Fortis releases drastic measures to raise capital worth €8 billion due to the current economic circumstances. They will issue shares, sell non-core operations, suspend cash dividends and sell real-estate.

To investigate whether the announcements of financial news related to the subprime crisis does affect the returns of financial and non-financial institutions; an event study can be used. The objective of an event study is to assess whether there are any abnormal or excess returns earned by security holders accompanying specific events (Peterson, 1989). Therefore, this methodology will be used to measure the effect of announcements related to the subprime mortgage crisis.

CHAPTER-3

HISTORICAL EVALUATION OF INDIAN BANKING SYSTEM

BANKING SECTOR IN INDIA POST-INDEPENDENCE

The partition of India in 1947 adversely impacted the economies of Punjab and West Bengal, paralyzing banking activities for months. India's independence marked the end of a regime of the Laissez-faire for the Indian banking. The Government of India initiated measures to play an active role in the economic life of the nation, and the Industrial Policy Resolution adopted by the government in 1948 envisaged a mixed economy. This resulted into greater involvement of the state in different segments of the economy including banking and finance. The major steps to regulate banking included:

1. The Reserve Bank of India, India's central banking authority, was nationalized on January 1, 1949 under the terms of the Reserve Bank of India (Transfer to Public Ownership) Act, 1948 (RBI, 2005b).
2. In 1949, the Banking Regulation Act was enacted which empowered the Reserve Bank of India (RBI) "to regulate, control, and inspect the banks in India."
3. The Banking Regulation Act also provided that no new bank or branch of an existing bank could be opened without a license from the RBI, and no two banks could have common directors.

Despite the provisions, control and regulations of Reserve Bank of India, banks in India except the State Bank of India or SBI, continued to be owned and operated by private persons. By the 1960s, the Indian banking industry had become an important tool to facilitate the development of the Indian economy. At the same time, it had emerged as a large employer, and a debate had ensued about the nationalization of the banking industry. Indira Gandhi, then Prime Minister of India, expressed the intention of the Government of India in the annual conference of the All India Congress Meeting in a paper entitled *"Stray thoughts on Bank Nationalization."* The meeting received the paper with enthusiasm. Thereafter, her move was swift and sudden. The Government of India issued an ordinance and nationalized the 14 largest commercial banks with effect from the midnight of July 19, 1969. Jayaprakash Narayan, a national leader of India, described the step as a *"masterstroke of political sagacity."* Within two weeks of the issue of the ordinance, the Parliament passed the Banking Companies (Acquisition and Transfer of Undertaking) Bill, and it received the presidential approval on 9 August 1969.

FINANCIAL STRUCTURE

The Indian financial system comprises the following institutions:

1. Commercial banks

a. Public sector

b. Private sector

c. Foreign banks

d. Cooperative institutions

(i) Urban cooperative banks

(ii) State cooperative banks

(iii) Central cooperative banks

2. Financial institutions

a. All-India financial institutions (AIFIs)

b. State financial corporation's (SFCs)

c. State industrial development corporations (SIDCs)

3. Nonbanking financial companies (NBFCs)

4. Capital market intermediaries

About 92 percent of the country's banking segment is under State control while the balance comprises private sector and foreign banks. The public sector commercial banks are divided into three categories.

State bank group (eight banks): This consists of the State Bank of India (SBI) and Associate Banks of SBI. The Reserve Bank of India (RBI) owns the majority share of SBI and some Associate Banks ofSBI.1 SBI has 13 head offices governed each by a board of directors under the supervision of a central board. The boards of directors and their committees hold monthly meetings while the executive committee of each central board meets every week.

Nationalized banks (19 banks): In 1969, the Government arranged the nationalization of 14 scheduled commercial banks in order to expand the branch network, followed by six more in 1980. A merger reduced the number from 20 to 19. Nationalized banks are wholly owned by the Government, although some of them have made public issues. In contrast to the state bank group, nationalized banks are centrally governed, i.e., by their respective head offices. Thus, there is only one board for each nationalized bank and meetings are less frequent (generally, once a month).The state bank group and nationalized banks are together referred to as the public sector banks (PSBs). Issues and post-issue.

A second dose of nationalization of 6 more commercial banks followed in 1980. The stated reason for the nationalization was to give the government more control of credit delivery. With the second dose of nationalization, the Government of India controlled around 91% of the banking business of India. Later on, in the year 1993, the government merged New Bank of India with Punjab National Bank. It was the only merger between nationalized banks and resulted in the reduction of the number of nationalized banks from 20 to 19. After this, until the 1990s, the nationalized banks grew at a pace of around 4%, closer to the average growth rate of the Indian economy.

Regional Rural Banks (RRBs): In 1975, the state bank group and nationalized banks were required to sponsor and set up RRBs in partnership with individual states to provide low-cost financing and credit facilities to the rural masses.

More than 40,000 NBFCs exist, 10,000 of which had deposits totaling Rs1,539 billion as of March 1996. After public frauds and failure of some NBFCs, RBI's supervisory power over these high-growth and high-risk companies was vastly strengthened in January 1997. RBI has imposed compulsory registration and maintenance of a specified percentage of liquid reserves on all NBFCs. Reserve Bank of India and Banking and Financial Institutions RBI is the banker to banks—whether commercial, cooperative, or rural. The relationship is established once the name of a bank is included in the Second

Schedule to the Reserve Bank of India Act, 1934. Such bank, called a scheduled bank, is entitled to facilities of refinance from RBI, subject to fulfillment of the following conditions laid down in Section 42 (6) of the Act, as follows:

1. it must have paid-up capital and reserves of an aggregate value of not less than an amount specified from time to time; and
2. it must satisfy RBI that its affairs are not being conducted in a manner detrimental to the interests of its depositors.

The classification of commercial banks into scheduled and nonscheduled categories that was introduced at the time of establishment of RBI in 1935 has been extended during the last two or three decades to include state cooperative banks, primary urban cooperative banks, and RRBs. RBI is authorized to exclude the name of any bank from the Second Schedule if the bank, having been given suitable opportunity to increase the value of paid-up capital and improve deficiencies, goes into liquidation or ceases to carry on banking activities. A system of local area banks announced by the Government in power until 1997 has not yet taken root. RBI has given in principle clearance to five applicants.

Specialized development financial institutions (DFIs) were established to resolve market failures in developing economies and shortage of long-term investments. The first DFI to be established was the Industrial Finance Corporation of India (IFCI) in 1948, and was followed by SFCs at state level set up under a special statute. In 1955, Industrial Credit and Investment Corporation of India (ICICI) were set up in the private sector with foreign equity participation. This was followed in 1964 by Industrial Development Bank of India (IDBI) set up as a subsidiary of RBI. The same year saw the founding of the first mutual fund in the country, the Unit Trust of India (UTI).

A wide variety of financial institutions (FIs) has been established. Examples include the National Bank for Agriculture and Rural Development (NABARD), Export Import Bank of India (EXIM Bank), National Housing Bank (NHB), and Small Industries Development Bank of India (SIDBI), which serve as apex banks in their specified areas of responsibility and concern. The three institutions that dominate the term-lending market in providing financial assistance to the corporate sector are IDBI, IFCI, and ICICI. The Government owns insurance companies, including Life Insurance Corporation of India (LIC) and General Insurance Corporation (GIC). Subsidiaries of GIC also provide substantial equity and loan assistance to the industrial sector, while UTI, though a mutual fund, conducts similar operations. RBI also set up in April 1988 the Discount and Finance House of India Ltd. (DFHI) in partnership with SBI and other banks to deal with money market instruments and to provide liquidity to money markets by creating a secondary market for each instrument. Major shares of DFHI are held by SBI. Liberalization of economic policy since 1991 has highlighted the urgent need to improve infrastructure in order to provide services of international standards. Infrastructure is woefully inadequate for the efficient handling of the foreign trade sector, power generation, communication, etc. For meeting specialized financing needs, the Infrastructure Development Finance Company Ltd. (IDFC) was set up in 1997. To nurture growth of private capital flows, IDFC will seek to unbundle and mitigate the risks that investors face in infrastructure and to create an efficient financial structure at institutional and project levels. IDFC will work on commercial orientation, innovations in financial products, rationalizing the legal and regular framework, creation of a long-term debt market, and best global practices on governance and risk management in infrastructure projects.

NBFCs undertake a wide spectrum of activities ranging from hire purchase and leasing to pure investments. More than 10,000 reporting NBFCs (out of more than 40,000 NBFCs operating) had deposits of Rs1, 539 billion in 1995/96. RBI initially limited their powers, aiming to moderate deposit mobilization in order to provide depositors with indirect protection. It regulated the NBFCs under the provisions of Chapter IIIB of the RBI Act of 1963, which were confined solely to deposit acceptance activities of NBFCs and did not cover their functional diversity and expanding intermediation. This rendered the regulatory framework inadequate to control NBFCs. The RBI Working Group on Financial Companies recommended vesting RBI with more powers for more effective regulation of NBFCs. A system of registration was introduced in April 1993 for NBFCs with net owned funds (NOF) of Rs5 million or above. Magnitude and Complexity of the Banking Sector

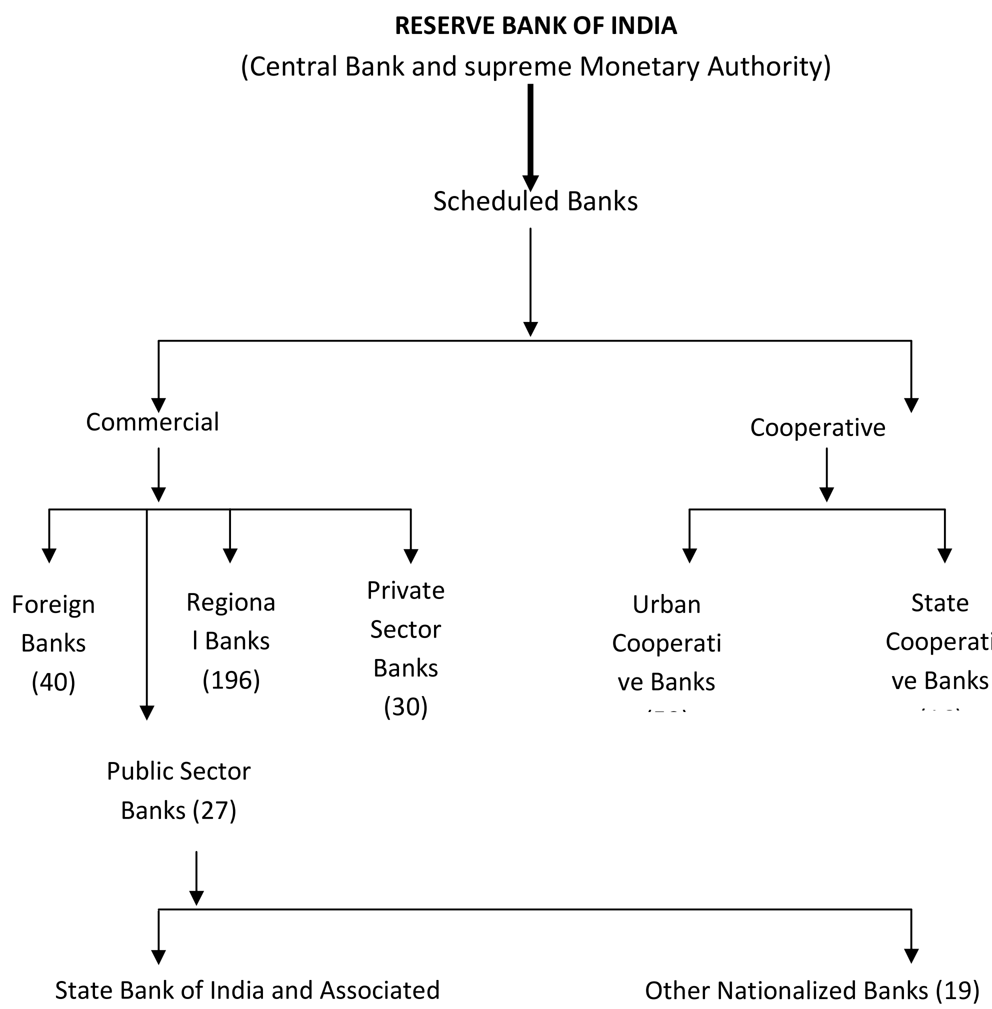


Figure 3.1 The magnitude and complexity of the Indian banking

Indian banking sector can be understood better by looking at some basic banking data. Following table shows classification of banks based on working capital. In terms of growth, the number of commercial bank branches rose eightfold from 8,262 in June 1969 (at the time of nationalization of 14 banks) to 64,239 in June 1998. The average population per bank branch dropped from 64,000 in June 1969 to 15,000 in June 1997, although in many of the rural centers (such as in hill districts of the North), this ratio was only 6,000 people per branch. This was achieved through the establishment of 46,675 branches in rural and semi-urban areas, accounting for 73.5 percent of the network of branches. As of March 1998, deposits of the banking system stood at Rs. 6,013.48 billion and net bank credit at Rs. 3,218.13 billion. The number of deposit accounts stood at 380 million and the number of borrowing accounts at 58.10 million. Tables 5, 6, and 7 reflect the diversification of branch network attained by commercial banks, the regional balance observed since nationalization, and stagnation in branch expansion in the post-reform period. There has been a net decline in the number of rural branches and a marginal rise in the number of semi-urban branches. The outreach of cooperative banks and RSBs is shown in Table 8. In an effort to increase the flow of funds through cooperative banks, the resources of the main refinancing agency, NABARD, were boosted substantially through deposits under the Rural Infrastructure Development Fund placed by commercial banks, as well as through the improvement of NABARD's capital base and increase in the general line of credit by RBI. The functioning of cooperative banking institutions did not show much improvement during 1996/97 and 1997/98. With deposits and credit indicating general deceleration, the overdue position of these institutions remained more or less stagnant. However, cooperative banks emulated the changing structure and practices of the commercial banking sector in revamping their internal systems, ensuring in the process timely completion of audit and upgrading of their financial architecture. In various regions, there is a differing pattern of cooperative banking, determined according to the strength of the cooperative movement. Some cooperatives such as those in the dairy and sugar sectors are as big as corporate entities. In fact, dairy cooperatives compete with multinational corporations such as Nestlé.

Table 3.1 Classification of Banks Based on Working capital

Classification	**Working Funds (Rs billion)**
Small	Up to 50
Medium	50–100
Large	100–250
Very Large	250–500
Exceptionally Large	Above 500

Source: Reserve Bank of India

There is also a category in the cooperative sector called primary (urban) cooperative banks (PCBs). As of March 1998, there are 1,416 reporting PCBs catering primarily to the needs of lower- and middle income groups. These are mainly commercial in character and located mostly in urban areas. Some have become a competitive force with notably big branch network and high growths recorded. As of 1998, PCBs have deposits of Rs384.72 billion and advances of Rs264.55 billion, the gross NPA ratio of PCBs.

The advances of PCBs fall in the majority of categories of priority sectors prescribed for PSBs and their recovery performance is better than that of PSBs.

The cooperative banks also perform basic functions of banking but differ from commercial banks in the following respects:

- commercial banks are joint-stock companies under the Companies Act of 1956, or public sector banks under a separate Act of the Parliament. Cooperative banks were established under the Cooperative Societies Acts of different states;
- cooperative banks have a three-tier setup, with state cooperative bank at the apex, central/district cooperative banks at district level, and primary cooperative societies at rural level;
- Only some of the sections of the Banking Regulation Act of 1949 (fully applicable to commercial banks), are applicable to cooperative banks, resulting in only partial control by RBI of cooperative banks; and
- Cooperative banks function on the principle of cooperation and not entirely on commercial parameters.

LIBERALIZATION

In the early 1990s, the then Narsimha Rao government embarked on a policy of liberalization, licensing a small number of private banks. These came to be known as *New Generation tech-savvy banks*, and included Global Trust Bank (the first of such new generation banks to be set up), which later amalgamated with Oriental Bank of Commerce, Axis Bank(earlier as UTI Bank), ICICI Bank and HDFC Bank. This move, along with the rapid growth in the economy of India, revitalized the banking sector in India, which has seen rapid growth with strong contribution from all the three sectors of banks, namely, government banks, private banks and foreign banks.

The next stage for the Indian banking has been set up with the proposed relaxation in the norms for Foreign Direct Investment, where all Foreign Investors in banks may be given voting rights which could exceed the present cap of 10% at present it has gone up to 74% with some restrictions. The new policy shook the Banking sector in India completely. Bankers, till this time, were used to the 4-6-4 method (Borrow at 4%, Lend at 6% & Go home at 4) of functioning. The new wave ushered in a modern outlook and tech-savvy methods of working for traditional banks. All this led to the retail boom in India. People not just demanded more from their banks but also received more.

Currently banking in India is generally fairly mature in terms of supply, product range and reach-even though reach in rural India still remains a challenge for the private sector and foreign banks. In terms of quality of assets and capital adequacy, Indian banks are considered to have clean, strong and transparent balance sheets relative to other banks in comparable economies in its region. The Reserve Bank of India is an autonomous body, with minimal pressure from the government. The stated policy of the Bank on the Indian Rupee is to manage volatility but without any fixed exchange rate-and this has mostly been true. With the growth in the Indian economy expected to be strong for quite some time-especially in its services sector-the demand for banking services, especially retail banking, mortgages and investment services are expected to be strong. One may also expect Merger & Acquisitions, takeovers, and asset sales.

In March 2006, the Reserve Bank of India allowed Warburg Pincus to increase its stake in Kotak Mahindra Bank (a private sector bank) to 10%. This is the first time an investor has been allowed to hold more than 5% in a private sector bank since the RBI announced norms in 2005 that any stake exceeding 5% in the private sector banks would need to be vetted by them.

In recent years critics have charged that the non-government owned banks are too aggressive in their loan recovery efforts in connection with housing, vehicle and personal loans. There are press reports that the banks' loan recovery efforts have driven defaulting borrowers to suicide.

The Indian Banking industry, which is governed by the Banking Regulation Act of India, 1949 can be broadly classified into two major categories, non-scheduled banks and scheduled banks. Scheduled banks comprise commercial banks and the co-operative banks. In terms of ownership, commercial banks can be further grouped into nationalized banks, the State Bank of India and its group banks, regional rural banks and private sector banks (the old/ new domestic and foreign). These banks have over 67,000 branches spread across the country.

The first phase of financial reforms resulted in the nationalization of 14 major banks in 1969 and resulted in a shift from Class banking to Mass banking. This in turn resulted in a significant growth in the geographical coverage of banks. Every bank had to earmark a minimum percentage of their loan portfolio to sectors identified as "priority sectors". The manufacturing sector also grew during the 1970s in protected environs and the banking sector was a critical source. The next wave of reforms saw the nationalization of 6 more commercial banks in 1980. Since then the number of scheduled commercial banks increased four-fold and the number of bank branches increased eight-fold. After the second phase of financial sector reforms and liberalization of the sector in the early nineties, the Public Sector Banks (PSB) s found it extremely difficult to compete with the new private sector banks and the foreign banks. The new private sector banks first made their appearance after the guidelines permitting them were issued in January 1993. Eight new private sector banks are presently in operation. These banks due to their late start have access to state-of-the-art technology, which in turn helps them to save on manpower costs and provide better services.

During the year 2000, the State Bank of India (SBI) and its 7 associates accounted for a 25 percent share in deposits and 28.1 percent share in credit. The 20 nationalized banks accounted for 53.2 percent of the deposits and 47.5 percent of credit during the same period. The share of foreign banks (numbering 42), regional rural banks and other scheduled commercial banks accounted for 5.7 percent, 3.9 percent and 12.2 percent respectively in deposits and 8.41 percent, 3.14 percent and 12.85 percent respectively in credit during the year 2000.

CURRENT SCENARIO

The industry is currently in a transition phase. On the one hand, the PSBs, which are the mainstay of the Indian Banking system, are in the process of shedding their flab in terms of excessive manpower, excessive non-Performing Assets (NPAs) and excessive governmental equity, while on the other hand the private sector banks are consolidating themselves through mergers and acquisitions.

PSBs, which currently account for more than 78 percent of total banking industry assets are saddled with NPAs (a mind-boggling Rs 830 billion in 2000), falling revenues from traditional sources, lack of modern technology and a massive workforce while the new private sector banks are forging ahead and rewriting the traditional banking business model by way of their sheer innovation and service. The PSBs are of course currently working out challenging strategies even as 20 percent of their massive employee strength has dwindled in the wake of the successful Voluntary Retirement Schemes (VRS) schemes.

The private players however cannot match the PSB's great reach, great size and access to low cost deposits. Therefore one of the means for them to combat the PSBs has been through the merger and acquisition (M& A) route. Over the last two years, the industry has witnessed several such instances. For instance, HDFC Bank's merger with Times Bank ICICI Bank's acquisition of ITC Classic, Anagram Finance and Bank of Madura. Centurion Bank, Indusind Bank, Bank of Punjab, Vysya Bank are said to be on the lookout. The UTI bank-Global Trust Bank merger however opened a Pandora's box and brought about the realization that all was not well in the functioning of many of the private sector banks.

Private sector Banks have pioneered internet banking, phone banking, anywhere banking, and mobile banking, debit cards, Automatic Teller Machines (ATMs) and combined various other services and integrated them into the mainstream banking arena, while the PSBs are still grappling with disgruntled employees in the aftermath of successful VRS schemes. Also, following India's commitment to the WTO agreement in respect of the services sector, foreign banks, including both new and the existing ones, have been permitted to open up to 12 branches a year with effect from 1998-99 as against the earlier stipulation of 8 branches. Talks of government about diluting their equity from 51 percent to 33 percent in November 2000 have also opened up a new opportunity for the takeover of even the PSBs. The FDI rules being more rationalized in Q1FY02 may also pave the way for foreign banks taking the M& A route to acquire willing Indian partners.

Meanwhile the economic and corporate sector slowdown has led to an increasing number of banks focusing on the retail segment. Many of them are also entering the new vistas of Insurance. Banks with their phenomenal reach and a regular interface with the retail investor are the best placed to enter into the insurance sector. Banks in India have been allowed to provide fee-based insurance services without risk participation invest in an insurance company for providing infrastructure and services support and set up of a separate joint-venture insurance company with risk participation.

AGGREGATE PERFORMANCE OF THE BANKING INDUSTRY

Aggregate deposits of scheduled commercial banks increased at a compounded annual average growth rate (CAGR) of 17.8 percent during 1969-99, while bank credit expanded at a CAGR of 16.3 percent per annum. Banks' investments in government and other approved securities recorded a CAGR of 18.8 percent per annum during the same period.

In FY01 the economic slowdown resulted in a Gross Domestic Product (GDP) growth of only 6.0 percent as against the previous year's 6.4 percent. The WPI Index (a measure of inflation) increased by 7.1 percent as against 3.3 percent in FY00. Similarly, money supply (M3) grew by around 16.2 percent as against 14.6 percent a year ago. The growth in aggregate deposits of the scheduled commercial banks at 15.4 percent in FY01 percent was lower than that of 19.3 percent in the previous year, while the growth in credit by SCBs slowed down to 15.6 percent in FY01 against 23 percent a year ago. The industrial slowdown also affected the earnings of listed banks. The net profits of 20 listed banks dropped by 34.43 percent in the quarter ended March 2001. Net profits grew by 40.75 percent in the first quarter of 2000-2001, but dropped to 4.56 percent in the fourth quarter of 2000-2001.

On the Capital Adequacy Ratio (CAR) front while most banks managed to fulfill the norms, it was a feat achieved with its own share of difficulties. The CAR, which at present is 9.0 percent, is likely to be hiked to 12.0 percent by the year 2004 based on the Basle Committee recommendations. Any bank that wishes to grow its assets needs to also shore up its capital at the same time so that its capital as a percentage of the risk-weighted assets is maintained at the stipulated rate. While the IPO route was a much-fancied one in the early '90s, the current scenario doesn't look too attractive for bank majors.

Consequently, banks have been forced to explore other avenues to shore up their capital base. While some are wooing foreign partners to add to the capital others are employing the M& A route. Many are also going in for right issues at prices considerably lower than the market prices to woo the investors.

INTEREST RATE SCENE

The two years, post the East Asian crises in 1997-98 saw a climb in the global interest rates. It was only in the latter half of FY01 that the US Fed cut interest rates. India has however remained more or less insulated. The past 2 years in our country was characterized by a mounting intention of the Reserve Bank of India (RBI) to steadily reduce interest rates resulting in a narrowing differential between global and domestic rates.

The RBI has been affecting bank rate and CRR cuts at regular intervals to improve liquidity and reduce rates. The only exception was in July 2000 when the RBI increased the Cash Reserve Ratio (CRR) to stem the fall in the rupee against the dollar. The steady fall in the interest rates resulted in squeezed margins for the banks in general.

GOVERNMENTAL POLICY

After the first phase and second phase of financial reforms, in the 1980s commercial banks began to function in a highly regulated environment, with administered interest rate structure, quantitative restrictions on credit flows, high reserve requirements and reservation of a significant proportion of lendable resources for the priority and the government sectors. The restrictive regulatory norms led to the credit rationing for the private sector and the interest rate controls led to the unproductive use of credit and low levels of investment and growth. The resultant 'financial repression' led to decline in productivity and efficiency and erosion of profitability of the banking sector in general.

This was when the need to develop a sound commercial banking system was felt. This was worked out mainly with the help of the recommendations of the Committee on the Financial System (Chairman: Shri M. Narasimham), 1991. The resultant financial sector reforms called for interest rate flexibility for banks, reduction in reserve requirements, and a number of structural measures. Interest rates have thus been steadily deregulated in the past few years with banks being free to fix their Prime Lending Rates (PLRs) and deposit rates for most banking products. Credit market reforms included introduction of new instruments of credit, changes in the credit delivery system and integration of functional roles of diverse players, such as, banks, Financial Institutions and Non-Banking Financial Companies (NBFCS). Domestic Private Sector Banks were allowed to be set up, PSBs were allowed to access the markets to shore up their CARs.

IMPLICATIONS OF SOME RECENT POLICY MEASURES

The allowing of PSBs to shed manpower and dilution of equity were the moves that lend greater autonomy to the industry. In order to lend more depth to the capital markets the RBI had in November 2000 also changed the capital market exposure norms from 5% of bank's incremental deposits of the previous year to 5% of the bank's total domestic credit in the previous year. But this move did not have the desired effect, as in, while most banks kept away almost completely from the capital markets, a few private sector banks went overboard and exceeded limits and indulged in dubious stock market deals. The chances of seeing banks making a comeback to the stock markets were therefore quite unlikely in the near future.

The move to increase Foreign Direct Investment FDI limits to 49 percent from 20 percent during the first quarter of this fiscal came as a welcome announcement to foreign players wanting to get a foot hold in the Indian Markets by investing in willing Indian partners who starved of net worth to meet CAR norms. Ceiling for FII investment in companies was also increased from 24.0% to 49.0% and have been included within the ambit of FDI investment.

The abolishment of interest tax of 2.0% in budget 2001-02 helped banks pass on the benefit to the borrowers on new loans leading to reduced costs and easier lending rates. Banks will also benefit on the existing loans wherever the interest tax cost element has already been built into the terms of the loan. The reduction of interest rates on various small savings schemes from 11% to 9.5% in Budget 2001-02 was a much awaited move for the banking industry and in keeping with the reducing interest rate scenario; however the small investor is not very happy with the move.

Some of the not so good measures however like reducing the limit for tax deducted at source (TDS) on interest income from deposits to Rs 2,500 from the earlier level of Rs 10,000, in Budget 2001-02, had met with disapproval from the banking fraternity who feared that the move would prove counterproductive and lead to increased fragmentation of deposits, increased volumes and transaction costs. The limit was thankfully partially restored to Rs 5000 at the time of passing the Finance Bill in the Parliament.

CREDIT POLICY IMPLICATIONS (APRIL 2001)

The rationalization of export credit norms were bestowing greater operational flexibility on banks, and also reduced the borrowing costs for exporters. Thus this triggered exports growth. Banks can also hope to earn increased revenue with the interest paid by RBI on CRR balances being increased from 4.0% to 6.0%. The stock market scam brought out the unholy nexus between the Cooperative banks and stockbrokers. In order to usher in greater prudence in their operations, the RBI has barred Urban Cooperative Banks from financing the stock market operations and was also in the process of setting up of a new apex supervisory body for them. Meanwhile the foreign banks have a bone to pick with the RBI. The RBI had announced that FOREX loans are not to be calculated as a part of Tier-1 Capital for drawing up exposure limits to company's w.e.f. 1 April 2002. This has forced foreign banks either to infuse fresh capital to maintain the capital adequacy ratio (CAR) or pare their asset base. Further, the RBI has also sought to keep foreign competition away from the nascent net banking segment in India by allowing only Indian banks with a local physical presence, to offer Internet banking.

CRYSTAL GAZING

On the macro economic front, GDP is expected to grow by 6.0 to 6.5% while the projected expansion in broad money (M3) for 2001-02 is about 14.5%. Credit and deposits are both expected to grow by 15-16% in FY02. India's foreign exchange reserves reached US$50.0 billion in FY02 and the Indian rupee hold steady.

The interest rates are likely to remain stable this fiscal based on an expected downward trend in inflation rate, sluggish pace of non-oil imports and likelihood of declining global interest rates. The domestic banking industry was forecasted to witness a higher degree of mergers and acquisitions in the future. Banks were likely to opt for the universal banking approach with a stronger retail approach. Technology and superior customer service were continued to be the imperatives for success in this industry.

Public Sector banks that imbibe new concepts in banking, turn tech savvy, leaner and meaner post VRS and obtain more autonomy by keeping governmental stake to the minimum have succeeded in effectively taking on the private sector banks by virtue of their sheer size. Weaker PSU banks were unlikely to survive in the long run. Consequently, they were likely to be either acquired by stronger players or forced to look out for other strategies to infuse greater capital and optimize their operations.

Foreign banks were likely to succeed in their niche markets and be the innovators in terms of technology introduction in the domestic scenario. The outlook for the private sector banks indeed looked to be more promising vis-à-vis other banks. While their focused operations, lower but more productive employee force etc were good, possible acquisitions of PSU banks were definitely give them the much needed scale of operations and access to lower cost of funds. These banks continued to be the early technology adopters in the industry, thus increasing their efficiencies. Also, they have been amongst the first movers in the lucrative insurance segment. Already, banks such as ICICI Bank and HDFC Bank have forged alliances with Prudential Life and Standard Life respectively. This is one segment that is witnessed a greater deal of action. In the near term, the low interest rate scenario to affect the spreads of majors. This has resulted in a greater focus on better Asset-Liability Management (ALM) procedures. Consequently, only banks that strive hard to increase their share of fee-based revenues were likely to do better in the future.

The Indian Banking system has managed to successfully sail through the financial tornado witnessed by the global economy on the back of sound policies of our apex bank (RBI) and fiscal stimulus packages implemented by the Government. Strict regulations relating to the exposure to derivative instruments, relatively tighter norms on capital adequacy based on risk-weighted assets and timely intervention by the Reserve Bank of India (RBI) prevented the severe contagion of the global financial crisis to the Indian banking system.

During the recessionary phase in October 2008–March 2009 period, the RBI was swift to reduce the policy rates, both Repo and Revenue Repo and provide liquidity to the economy by reducing the reserve ratios and offering adequate support to the banking system. Couple of fiscal stimulus packages by the Government, relaxation of norms for certain sectors like real estate and allowing the banks to restructure its advances too contributed to the sailing of Indian banks through the rough phase with minimal impact.

The Indian Banking Sector is poised for significant growth in the coming years driven by:-

- Healthy outlook on GDP
- under penetrated financial system
- Borrowings from infrastructure and mortgage finance (home loans).

In the five decades since independence, the Indian banking system has evolved through four distinct phases. The major reform took place in the fourth phase, with the recommendations of Narasimham Committee (1991). The important initiatives that were introduced were the provisioning and capital adequacy, deregulation of interest rates and easing of norms to enter the banking sector. Further, the merger and acquisition in the sector will add a new growth dimension, as it would create 3 -4 global sized banks. The presence of these banks will help the country to attract foreign direct investments, which in turn will drive the future growth in the Indian Banking sector.

Opportunities in the Indian Banking Sector' provides a crisp and comprehensive analysis of the current status and overall growth prospects of the Indian banking industry. It also provides an insight into the use of Information Technology in the sector and the impact of the Union Budget 2010-11 on the growth of the sector. The research presents a detailed PEST analysis of the industry which is substantiated with key findings.

It investigates the opportunities that have been created in the industry in the areas of pension fund, rural banking and e banking. Moreover, the research also explains the impact of the Basel 3 norms on the functioning of the Indian Banks. 'Opportunities in the Indian Banking Sector' is an outcome of comprehensive research and analysis of the Indian Banking sector. The team has also mapped the competitive landscape of the sector and tried to shed light on the operations/strategies of the key players. Thus, the information available is expected to enable the target audience in understanding the contemporary industry scenario.

Key findings in the report include:

- The Indian banking industry has been able to sustain the global economic crisis much better than other developing countries due to its robust capital structure. The implementation of Basel 3 norms will make it more immune to crisis and will guard the banking industry against market risk, interest rate risk and operational risk. Moreover, the creation of capital buffer will provide a cushion for periods of stress and will not lead to situations of insolvency.
- In a major move, undertaken by RBI to elevate financial inclusion in the country, additional branch licenses will be granted to private sector banks and NBFCs. This will further assist to ease the entry norms in the industry and attract new players. Additionally, the setting up of new branches will help in extending banking products and services to remote areas of the country.
- A paradigm shift in the banking system has been witnessed with the use of information technology for implementation of total banking automation. Various software companies are launching software application packages for banks. For instance, Infosys has rolled out Finnacle which a core banking software, designed to offer solutions for e banking, CRM for requirements of retail, corporate and universal banking and core banking. Moreover, with the introduction of interbank mobile payment service by The National Payment Corporation of India, the retail customers can now avail 24*7 fund transfers.

LAST UPDATES

1. The banking system remains, as always, the most dominant segment of the financial sector. Indian banks continue to build on their strengths under the regulator's watchful eye and hence, have emerged stronger.

2. In the annual international ranking conducted by UK-based Brand Finance Plc, 18 Indian banks have been included in the Brand Finance® Global Banking 500. In fact, the State Bank of India (SBI) which is the first Indian bank to be ranked among the Top 50 banks in the world, has improved its position from 36th to 34th, as per the Brand Finance study released on February 1, 2011. The brand value of SBI has enhanced to US$ 1,119 million. ICICI Bank, the only other Indian bank in the top 100 club has improved its position with a brand value of US$ 2,501 million. According to the study, Indian banks contributed 1.7 per cent to the total global brand value at US$ 14,741 million and grew by 19 per cent in 2011.

3. According to RBI's 'Quarterly Statistics on Deposits and Credit of Scheduled Commercial Banks: June 2010', nationalized banks, as a group, accounted for 51.3 per cent of the aggregate deposits, while State Bank of India (SBI) and its associates accounted for 22.8 per cent. The share of new private sector banks, Old private sector banks, foreign banks and Regional Rural banks in aggregate deposits was 13 per cent, 4.8 per cent, 5.1 per cent and 3.1 per cent respectively.

4. With respect to gross bank credit also, nationalized banks hold the highest share of 51.5 per cent in the total bank credit, with SBI and its associates at 23.2 per cent and New Private sector banks at 13 per cent. Foreign banks, Old private sector banks and Regional Rural banks held relatively lower shares in the total bank credit with 5.3 per cent, 4.6 per cent and 2.5 per cent respectively.

5. The report also found that scheduled commercial bank offices (with deposits of INR 10 crore or more) accounted for 65.2 per cent of the bank offices, 96.6 per cent in terms of aggregate deposits and 94 per cent in total bank credit.

6. Significantly, on a year-on-year basis, bank credit grew by 24.4 percent in 2010 as against RBI's projections of 20 percent for the entire fiscal 2010-11. However, deposits lagged behind at 16.5 percent versus a projection of 18 percent.

7. India's foreign exchange reserves stood at US$ 299.39 billion as on January 21, 2011, according to the data in the weekly statistical supplement released by the Reserve Bank of India.

8. Indians working overseas sent more money back home than any of their global counterparts, remitting US$ 50 billion in 2009 despite a worldwide economic slowdown and anti-immigration measures adopted by industrialized countries.

MAJOR DEVELOPMENTS

1. Indian Bank has received the Central Bank of Sri Lanka's nod to open its branch at Jaffna in Sri Lanka.

2. Indian Bank has signed an agreement with Weizmann Forex Ltd, and will now offer foreign remittances service over the counter at all its branches.

3. The National Payment Corporation of India is rolling out an instant interbank mobile payment service (IMPS) that will enable retail customers of seven banks to enjoy 24X7 funds transfer. State Bank of India,

Bank of India, Union Bank of India, ICICI Bank, HDFC Bank, Axis Bank and YES Bank on November 22, 2010 became the first set of banks to go live with the IMPS.

4. Amongst the private banks, owing to strong growth in interest income, the country's third-largest private sector lender, Axis Bank, reported a net profit of US$ 166.3 million for the second quarter of FY11, a 38.28 per cent increase from US$ 120.3 million a year ago.
5. HDFC Bank, India's second largest private lender reported a 32.7 percent rise in net profits at US$ 204.3 million for the quarter ended September 30, 2010.

GOVERNMENT INITIATIVES

- The Cabinet, on December 1, 2010 approved to provide an additional amount of US$ 1.33 billion, in addition to the US$ 3.32 billion already provided in the Budget 2010-11, to ensure Tier I CRAR (Capital to Risk Weighted Assets) of all Public Sector Banks (PSBs) at 7 per cent and also to raise Government of India holding in all PSBs to 58 per cent. It also approved that the exact amount, mode of capitalization and other terms and conditions would be decided in consultation with the banks at the time of infusion.
- The proposed capital infusion would enhance the lending capacity of the PSBs to meet the credit requirement of the economy in order to maintain and accelerate the economic growth momentum.
- The RBI has allowed banks to make changes in the repayment schedules or drawdown without prior approval from the central bank. However, such a change could be made on the condition that the average maturity of the loan should remain the same. The move is expected to make external commercial borrowing (ECB) transactions easier. Transactions both through automatic and approval routes can take advantage of this change. Now, without the prior approval of RBI, Indian companies may borrow up to US$ 500 million in a year.
- As part of further liberalization of the extant branch licensing policy in respect of regional rural banks (RRBs), they have been permitted to open branches in Tier 3 to Tier 6 centers (with population up to 49,999 as per Census 2001) without the Reserve Bank's prior authorization provided-
- The capital to risk-weighted assets ratio (CRAR) is at least 9 per cent;
- The net non-performing assets (NPAs) are less than 5 per cent;
- They have not defaulted in the maintenance of cash reserve ratio (CRR)/statutory liquidity ratio (SLR) during the last year; and
- They have earned a net profit in the last financial year.
- On the lending side, the Base Rate system replaced the Benchmark Prime Lending Rate (BPLR) system with effect from July 1, 2010. Base Rates of scheduled commercial banks (SCBs) were fixed in the range of 5.50-9.00 per cent. Subsequently, several banks reviewed and increased their Base Rates in the range of 10–50 basis points by October 2010. Base Rates of major banks, accounting for over 94 per cent in total bank credit, are in the range of 7.50-8.50 per cent. Banks have also raised their BPLRs in the range of 25-75 basis points for their old loans.
- As at end-July 2010, around 70,000 branches of 98 banks had participated in the national electronic funds transfer (NEFT) system and the volume of transactions processed increased to 9.5 million in July 2010.
- In the central bank's Third Quarter Review of Monetary Policy 2010-11, RBI Governor D Subba Rao has said that the Repo rate and Reverse Repo rates would be increased by 25 basis points under the liquidity adjustment facility (LAF) with immediate effect. Repo rate increased from 6.25 per cent to 6.5 per cent while Reverse Repo rate has been raised from 5 per cent to 5.25 per cent.
- The cash reserve ratio (CRR) of scheduled banks has been retained at 6.0 per cent of their net demand and time liabilities (NDTL).
- On the basis of an assessment of the current liquidity situation, the RBI also decided to extend additional liquidity support up to April 8, 2011 to scheduled commercial banks under the LAF to the extent of up to 1 per cent of their net demand and time liabilities (NDTL), which was set to expire on January 28, 2011.
- The banking system in India is significantly different from that of other Asian nations because of the country's unique geographic, social, and economic characteristics. India has a large population and land size, a diverse culture, and extreme disparities in income, which are marked among its regions. There are high levels of illiteracy among a large percentage of its population but, at the same time, the country has a large reservoir of managerial and technologically advanced talents. Between about 30 and 35 percent of the population resides in metro and urban cities and the rest is spread in several semi-urban and rural centers. The country's economic policy framework combines socialistic and capitalistic features with a heavy bias towards public sector investment. India has followed the path of growth-led exports rather than the "export led growth" of other Asian economies, with emphasis on self-reliance through import substitution.

These features are reflected in the structure, size, and diversity of the country's banking and financial sector.

- The banking system has had to serve the goals of economic policies enunciated in successive five-year development plans, particularly concerning equitable income distribution, balanced regional economic growth, and the reduction and elimination of private sector monopolies in trade and industry. In order for the banking industry to serve as an instrument of state policy, it was subjected to various nationalization schemes in different phases (1955, 1969, and 1980).
- As a result, banking remained internationally isolated (few Indian banks had presence abroad in international financial centers) because of preoccupations with domestic priorities, especially massive branch expansion and attracting more people to the system.
- Moreover, the sector has been assigned the role of providing support to other economic sectors such as agriculture, small-scale industries, exports, and banking activities in the developed commercial centers (i.e., metro, urban, and a limited number of semi-urban centers).
- The banking system's international isolation was also due to strict branch licensing controls on foreign banks already operating in the country as well as entry restrictions facing new foreign banks. A criterion of reciprocity is required for any Indian bank to open an office abroad.
- These features have left the Indian banking sector with weaknesses and strengths. A big challenge facing Indian banks is how, under the current ownership structure, to attain operational efficiency suitable for modern financial intermediation.
- On the other hand, it has been relatively easy for the public sector banks to recapitalize, given the increases in nonperforming assets (NPAs), as their Government dominated ownership structure has reduced the conflicts of interest that private banks would face.

POLICY ISSUES IN THE BANKING SECTOR

NPA Problem Optimism with Respect to NPA Problem. The NPAs of public sector banks were recorded at about Rs457 billion in 1998. (By 1997/98 banks had managed to recover Rs250 billion and provisioned for Rs181.39 billion. But since new sets of loans go bad every year, the absolute figures could be increasing. About 70 percent of gross NPAs are locked up in "hard-core" doubtful, and loss assets, accumulated over years. Most of these are backed by securities, and, therefore, recoverable. But these are pending either in courts or with the Board for Industrial and Financial Reconstruction (BIFR).

Table 3.2 Nonperforming Asset Level and Ratios of Public Sector Banks

Year	Gross NPAs (Rs billion)	NPA/Gross Advances (%)	NPA/Total Assets (%)
1993	392.53	23.2	11.8
1994	410.41	24.8	10.8
1995	383.85	19.5	8.7
1996	416.61	18.0	8.2
1997	435.77	17.8	7.8
1998	456.53	16.0	7.0

NPA = nonperforming assets. Source: Reserve Bank of India.

NPAs in Indian banks as a percentage of total assets are quite low. The NPA problem of banking institutions in India is exaggerated by deriving NPA figures based on percentage against risk assets instead of total earning assets. The Indian banking system also makes full provisions and not net of collaterals as practiced in other countries. Narasimham Committee (II) noted the danger of opaque balance sheets and inefficient auditing systems resulting in an underrating of NPAs. Nevertheless, there is a general feeling that the NPA problem is manageable. Considerable attention is being devoted to this problem by RBI, individual banks, and shareholders (Government and private).

With the increasing focus internationally on NPAs during the 1990s affecting the risk-taking behavior of banks, governments and central banks have typically reacted to the problem differently depending on the politico-economic system under which the banks operate. In some countries such as Japan, banks have been encouraged to write off bad loans with retained earnings or new capital or both. This ensures that the cost of resolving the NPA problem is borne by the banks themselves. However, this policy is not suitable for countries such as India where the banks neither have adequate reserves nor the ability to raise new capital. In some countries, the banks are State owned so the final responsibility of resolving the problem lies with the respective national government. In these cases, the governments concerned have been forced to securitize the debt through debt underwriting and recapitalization of the banks. For instance, in Hungary, guarantees were established for all or part of the bad loans with the banking system, while in Poland, loans have been consolidated with the help of long-term restructuring bonds.

Most of these countries have emphasized efforts to recover the bad loans from the borrowers, usually in conjunction with one or both the measures mentioned above. If direct sale of the assets of defaulting firms was deemed nonviable, banks were encouraged to coerce these firms to restructure. The former Czechoslovakia and Poland, for example, consolidated all NPAs into one or more "hospital" banks, which were then vested with the responsibility to recover the bad loans. In Poland, this centralization of the recovery process was supplemented by regulations that authorized the loan recovery agency to force the defaulting industrial units to either restructure or face liquidation. Other countries such as Bulgaria created "hospital" banks and legalized swap of debt for equity that gave banks stakes in the defaulting firms, and hence provided them with the incentive and the power to restructure the enterprises.

In India, conversion of loans into equity is an option that should be seriously considered instead of attempting recovery solely through either or both legal means and an asset reconstruction company (ARC). Unlike NPAs, the substitute asset of equity will be an intangible investment ready for sale to potential buyers. The DFIs have a formal conversion clause for debt to be exchanged for equity that ought to be exercised not only if it is an NPA but also if the equity is appreciating. This clause has not been so far much exercised.

Main Causes of Nonperforming Assets. One of the main causes of NPAs in the banking sector is the directed loans system under which commercial banks are required to supply a prescribed percentage of their credit (40 percent) to priority sectors. Loans to weaker sections of society under state subsidy schemes have led borrowers to expect that like a nonrefundable state subsidy, bank loans need not be repaid.

Directed loans supplied to the "micro sector" are problematic of recoveries especially when some of its units become sick or weak. Nearly 7 percent of PSB's net advances were directed to these units. Clearly, these units are one of the most significant sources of NPAs, rather than bank mismanagement on the scale that has been seen in Japan and some Southeast Asian countries. The weakness of the banking sector revealed by the accumulated NPAs stems more from the fact that Indian banks have to serve social functions of supporting economically weak sectors with loans at subsidized rates.

Table 3.3 Public Sector Banks' Loans to Sick/Weak Industrial Units (Rs billion)

	SSI Sick Units		**Non SSI Sick Units**		**Non SSI Sick Units**		**Total**	
Item	1996	1997	1996	1997	1996	1997	1996	1997
Potentially viable units	6.36	4.79	33.66	31.07	5.12	5.57	45.14	41.43
Nonviable units	29.44	30.32	26.24	25.27	3.31	2.96	58.99	58.55
Viability not decided	1.42	0.98	28.33	.60	3.61	7.11	33.36	37.89
Total	37.22	36.09	88.23	86.14	12.04	15.64	137.49	137.87

SSI = small-scale industry. Source: Reserve Bank of India, Report on Trend and Progress of Banking in India 1997/98, November 1997

The Narasimham Report (II) recommended that the directed credit component should be reduced from 40 to 10 percent. As the directed credit component of the priority sectors arises from loan schemes requiring Government approval of beneficiaries, banks' selection standards with regard to eligible borrowers are being interfered with. The nexus of subsidies should be eliminated from bank loan schemes. Targets or prescribed percentages of credit allocation toward the priority sectors should not be confused with directed credit. Government subsidy schemes were intended originally to prompt bankers to lend to weaker sectors. But as the directed credit component became partly politicized and bureaucratized, the realization has grown that priority sector bank credit should operate with the required degree of risk management. However, the dangers of the priority credit system to sound banking should not be exaggerated. The shackles of "directed lending" have been removed and replaced by tests of commercial viability. Economic activities classified under priority sector have undergone a metamorphosis and upgrade since 1969 when banks were first nationalized and assigned the role of financing the sector. The expansion of the definition of the priority sector, upgrade in the value limit to determine small-scale industry (SSI) status, and provision for indirect lending through placement of funds with NABARD and SIDBI have lightened the performance load of banks. Thus, priority sector financing is no longer a drag on banks. But in the long term, Indian banks should be freed from subsidized lending.

The scope in India for branch expansion in rural and semi-urban areas is vast and also necessary. Increasingly, NBFCs operating at such places are coming under regulatory pressure and are likely to abandon their intermediation role. Banks will have to move in to fill the void and these branches will find priority sector financing as the main business available especially in rural/semi-urban centers. Operational restructuring of banks should ensure that NPAs in the priority sectors are reduced, but not priority sector lending. This will remain a priority for the survival of banks. Any decisions about insulating Indian banks from priority sector financing should not be reached until full-scale research is under taken, taking into account several sources including records of credit guarantee schemes.

Small-Scale Industries: Decline in sick unit & non-performing assets. The RBI has called for half-yearly reports from banks to monitor progress in industrial rehabilitation. In addition, it has also issued guidelines to banks on the need for proper coordination between them and term lending institutions in the formulation and implementation of a rehabilitation program. The main causes of industrial sickness in non-SSI units were internal factors such as deficiencies in project management (44.8 percent of the cases) and shortcomings in project appraisals (7.2 percent), as well as external factors such as non availability of raw materials, power shortages, transport and financial bottlenecks, increases in overheads, changes in Government policy, and demand shortfalls. The SSI sector accounted for about 99 percent of the total sick units, but the share in total bank credit outstanding to such units was only 26.2 percent. The number of non-SSI sick units declined marginally from 2,374 in March 1996 to 2,368 in March 1997. Outstanding bank credit to these units also showed a decline of 2.4 percent from Rs88.23 billion at end- March 1996 to Rs86.14 billion in March 1997. The priority sector to which SSI belongs is not such a burden on banks. On the contrary, it offers a good spread of risks and business opportunities for all types of branches—metro, urban, semi-urban, and rural. On the other hand, in the case of non-SSI industrial units, banks are not the only source of institutional finance, a major part of which comes from AIFIs at the project formulation stage. There will be a need to separately study NPAs in which banks and AIFIs have common exposure.

Comparison with Other Asian Countries. NPA figures may be high in Indian banks, but certain factors need to be noted before comparing the country's system with that of other Asian nations. For instance, only 48 percent of banking institutions' assets is in corporate loans. The high level of preemption of bank funds by the Government in the form of cash reserve requirement (CRR) and statutory liquidity requirement (SLR) is one of the reasons for low profitability of banks and poor returns on assets. However, in times of stress, such as the recent economic crisis, these same assets provide balance sheet strength. Bank recapitalization needs in India are the lowest as a percentage of gross domestic product (GDP) while their contribution to developmental banking is high. This emphasizes the need for the Government to back the PSBs even in the weak category.

Income Recognition. RBI guidelines stipulate that interest on all NPAs should not be charged and considered in the income account. The guidelines create some complications in the accounting system. For instance, if a loan has turned into an NPA shortly before the end of a financial year, the interest payments during the current and previous financial years are considered not yet earned and the corresponding book entries recognizing interest income should be reversed. The definition of income recognition has become a critical issue in presenting a clear picture on the profit/ loss account of banks. A review and, if necessary, change in the guidelines and accounting system should immediately be undertaken.

Corporate Accounts—Transparency. One of the important amendments introduced by the Companies (Amendment) Ordinance in 1982 requires that companies comply with accounting standards. As a step towards good corporate governance and better disclosure and presentation of accounts, it is a milestone. However, it was introduced and implemented in a halfhearted way. While the auditor was required to check on compliance with accounting standards, there was no statutory requirement for the company to make such compliance. Now the ordinance says that companies shall comply with accounting standards as defined.

The requirement covers all companies, public or private, listed or unlisted. That accounting standards are now compulsory is contradicted by the requirement that if the accounting standards are not complied with, the fact of such noncompliance, and the reasons and the financial effect of such noncompliance shall be disclosed. It is possible that a company can get away with noncompliance merely by making the required disclosures. The "going concern" is a fundamental accounting concept that allows financial statements to be prepared on the assumption that the enterprises will continue in operational existence in the foreseeable future. The Institute of Chartered Accounts of India in 1998 issued a Statement on Standard Auditing Practices (SAP 16) that aims to establish auditors' responsibilities regarding the appropriateness of the going concern assumption as a basis for preparing financial statements. It also elaborates the need for planning and conducting audits, gathering sufficient evidence, and exercising judgment whether the going concern assumption made by directors is appropriate. The practice was to be followed for accounting periods commencing on or after April 1999. The conclusion that a financial statement has been prepared for a going concern depends on a few fundamental uncertainties. Prominent among these is availability of future funding, which may affect future results as well as investments needed and changes in capital structure. In addition, auditors will have to look at cash generated from operations and other cash inflows, capital funding and Treasury policies, inherent strengths and resources of the business, and availability of liquidity at the end of the period. All these extend the scope of the audit. Even if one accepts that auditors are capable of providing information about business risks that is useful to investors and other parties, it is questionable whether the benefits of expanding the auditors' role in this direction are likely to outweigh costs. Auditors are also required under the new statement to add a paragraph in their audit report that highlights the going concern problem by drawing attention to the relevant note in the financial statement. They must qualify their report, however, if the management does not make adequate disclosure in the financial statements.

Clients are unlikely to welcome the going concern qualification and their apprehension may well be reinforced if it restricts their freedom of action, by forcing covenants in loan agreements to be activated or by restricting the freedom to pay dividends. Moreover, because of the lack of any form of quantification, qualified reports are likely to be fuzzy and may differ significantly depending on the interpretation of each audit firm. Following well-settled international practice, it should be made mandatory for directors to confirm that the financial statements have been prepared on the basis of the going concern assumption. Auditors should then examine appropriate financial and other information and, if they are not satisfied, comment appropriately in their audit report.

Problem of the Real Sector v/s Banking Sector Reforms. Changes in M3 and its select components—net bank credit to Government (NBCG) and net bank credit to commercial sector (NBCCS)—show that credit off take has slowed down and even declined in 1998/99 for NBCCS. Government funding from banks has been rising in the last three years. An increase in new bank credit to the commercial sector in 1997/98 is partly due to liquidation of high cost external commercial borrowings. The real differences are more evident in 1998/99. There is a close connection between the relatively small flow of finance to enterprises, the downward trend in the real sector, and the depressed stock market. The economy's downward trend has persisted despite several initiatives taken by the monetary authorities. There has been a large-scale extension of bank credit to the Government at the expense of the commercial sectors. This suggests that the principal reason for the poor growth of bank loans is "inadequate" demand, which can be traced to developments in the real sector. The troubles faced by the real sector also seem to originate from a fall in market demand for goods. In many industries, output expansion has been nil to modest, often with inventory pileups. Adverse market conditions facing consumer goods industries strongly support the hypothesis concerning demand failure in the real sector.

A cut in the bank rate by itself will have a limited impact on the economy for the following reasons. First, even if producers expect to make profits on their investment and banks are willing to lend, investment may not materialize because of the difficulty of securing complementary finance from a depressed stock market. Second, banks may be too wary of lending or, more likely, may not have developed an efficient credit delivery system to the major part of the economy. Third, and most important, the large majority of producers would take a dim view of future profitability of investment in the context of infrastructural bottlenecks. The three problems are interrelated and suggest the need for short- and long-term measures.

The basic maladies affecting the financial sector in India are as follows:

- Structural weakness of the real sector and lack of competitiveness in international markets, and
- Underdeveloped credit delivery systems that fail to respond to fast changing situations.

Strengthening the viability of the real sector has much relevance to the future strength of the Indian financial system. The Committee on Capital Account Convertibility has not dwelt on the impact of expected inflows of capital in relation to efficiency and absorptive capacity of the real sector on the one hand, while emphasizing the needed strength of the financial sector on the other. It is mainly the second malady that has to be overcome by banks and financial institutions. Future reforms will have to focus on how the real and the banking sectors can strengthen each other.

Indian Corporate Sector. The private sector's (gross) investment in plant and machinery rose from Rs120 billion per year (3 percent of GDP) in 1986-1990 to Rs730 billion per year (7 percent of GDP) in 1995-1997. A six fold increase in investment in such a short span is a structural change brought about by strong macroeconomic fundamentals and corporate management. There were, however, deficiencies in the management of structural reforms. The sequencing of the 1991 reforms seemed inappropriate. Securing quick gains in the form of foreign institutional investor (FII) inflows into the capital market (instead of foreign direct investment [FDI]) failed to improve the real sector and fueled stock price rises (the Government also did not take advantage of disinvestment in public sector holdings). Capital market liberalization and opening up avenues of foreign funds raised through global depository receipt (GDR) issues, and other sources were not matched by a full upgrade and modernization of the industries to increase their competitiveness.

A persistent trade deficit is indicative of an incorrect sequencing of reforms (in contrast with the People's Republic of China [PRC], which from 1990 onwards boosted foreign reserves through trade surpluses from manufactured goods exports). Not many Indian listed companies have foreign trading exposure in the form of exports or imports. The concern for Indian banks and FIs naturally is the risk of underperformance of the real sector and lack of adequate cushion. Many companies have faced difficulties in coping with adverse foreign exchange fluctuation because of declines in the value of the rupee.

NPAs of banks with respect to corporate sector lending have been caused by the following:

- Mindless diversification;
- Neglect of core competencies;
- Diversion of new equity raised into non-tradable assets;
- Inattention to cost controls;
- Lack of coordination between banks and FIs; and
- Rapid growth after liberalization of merchant banks, which hastily vetted projects and initial public offerings (IPOs) in the rush to beat competition, neglected to develop a debt market, and gave extraordinary support to raising of equity issues by the companies.

The depressed stock market has caused companies to turn back to banks for finance. The loss of investor confidence happened even after several reforms in the capital markets (some under the United States Agency for International Development's [USAID's] Financial Institutions Reform Expansion [FIRE]) program.

Corporate Sector Control of Nonperforming Assets. Banks, FIs, and the market by themselves cannot exercise control over companies. The reaction of investors to falls in bond and stock prices ensures that any damage is limited once there is a perception that something is wrong. Bank financing provides a shield to companies from such short-term market whims if the bank is satisfied the unit will pull through. In India, the process of disintermediation is of recent origin and DFIs have, in fact, a lot of hold on companies through their equity stakes and loan stakes in the units financed. Even as the role of the stock market expands, banks and DFIs still have a significant role as finance providers and some complementarily of controls (in terms of rigors of financial discipline) can be evolved to ensure corporate efficiency. Banks are highly deficient on the stock market side (a position well established by the dismal record of mutual funds and merchant banking subsidiaries floated by most of the public sector banks). Their portfolios of investments in bonds and equities (which are 100 percent risk assets) need to be screened using credit risk assessment standards and not by market prices alone. Banks also must adopt methods of converting debt into equities in NPA accounts whenever possible to either ensure turnaround in corporate performance, or else sell equities to limit future losses. Currently, they do not have an exit route. Despite competition and falling profits, there has been no significant improvement in cost structure. Also, the slowdown has not made cost consciousness a top concern. This is exactly what banks and FIs have to be worried about. Equity holders, banks, and FIs can position themselves as drivers of shareholder value. Credit risk analysis needs to be complemented by cost structure analysis and output efficiency with reference to the companies' capital and stock of borrowed funds. This is one reason why banks and FIs should maintain credit files on equity or other tradable instruments of each issuer. In the US, the Federal Reserve and Federal Deposit Insurance Corporation (FDIC) guidelines emphasize this type of credit control. While analyzing credit off take volumes, RBI equates such portfolio holdings of banks to loans and advances. Qualitatively, the risk-control mechanism for the two categories of assets has to be on absolute par level. How interest from borrowing from banks and FIs remains high among total business costs of borrowers, while banks and FIs have high liquidity. This problem can be combated by macroeconomic intervention to reduce interest rates to enable the economy to expand and the banks to outgrow their problems, and by banks and FIs ensuring efficient use of capital by borrowers to improve allocate efficiency of resources.

The culture of just in time (JIT) inventories and quick response (QR) to maintain an efficient supply chain is still not evident in Indian business management. The credit delivery system is anchored around requirements of average/peak inventory holdings and outstanding receivables, although the earlier RBI stipulations of industry-wise norms have been abolished. Banks are now free to decide but buildup of current assets in borrowing units pushes up interest costs of borrowing for existing borrowers and results in non-availability of resources to new borrowers. Surplus liquidity in banks today is not an indicator of efficient allocation of credit resources. Other issues concerning corporate control emerge from closer analysis of how cash credits extended by banks became NPAs of defaulting borrowers while they floated new industries with the help of DFIs, as well as how BIFR cases have dragged on. There are 60 public sector units under BIFR review. Banks and FIs need to study how favored projects of the past became sick units later. Lack of transparency in the accounts of corporate helped them to disguise cash flow projections for sourcing credit from banks and FIs.

Debt Recovery Tribunal Revamp. The final report of the working committee on Debt Recovery Tribunals (DRTs) has recommended the revamp of the tribunals to ensure that they are not burdened with more than a specified number of cases. It has also called for the exclusion of cases under the Sick Industrial Companies Act (SICA) if these cases are filed with DRTs. In short, this will mean that DRTs could be given powers to override those of BIFR, and this is the greatest stumbling block to the recovery of bad debts. According to the working group, not only should there be a tribunal in every state but there should also be more than one DRT in the same state if it is justified by the workload of the tribunals. The DRTs' prosecuting officers should not face more than 30 cases on any given date and there should not be more than 800 cases in the pipeline at any given point. If the number of cases exceeds 800, the Government should consider appointing more tribunals to deal with such cases. While the working committee has suggested that more recovery officers should be appointed to ensure speedy recovery of bank dues, it has also stated that recovery officers may be given the assistance of police and professional debt recovery agencies.

INADEQUACIES OF THE BOARD FOR INDUSTRIAL AND FINANCIAL RECONSTRUCTION

According to Board officials, a more than threefold rise in the number of cases registered since 1996 could be due to the competition that companies are facing because of economic liberalization. On the other hand, the board seems to be unable to cope with the deluge of cases. It is working with only one bench and eight members. SICA provides that the board shall consist of a chairman and a minimum of two and maximum of 14 members.

Public Sector Banks' Bad Debts. Government ownership in banks attracts parliamentary review. The Estimates Committee of Parliament takes a serious view of adverse comments made against top managements of PSBs and NPAs on account of transgression of powers. The committee called for a total revamp of the training system for bank officers. The committee also noted that public sector undertaking (PSU) banks have to be able to contain NPAs at a par with international standards where the tolerable levels of NPAs are "around 3 to 4 percent."

NPA of all-India Financial Institutions. The net NPAs-total loans ratio at IDBI stood at 10.1 percent, ICICI at 7.7 percent, and IFCI at 13.6 percent as of 31 March 1998. However, loans from other AIFIs such as LIC, GIC, UTI, and their subsidiaries, Risk Capital and Technology Corporation (RCTC), Technology Development and Information Company of India (TDICI), and Tourism Finance Corporation of India (TFCI), to the industrial sector have been substantial, but the data on their NPAs are not readily available. For state-level institutions such as SFCs and SIDCs, which lend to medium-size industry and SSI sectors, the NPA data are also not readily available. State-level institutions benefit from a special recovery procedure allowed under their separate enactment. With the exception of IDBI, ICICI, and IFCI, the other AIFIs are not under RBI's regulatory discipline. There is a need to study features of their loan operations, credit control, and NPAs.

Disclosure, Accounting Framework, and Supervision. Greater transparency in banks' balance sheets and penal action by RBI, including against bank auditors, require highly focused action. Internal audits in banks, now supervised by audit committees of respective boards, have been more a formality than reflecting management's reporting responsibility to the stockholders of the banks. High standards of preventive and detective (internal) controls are required. Risk management with respect to "off-balance sheet items" requires considerable attention as evidenced by instances of losses on letters of credits and guarantees business. This applies also to auditing off-balance sheet items. At the macro level, the size of NPAs as a percentage of GDP provides a good measure to assess the soundness of the system. The issue needs to be tackled in terms of market segments from which NPAs have emerged: not putting them simply under the umbrella of "priority sector," or "non-priority sector" but individually, in much wider market segments (for example, agriculture as a market segment has itself many sub segments).

Prudential Norms. RBI is considering changes in asset classification, income recognition, and provisioning norms in line with recommendations of the Basle Committee on Banking Supervision that were made public in October 1998. It remains to be seen if RBI will give banks and FIs discretion in the classifications of assets, partially replacing the prevailing rigid norms and redefining provisioning norms taking into account collateral. According to current practice, banks and FIs are required to make 10 percent provisioning on substandard assets and 20 percent on doubtful assets, even if the assets are backed by collateral.

The Basle Committee on Banking Supervision circulated a consultative paper entitled "Sound Practices for Loan Accounting, Credit Risk Disclosure, and Related Matters," complementing the Basle core principles in the fields of accounting, and disclosure for banks' lending business and related credit risk.RBI has already taken steps to implement the Basle core principles, which broadly deal with risk management, prudential regulations relating to capital adequacy, and various internal control requirements.

Banks and FIs have been insisting that existing asset classification rules are rigid leaving no scope for discretion, while the Basle Committee has said that recognition and measurement of impairment of a loan cannot be based only on specific rules. The committee has also indicated that banks should identify and recognize impairment in a loan when the chances of recovery are dim. It also stated that the focus of assessment of each loan asset should be based on the ability of the borrower to repay the loan. The value of any underlying collateral factors also plays a major role in this assessment.

Another major difference between the Basle Committee recommendations and the existing asset classification norms in India relates to "restructured" loans. According to the Basle Committee norms, a restructured troubled loan would not automatically be classified as an impaired loan. In India, however, any restructuring automatically classifies the assets as impaired. Banks and institutions are required to classify the restructured loans as substandard for two years and are prohibited from booking interest during this period. The "relaxation" in asset classification norms will mean little in the Indian context.

In developed financial systems, it is beneficial to have flexibility in determining weights for NPAs. However, liberal measures should be introduced only when all local players employ greater transparency in the asset classification process. It is necessary to first ensure that companies and borrowers follow norms of disclosure and transparency. Much needs to be done in this respect by the Institute of Chartered Accountants of India. The condition of Indian banks under the present norms has improved, contributing to a better culture of recovery. The borrowers must respond with better performance.

Separating Supervision. The Narasimham Committee (II), while recommending separation of supervision, admits that conflicting international experience has left no overwhelming case for either separation or combining of the central bank's supervisory powers. The likely conflict between monetary policy and supervisory concerns justifies the need to combine the two functions. Separate authority structures for the two functions have more likelihood of coming into conflict with each other. Economic downturns tend to highlight supervisory concerns, and can put the banking system at risk and subject the monetary authority to face the counter pressure of reflecting economic circumstances. The choice then becomes one of fine balance. Combining supervisory functions with monetary policy can provide a synergy that will get lost by separation. In fact, central banks take on the supervisory function in more than 60 percent of IMF member countries. In the case of African and Asian countries alone, the figure is more than 80 percent. In other countries, supervision involves varying degrees of central bank involvement. The regulatory and supervisory systems have to take into account peculiarities of the banking and financial structures as well as historical and cultural factors. For example, in India, the rural banking sector is large and the cooperative movement strong but the banks in this sector have remained generally financially weak. No amount of sophisticated monetary policy management is likely to provide props to this sector. What it needs is financial strengthening, management upgrades, and different norms of financial supervision with reference to culture and the economic activity of the clients. Rural and semi-urban populaces need dependable banks and rarely get alternatives in the form of banking competition.

The importance of rural banking sector has been overlooked in the various deliberations of banking and financial reforms in India. Several issues need to be raised in this regard. For instance, the separation of supervisory functions and monetary policy formulation would only harm the interests of the rural banking sector, which RBI and NABARD look after. Then, there is also the question of the large number of urban cooperative banks, which serve communities in different cities and adjoining areas. How can a separate supervisory body develop methods and resources to supervise these banks? Separation of the functions may not necessarily strengthen either supervision or monetary policy management, or both. As NBFCs come increasing under the regulatory gaze, there will be vacuum in places where there is no bank and the NBFC is required to fold. Regulators have to ensure that banking expansion is promoted in these places.

Rating of Banks. RBI has subjected banks to ratings under capital adequacy, asset quality, compliance, and system (CACS); and capital adequacy, asset quality, management, earnings, liquidity, and systems (CAMELS) models for differentiating supervisory priorities. When reforms were first introduced under recommendation of the Narasimham committee (I), the 27 (then 28) PSBs were placed under A, B, and C categories; i.e., sound banks, banks with potential weakness, and sick banks, respectively. Accordingly, recapitalization and restructuring were carried out for B and C categories. For individual ratings by international rating agencies, a bank is assessed as if it was entirely independent and could not rely on external support. The ratings are designed to assess a bank's exposure to risks, appetite for risks, and management of risks. Any adverse or inferior rating is an indication that it may run into difficulties such that it would require support. Such credit rating announcements ignore the public sensitivity to which the banking system is constantly exposed.

The public expects banks to try to anticipate changes, recognize opportunities, deal with and manage risks to limit losses, and create wealth through lending. While the best banks may always play a super-safe role by confining operations to choice centers and business segments, banks in India are expected to operate on a high-risk plane. As such, the Government should support banks even during stages when they are nudged to offer equity to the public.

- Features of Indian Banking System

- Regulatory Issues Indian Banks' Association

The Indian Banks' Association (IBA) should evolve into a Self-Regulatory Organization (SRO) that would work toward strengthening India's fairly weak banking sector and the sector's moral regulator. Its broad agenda should be to encourage the continued implementation of prudential business practices. IBA is completing an organizational restructuring after which it will examine its role as an SRO. It is now an advisory organization of banks in India and its members include most of the PSBs, private banks, and foreign banks. Its main activities involve generation and ex-change of ideas on banking issues, policies; and practices; collection and analysis of sectoral data; personnel administration; and wage negotiations between labor unions and bank managements. But in its new role, it would reportedly expand its functions to supplement RBI's role as a legal regulator with a focus on strengthening the sector.

Ratings of Banks

Individual Rating	**Support Rating**
Very Strong. Characteristics may include outstanding profitability and balance sheet integrity, franchise, management, operating environment, or prospects. **Strong**. Characteristics may include strong profitability and balance sheet integrity, franchise, management, operating environment or prospects. **Adequate**. Possesses one or more troublesome aspects on profitability and balance sheet integrity, franchise, and management, operating environment or prospects. **Weak**. Weaknesses of internal and/or external origin. There are concerns regarding profitability and balance sheet integrity, franchise, management, operating environment or prospects. **Problematic**. Has a serious problem that either requires or is likely to require external support.	A bank for which there is a clear legal guarantee on the part of the state, or a bank of such importance both internationally and domestically that support from the state would be forthcoming, if necessary. The state in question must clearly be prepared and able to support its principal banks. A bank for which state support would be forthcoming, even in the absence of a legal guarantee. This could be, for example, because of the bank's importance to the economy or its historic relationship with the authorities. A bank or bank holding company that has institutional owners of sufficient reputation and possessing such resources that support would be forthcoming, if necessary. A bank for which support is likely but not certain. A bank or bank holding company, for which support, although possible, cannot be relied upon.

Source: Fitch IBCA.

While the sector's risk profile improved considerably after prudential norms were introduced in 1994, by international standards, India's banking sector is perceived as fairly weak with poor asset quality by leading agencies such as Standard & Poor's. The SRO would examine and recommend the implementation of more stringent prudential norms as laid out in the recommendations of the Narasimham Committee (II). It would encourage practices to strengthen the sector. Its expanded role could incorporate vigilance, improvement in accounting standards and balance sheet practices, encouraging provisioning, and tackling the problem of weakness and deteriorating asset quality in the banking sector.

IBA as an SRO would have to ensure that banks follow at least a certain minimum level of prudential practices. This can, however, be all very well in theory but difficult to practice because an SRO is more of a culture than an institution. It takes a long time to breed a culture of self-regulation. The respect for a supervisor has to be earned and does not happen overnight. IBA has to transform itself into a "real" industry body once the IBA management committee acts on the blueprint for change proposed by a consulting firm. The proposal is to overhaul the structure of the organization to increase efficiency. The new focus is on networking as IBA was, for a long time, working in isolation. Now the objective is to emerge as a representative body for the banking industry. IBA has already started interacting with different industries and looking into various aspects of financing software companies, the film industry, construction companies, and the shipping industry.

Improving Regulatory Frameworks to Decrease Systemic Risk. Deregulation has helped promote competition and efficiency in the banking system in India and will have a positive impact on systemic risk in the long run. Initially, however, deregulation has affected the stability of the banking sector. Substantial progress has been made toward stronger regulatory frameworks. Changes in banks' reporting requirements, improvement in the quality of on-site supervision, and the establishment of credit information and loan-grading and provisioning requirements have all helped. More important, a focus on evaluating bank solvency, more than enforcing a set of detailed regulations, has resulted in lower systemic risk across the board. But there are still many instances in which neither investors nor bank supervisors are able to properly monitor an institution's creditworthiness.

Asset quality is still the main source of risk for a financial institution and must be carefully assessed. There are loan classifications systems in which bad loans can be converted into good ones through restructuring and are never reported as bad by rolling over the debt ("ever greening"). In some instances the main factor for loan classification is performance of payment instead of the financial position of borrower, which also creates difficulties in assessing credit risk. Previously, DFIs in India supported new industries through equity and loan participation, and they usually insisted on payment of dues on existing loans. But these payments may be diverted from working capital sourced from cash credit facilities from banks for their existing ventures. In this way, defaulters could promote new industries. What is important, therefore, is not merely payment record but actual surplus generation by the borrowers to qualify for investment in new ventures. Consolidated supervision of banks and their subsidiaries is another important area that needs to be addressed in future regulatory framework improvements.

Regulation of Financial Conglomerates. In 1993, the Bank for International Settlements (BIS) set up a Tripartite Group of banking, securities, and insurance regulators to consider ways of improving the supervision of financial conglomerates. The Tripartite Group agreed that the term "financial conglomerate" would be used to refer to "any group of companies under common control whose exclusive or predominant activities consist of providing significant services in at least two different financial sectors (banking, securities, insurance)." Many of the problems encountered in the supervision of financial conglomerates would also arise in the case of mixed conglomerates offering not only financial services, but also non financial services and products. Coordination between RBI, Insurance Regulatory Authority, and Securities and Exchange Board of India (SEBI) is becoming increasingly urgent.

ASSET LIABILITY MANAGEMENT

Maturity Mismatch. Interest rates have changed several times over the past seven years causing maturity transformations in assets and liabilities and their frequent reprising. A clear and continuous statement of rate sensitive assets and rate sensitive liabilities has to form the basis of interest rate risk management. RBI is expected to issue guidelines that show that management-driven asset liability management (ALM) initiatives in banks are absent. This is also the reason why India's money market has remained mostly as a call money market that is meant for clearing day to day temporary surpluses and deficits among banks. Traditionally, many banks, including the foreign banks, have used "call" money as a regular funding source.

PSBs are notably absent players in the market for term funds since they lack data on maturity gaps and interest rate gaps to be complied under ALM discipline. The common complaints about difficulties in collection of data from hundreds of rural and semi urban branches will not be combated unless there is computerization in these branches to facilitate data compilation progressively. According to RBI and many PSBs, about 80 percent of deposits are term deposits (one to three years). Long-term lending (three to five years) comprises about 30 percent of total loans and thus, maturity mismatch is not a serious issue. However, this claim may not be valid as maturity of deposits and term loans are not disclosed. Moreover, banks have invested a large portion of funds in Government securities and debentures (long-term assets). RBI should highlight and address the real maturity mismatch issue. Call money market is an age-old terminology that RBI itself has to stop referring to in its publication. The "call" segment of the market is different from the "term" segment in all sophisticated market centers in the world.

Sophistication. The importance of more sophisticated ALM has increased for Indian banks in view of liberalization of interest rates and business activities, limits to the expansion of lending volume, introduction of derivatives, prevailing international discussions concerning risk management, innovation of computer technology, and globalization. In ALM, risks in the banking account (which comprises the traditional banking products including deposits and loans and the trading account, which mainly comprises short-term trading products such as foreign exchange and investments) are managed separately. The primary focus is on how to hedge the passively arising interest rate risk in the banking account.

However, given the changes in the business environment, Indian banks and financial institutions have to move forward to maximize profits through comprehensive measurement and management of market risks, particularly interest rate risk, by

- upgrading the risk management measures for banking and trading accounts, thus integrating the risk measurement for the institution as a whole;
- shifting the focus of ALM in the banking account from simply hedging risks to actively taking and controlling risks; and

- reviewing organizational structure to make risk management more sophisticated and provide for more flexible ALM operations.

An example of such organizational structure review is strengthening the authority of a financial institution's ALM committee, or by establishing an ALM expert section or a middle office. Risk management can shift from the worst method of controlling the market risks related to assets and liabilities to an integrated risk management measure incorporating the credit risks in the banking and trading accounts. This shift would enable objective assessments of profitability and, based on these assessments, a strategic allocation of resources could be carried out.

In general, the development of ALM operations has to be in the direction of an objective and comprehensive measurement of various risks, a pursuit of returns commensurate with the size of the risk, and a strategic allocation of capital and human resources based on the risk. This can be said to be the key to successful ALM in an era of financial liberalization. Unless Indian banks and FIs adopt these principles, there can be little progress in the following critical ALM operations:

Upgrading of trading techniques; Implementation of flexible ALM operations in the banking account, such as strategic risk-taking operations that use interest rate swaps and investment securities and strategic pricing of medium to long-term deposits, as well as the concentration of interest rate risk at the head office through a review of the interoffice rate; and

With regard to customer business; The provision of various financial services based on improved market risk management ability—for example, the development of new types of deposit and loan products involving the use of derivatives and the provision of ALM services—and the search for new clients among small- and medium-size firms through sophisticated credit risk management techniques.

The evolution in financial management in terms of sophistication in ALM operations has to be an autonomous response and not driven by regulators.

Single Customer Limit. Single customer limits are set at less than 25 percent of net worth of the bank for a single customer, and less than 50 percent of net worth of the bank for a group. By definition, a loan includes debentures issued by the customer. As loans of PSBs are limited, they would be able to comply with these ceilings. However, small private banks may exceed these ceilings if proper supervisory measures are not undertaken.

Risk Assessment of Investment. Banks are required to comply with the SLR by investing in approved securities, e.g., central Government bonds, Treasury bills (T-bills), and state government bonds. Moreover, banks invest in PSU bonds, corporate debentures, and equities (limit is 5 percent of the increase in the previous year's deposits). Investments are assessed at market prices. As for approved securities, only 60 percent of outstanding are assessed at mark-to-market. It is difficult to identify the actual asset position of banks if approved securities are not assessed at market price. For this reason, RBI is planning to require banks to assess 100 percent of the approved securities at mark-to- market in a few years.These regulations are based on the Government's objective of bringing down fiscal deficit. It recognizes the fact that it is simply not feasible for banks and FIs to increase the share of Government securities in their portfolio without affecting their own viability and indeed the viability of the productive sectors of the economy. Despite the progressive reduction in the SLR over the past five years in the wake of implementation of Narasimham Committee (I) recommendations, banks voluntarily directed high deposits growth into risk free assets of Government securities. This trend coincided with companies raising external commercial borrowings and issuing GDRs in international markets in preference to borrowings from banks. Backtracking during previous changes in government on efforts to curb the fiscal deficit caused monetary policy to be tight and interest rates to remain high. Now that an industrial slowdown has set in, RBI has concluded that nothing should be done to dampen the emerging signs of incipient recovery and focus should be largely on strengthening balance sheets of banks and financial institutions.

Excess investments made by banks in Government securities point to the fact that investable surpluses have not been adequately deployed to finance industry and trade. Clearly, banks have been unable to predict interest rate changes, the root cause being that ALM has been neglected. Through 1993/94 to 1997/98, PSBs invested in Government securities in excess of SLR requirements by an average of 6 to 7 percent. The trend continued even through periods of high growth in the economy when the overall GDP grew at more than 7 percent. The growth in SLR securities with the banks in excess of the requirement has been high.

Investments in Government securities are totally risk free over a certain period. Banks can end up making large provisions if interest rates rise consistently over several years. This would depreciate the heavy portfolio acquired, as was demonstrated in 1995 and 1996 when Government securities depreciated as interest rates perked up. Based on their experience, RBI has begun to assign some risk weight to Government securities to discourage banks from buying heavily into them.

Assigning risk weight to Government securities, however, contradicts the statutory requirement of maintaining minimum liquidity in Government securities investments. Also, balance sheets would not be strengthened significantly nor would the attraction of investing excess funds in Government securities be removed. Instead, banks should have strong ALM practices and risk management system in the commercial lending area. RBI and Government should improve bank balance sheets by removing contamination effect of NPAs in the form of Government guaranteed loans; i.e., by issuance of special Government bonds in favor of banks for converting such NPAs into Government debt.

The conflicting considerations—the need to reduce monetary expansion while at the same time nurturing real growth—starkly illustrate the monetary policy dilemma that RBI faces. It has not proposed to change the CRR or interest rates, and will continue to manage liquidity through open market operations and repo operations. RBI will not hesitate to resort to further monetary tightening if inflationary pressures increase or if external developments warrant. Going a step beyond the recommendations of the Narasimham Committee (II) on introduction of market risk to Government and approved securities, an additional risk weight of 20 percent on investments in Government-guaranteed securities of Government undertaking that do not form part of a market borrowing program is also being introduced.

Trading Risk Management. Banks in India need a new attitude toward the scope and extent of different types of risks. These risks are made up of the dynamics between many conflicting parameters—for example, balancing the needs of market constraints, industries, and geographic concentrations with the individual requirements of counterparties and corporate customers. Information to support such understanding has not historically been defined nor kept within banks' systems. Trading portfolios of banks in India are becoming diverse with the range of bonds, equities, and derivative instruments, and allowance made by RBI permitting investments in overseas markets. Debt swaps and interest rate swaps as well as currency swaps are entered into with foreign banks and such exposures need special monitoring. There is an eagerness to introduce a variety of derivative instruments but the regulatory and risk management apparatus is not fully ready.

Deposit Insurance Premiums. The banking crisis that plagued the US during the 1980s was instrumental in drawing the attention of policy makers to the fact that the system of deposit insurance has to be reformed. In the absence of deposit insurance, banks are vulnerable to a run that will precipitate a liquidity crisis in the financial system. As a consequence, most Governments implicitly or directly guarantee the deposits in their respective banking systems. However, deposit insurance can lead to problems in the form of an increase in the proportion of credit disbursed to risky borrowers. This realization led to a reform of the deposit insurance regime in the US with the enactment of the Federal Deposit Insurance Corporation Improvement Act, which imparts greater autonomy on the banks. The Act provides that "as long as it appears that a bank will be playing with its own money (capital), almost any activity that can be adequately monitored by the insurer could be permitted. But if the structured early resolution fails, early resolution is required through recapitalization by current shareholders, sale, merger or liquidation before the institution's capital turns negative." Clearly, the Act aims to eliminate agency problems by ensuring that the losses are restricted to the shareholders, and do not spill over to affect the depositors or the Government's budget.

In India, however, the Narasimham Committee (II) has recommended differentiated premium rates, which would amount to broadcasting to the public the status of banks. An alternative would be for the deposit insurance system to extend rebates to banks showing improvements and deduct the rebate amount from the next year's premium. Rebates would be on the basis of annual performance whereas penal premium rates would operate only after deterioration is detected.

Capital Adequacy. Capital adequacy is a self-regulatory discipline and cannot save banks that are distressed. As such, the time required for meeting bank capital adequacy must be shortened to a minimum. The CAMEL rating system clearly recognizes the strength of bank capital as just one requirement and also an end product of other processes, mostly management driven. It is essential to amplify the quality of earnings as it is the first thing that catches shareholders' attention. History shows that banking problems germinate during years of economic boom. When the earnings component becomes volatile and susceptible to sharp growth that is not sustainable, the quality of loan/risk assets can become suspect.

PSBs are owned by the Government; therefore, they have implicit guarantees from the Government, resulting in the lack of capital adequacy ratio (CAR) norm. Given the recommendation of the Narasimham Committee (I) in 1991 on the BIS standard of capital adequacy, a CAR of 8 percent was to be achieved by March 1996. Twenty-six out of 27 PSBs had complied with this requirement as of March 1998.

Narasimham Committee (II) recommended CAR targets of 9 percent by 2000 and 10 percent by 2002. As many PSBs have already high CARs (some indicated an average CAR of about 9.6 percent as of March 1998), such targets could be attained. Moreover, as 35 percent of deposits are allocated to CRR and SLR, coupled with investment in Government guaranteed bonds, risk assets are not preferred. However, RBI has introduced a calculation method that 60 percent of approved securities should be mark-to-market, and the ratio will be raised to 100 percent in a few years. Despite the higher mark-to-market ratio, many banks increased investments in approved securities to comply with CAR.

The banks will have difficulties raising more capital in the near future, with capital markets sluggish, investor confidence low, and bank issues unpopular with investors. The need for general provisioning on standard assets increases the pressure on profitability of banks as Government-guaranteed securities are prone to default.

- RBI has decided to implement certain recommendations of Narasimham Committee (II).
- Banks are to achieve a minimum of 9 percent CAR by 31 March 2000. Decisions on further enhancement will be made thereafter.
- An asset will be treated as doubtful if it has remained substandard for 18 months instead of 24 months. Banks may make provisions in two phases. On 31 March 2001 provisioning will be at not less than 50 percent on the assets that have become doubtful on account of the new norms.
- On 31 March 2002, a balance of 50 percent of the provisions should be made in addition to the provisions needed by 31 March 2001. A proposal to introduce a norm of 12 months will be announced later.
- Government-guaranteed advances that have turned sticky are to be classified as NPAs as per the existing prudential norms effective 1 April 2000. Provisions on these advances should be made over a period of four years such that existing/ old Government-guaranteed advances that would become NPAs on account of new asset classification norms should be fully provided for during the next four years from the year ending March 1999 to March 2002 with a minimum of 25 percent each year. To start with, banks should make a general provision of a minimum of 0.25 percent for the year ending 31 March 2000. The decision to raise further the provisioning requirement on standard assets shall be announced in the process.
- Banks and financial institutions should adhere to the prudential norms on asset classification, provisioning, etc., and avoid the practice of ever greening.
- Banks are advised to take effective steps for reduction of NPAs and also put in place risk management systems and practices to prevent reemergence of fresh NPAs.
- PSBs shall be encouraged to raise their tier-2 capital, but Government guarantee to bond issues for such purpose is deemed inappropriate.
- Banks are advised to establish a formal ALM system beginning 1 April 1999. Instructions on further disclosures such as maturity pattern of assets and liabilities, foreign currency assets and liabilities, movements in provision account, and NPAs, will be issued in due course.
- Arrangements should be put in place for regular updating of instruction manuals. Compliance has to be reported to RBI by 30 April 1999.
- Banks are to ensure a loan review mechanism for large advances soon after their sanction and continuously monitor the weaknesses developing in the accounts in order to initiate corrective measures in time.
- A 2.5 percent risk weight is to be assigned to Government/approved securities by March 2000.
- Risk weights to be assigned for Government guaranteed advances sanctioned effective 1 April 1999 are as follows:
  1. Central Government: 0 percent;
  2. State government: 0 percent;
  3. Governments that remained defaulters as of 31 March 2000: 20 percent;
  4. Governments that continue to be defaulters after 31 March 2001: 100 percent.

The size of bank issues, sequencing, and readiness of the capital market to absorb all public offerings will pose tremendous challenges to bank management. The time frame allowed for adjustments seem to be insufficient since profitability cannot be raised rapidly enough to accommodate additional provisioning and still be considered attractive by investors. This raises a question on how far banks will actively support growth through new financing initiatives. Clearly, additional returns to inject better profitability in the short run have to come from (already shrunk) avenues of short-term financing and not from new industrial and infrastructure projects, which entail long gestation periods.

Table 3.4 Capital for Banks

Name of Bank	**1997/98**
State Bank of India	14.58
State Bank of Bikaner & Jaipur	10.65
State Bank of Hyderabad	10.83

State Bank of Indore	9.83
State Bank of Mysore	11.61
State Bank of Patiala	13.24
State Bank of Saurashtra	18.14
State Bank of Travancore	11.48
Allahabad Bank	11.64
Andhra Bank	12.37
Bank of Baroda	12.05
Bank of India	9.11
Bank of Maharashtra	10.90
Canara Bank	9.54
Central Bank of India	10.40
Corporation Bank	16.90
Dena Bank	11.88
Indian Bank	1.41
Indian Overseas Bank	9.34
Oriental Bank of Commerce	15.28
Punjab & Sind Bank	11.39
Punjab National Bank	8.81
Syndicate Bank	10.50
United Commercial Bank	9.07
Union Bank of India	10.86
United Bank of India	8.41
Vijaya Bank	10.30

TIER-2 Capital for Banks. To meet CAR requirements, seven banks—Canara Bank, Punjab National Bank, Central Bank of India, Indian Overseas Bank, United Bank of India, Federal Bank (private sector), and Vijaya Bank—are finalizing plans to raise about Rs20 billion worth of subordinated debt, which qualifies as tier-2 capital. The funds will be raised in the form of bonds from the domestic private placement markets in 1998/99. With this, the total amount of tier-2 borrowing (primarily debentures and bonds as against equity shares, which are considered tier-1 capital) planned in November 1998 to February 1999 have exceeded Rs150 billion.

While RBI regulations have capped the coupon rate on bank offerings to 200 basis points (bp) above the coupon rate on similar Government securities, none of these banks can hope to find market interest at such fine rates. A five- to six-year bank borrowing will have to be capped at about 14 percent as similar Government borrowing was affected at a coupon of 11.78-11.98 percent in 1998-1999. However, with the top of the line FIs raising five-year funds at 14 percent, these banks will have to offer more incentives to investors. Public issue timing and pricing is a new challenge for PSBs. There are reports that some banks have invested in tier-2 capital issues of other banks and it remains to be seen how it will affect their CAR.

Table 3.5 Capital for Financial Institutions

Institution	As of 31 March 1998
IDBI	13.7
ICICI	13.0
IFCI	11.6
SIDBI	30.3

IIBI	12.8
Exim Bank	30.5
NABARD	52.5

MERGERS AND RECAPITALIZATION

Consolidation of the Banking Industry. Global trends in the banking industry in recent years have focused on cost management, which drove banks to venture into nontraditional functions, standardize products, and centralize activities, and form mergers and alliances to gain capital strength and access to broader customer bases. Such global trends are found in India, with the exception of consolidation. The Indian banking system is still in the growth phase. The impulses of consolidation are not yet seen in private banks and much less so in PSBs whose policies originate from the Government. Even the merger of one PSB with another that took place five years ago in the early period of banking sector reforms benefited neither bank. The increasing forays of banks into new areas and convergence of business operations of banks, DFIs, and NBFCs raise the issue of merging banks, based on specific business complementarities. Mergers would be determined by the size of the balance sheet, or by efficiency, competitiveness and strategic repositioning to reduce intermediation costs, expand delivery platforms, and to operate on economics of scale. The Government is disinclined to urge mergers whereas RBI wants market forces to decide.

In the corporate world, 50 percent of mergers fail due to cultural incompatibility of the two organizations coming together. The Government in 1996/97 favored merging banks to create mega banks of international size and competitiveness. The only merger that materialized was five years ago between ICICI (a DFI) and the financially ailing Imperial Tobacco Company (an NBFC of the multinational: ITC). ICICI had the incentive of a tax shield advantage in addition to expansion into retail business and a network advantage. But the resulting merger was widely regarded as unsuccessful for both parties. Mergers of international banks are being evolved to develop synergy and worldwide international competitiveness. Indian banks have a long way to go in this regard. The country has a lot of small banks not interested in the global market, for they lack the required expertise. They need to remain focused on doing what they do best—understanding their local market base. The danger is that of becoming too specialized, because when business drops, the difficulties start. Banks need to diversify. In the right place and with the right focus, there is room for big multinationals and small private banks operating within a country. A smooth merger may be possible among the eight state banks because of their 50 years of staffing and management homogeneity, while small private banks may be forced to merge to remove diseconomies of scale.

Consolidation will remain a matter of theoretical discussion at least until after the merger of New Bank of India with Punjab National Bank has been studied. The problem of weak PSBs is a separate one. Banks that were nationalized in 1969 had a regional branch network and influence before nationalization. Instead of mergers, they should be given freedom to expand their branch network in regions of their choice to facilitate relocation of staff that were rendered surplus due to computerization. SBI has allowed its associate banks to expand in their respective regions. Such a policy may accelerate improvement in the population per branch ratio and also productivity.

Recapitalization. The Government owns the core of the Indian banking sector, a factor that has contributed to its quick recovery from capital shortage. It did not need to adopt the complicated procedures observed in the rehabilitation processes of Japan and Korea to inject public funds into major banks. The Government even helped the nationalized banks increase their CARs. Recapitalization has been going on since 1991 in line with the implementation of the recommendations of Narasimham Committee (I). The total amount of net contribution of the Government to the nationalized banks up to February 1998 was Rs194.03 billion, which was 5.5 percent of total assets as of March 1997. Needless to say, this recapitalization of the nationalized banks has been supported by India's taxpayers. Additionally, some PSBs issued equity or subordinated debt to increase CARs. Three nationalized banks (Dena Bank, Bank of Baroda, and Bank of India) raised capital of Rs17.05 billion through public issues. In contrast, four PSBs obtained capital by issuing subordinated debt. However, the precise figure of the amount of capital derived from the subordinated debt is not available.

This process of bank recapitalization was guided by the Indian authorities because the Government and RBI are major holders of PSBs. Thus, in theory, there should esist no conflict between shareholders and the regulatory authorities that monitor the process on behalf of depositors and other debt holders. This conflict sometimes complicates and hinders the process of disposing of distressed banks in a fully privatized banking industry, such as that in countries like Japan. The public issues by PSBs suggest that the Indian Government believes that bailout of such banks through capital injection is costly. However, according to the recapitalization figures of nationalized banks, the Government has not yet abandoned the policy of restricting interface of PSBs with the capital market. It will take a long time for the capital market to play a pivotal role in monitoring and disciplining bank managements in India. Meanwhile, the shortage of capital seems to be getting worse in the cooperative bank sector although the expert committee organized by NABARD recommends that the stringent capital adequacy norm should be extended to cooperative banks and RRBs. The committee recommends that the Government rescue program should be quickly implemented to assist cooperative banks to achieve 4 percent capital adequacy level by the end of March 1999.

RESTRUCTURING COMMISSION FOR WEAK BANKS

Bank Restructuring. The Narasimham Committee (II) recommended a restructuring commission as an independent agency to run weak banks to restore them to operational health over a period of three to five years. Also, such banks should operate as "narrow banks," i.e., deploy only deposits for investment in Government securities. The recommendations ignore that the weak (public sector) banks are old banks and they should be dealt with according to causes of deterioration such as mismanagement, lack of supervision, and political interference. The Government and RBI instituted restructuring exercises for weak banks detected based on the implementation of recommendations of the Narasimham Committee (I) in 1992/93. There are only three PSBs (India Bank, United Commercial Bank, and United Bank of India) that still require treatment. What has gone wrong with these banks is well known and remedial measures should lie with individual banks according to the nature of their respective sickness. Since investment in Government securities now carries risk weight, narrow banking may not be the correct solution.

The weak banks must improve the bottom line of each branch by adding earning assets. In the absence of these, they may end up with "one-legged managers," i.e., who know only how to raise deposits (liabilities) but are averse to risk management (of assets). These banks are too big and rationalization or closure of branches is not going to mitigate their major weaknesses. A long-term solution will lie only in financial strengthening and efficiency. Since mergers with the strong banks have been ruled out, the Government as the owner must stand by these banks while firmly rooting out bad managers and deficiencies. Restructuring does not have fixed rules and has to be bank specific, depending on several factors, as follows:

- importance of the banking system to the economy,
- methods for developing institutional arrangements,
- maturity of society, and
- political system.

Re-dimensioning (i.e., downsizing) by closure of branches will go against India's development objective of reducing the population-branch ratio. The much neglected cooperative banking sector cannot fill the increasing service delivery gap for a population that is rapidly rising.

Asset Reconstruction Fund. Developmental banking remains the need of the country and the Government should concretely demonstrate the will to back the risk-taking ventures of banks. The ability of public sector banks to raise equity from the markets will depend upon how Government chooses to back the banks. An asset reconstruction fund (ARF) is a solution that will favor bad banks while penalizing good ones. The current thinking is that an ARF would be formed for weak banks with equity contribution from PSBs. This would amount to withdrawing equity from such banks in times when they have to meet stringent CAR deadlines. It is the weak banks and their borrowers who must struggle to reform the balance sheet. Debt recovery processes in India are tortuously lengthy and ARF will not deliver goods better than the banks and their particular branches out of which funds have been lent. Unlike the banking crises in Asia, Latin America, or the savings and loans problem in the US (in 1989), Indian banks' NPA problem was not caused by excessive risk concentrations. The real sector (which has been buoyant in Asia) has not undergone structural changes to be internationally competitive and Indian banks have remained at the receiving end. PSBs should seek conversion of non payable debt obligations of the defaulting borrowers into equity and line up cases for sale/mergers. What banks can do in this respect, ARF will not be able to do. Instead, a lot of time will be wasted in finding equity for ARF and assembling NPA assets from banks for transfer to ARF. The need is to reform the real sector and also to develop preventive controls in banks.

The weak PSBs owned by the Government are of the "too big to fail type" and have been in existence for nearly a century. The critical policy initiative should be to reform and recapitalize them instead of relieving them of bad debts through an ARF vehicle.

Asset Restructuring Company (ARC). The Union Finance Ministry is considering asking the strong PSBs to set up an ARC for the weak banks who have problems in recovering their bad loans. It is proposed that the debt funding of ARC be through the issuance of Government-guaranteed bonds. Although the Finance Ministry has not yet taken a final decision on the modalities of an ARC, an internal study on establishing an ARC is being worked out.

Operational Efficiency. The most important problem facing Indian banks is how to improve their operational efficiency. Overall efficiency of the banking sector may be measured by an index of financial deepening defined by the ratio of total bank deposits to GDP. The improvement can be partly explained by the expansion of the branch network in India. However, in spite of the branch network expansion, financial deepening still remains at a low level (less than 40 percent) by global standards. The Indian financial deepening index is slightly higher than those of the PRC and Vie nam at the beginning of their respective market reforms. This suggests that there is plenty of room for the Indian banking sector to increase its presence in the financial system. Commercial banks in India will also have to service the demands of the different economic segments. They must not ignore nor prefer to serve only one of these at the expense of the others. Banking services have to be designed and delivered in response to the wide disparity in standards and ways of living of rural, semi-urban, urban, and metropolitan populaces. For example, the banking needs of a vast majority of the Indian population residing in the rural and semi urban areas are relatively simple. In these markets, availability of services, timely credit, and low cost of their delivery are needed.

Autonomy and Governance. The issue of autonomy concerns mainly PSBs and DFIs. Autonomy as a concept can be summarized as follows:

- It calls for separation of ownership and management;
- It requires distinction between bureaucracy and business management. In terms of accountability, this means distinguishing between performance accountability and accountability for misfeasance;
- It necessitates change in the mindset of bankers as well as regulators;.
- Banks have to ready themselves to exercise autonomy. This requires creation of knowledgeable workers who can bring to bear upon the functioning of the bank at all its establishments the collective wisdom of the management;
- Autonomy is inevitable fallout of deregulation;
- Government or regulatory scrutiny does not amount to "back seat driving" and does not deprive a good management of its autonomy; and
- where Government/RBI directives concern procedural aspects in place of performance scrutiny through results, then banks may suffer the phenomenon of "back seat driving."

Increasing public ownership of banks will require management to prudently handle shareholder constituencies since takeovers by speculators wanting to make easy money or ensure financing for their own businesses are among the potential risks. This task lies squarely in the domain of the regulator and corporate offices of banks. Banks as business organizations have to match up to both social expectations and stakeholder aspirations. The board of a bank bears a principal responsibility for fashioning a governance code appropriate to its structure. It is also to be charged with the responsibility of subjecting the code to a periodic review to make it contemporary in a multi business banking organization.

The fundamental factor that has brought boards of directors into the spotlight is a lack of confidence in their system of accountability. The second factor that has focused attention on corporate governance is the emergence of the global market. In the search for attractive investment opportunities, the major institutional investors have moved beyond their domestic markets and are looking to spread their risks geographically. As they do so, they demand high and consistent standards in terms of both financial reporting and the treatment of shareholders' interest, making boardroom accountability and standards of corporate governance a global issue. There are, however, no uniform global standards of corporate governance. Nevertheless, these standards are moving forward and this is gradually leading to a greater degree of convergence between markets. No company can afford to ignore these developments, which are underpinned by advances in information technology (IT) that make information about companies more widely and immediately accessible, thus contributing to the unification of financial markets. This also very much applies to the players in banking and other financial sectors.

Bank Computerization. Entry of new private sector banks, PCBs, and foreign banks offering most modern technology banking has forced PSBs to address computerization problems more seriously in recent years. The pace of computerization has remained slow even though opposition from staff unions has softened. The Central Vigilance Commission wants 100 percent computerization in Indian banks to check frauds, delays, etc. The general perception is that in recent years, the prime focus of bank computerization has been less on the number of branches computerized but more on better connectivity, say, between the head office and regional offices of a bank with select branches. These are usually banks that handle large corporate borrowing accounts on one side, and those that are in high deposit zones, on the other. While the private sector banks have been upgrading technology simultaneously with branch expansion, many of the top PSBs have completed automating their branches in the urban areas. The next step to total branch automation is networking these branches. PSBs need to frame a strategy to choose the branches that have to be included in their networking scheme. Since it would be a daunting task for them to connect all the 64,000 branches spread across the country, as a first step, they are following the 80-20 thumb rule. It assumes that 80 percent of bank's business is carried out by only 20 percent of its branches. It is the branches with substantial business, most of which lie in the urban areas, that are initially targeted for interconnection.

A major problem PSBs have to face once IT implementation reaches its optimum level is staff retention. While the private sector banks have been recruiting trained and experienced IT professionals, it may not be possible for PSBs to do likewise. They will have to train their existing staff to function effectively in the new environment. And once the requisite skills are acquired by employees, they may have trouble retaining staff. PSBs can only allocate limited capital resources to computerization. They will have to choose between high cost of computerization at metro and urban centers and low cost computerization at rural, semi-urban branches. Also, they will have to factor in returns on IT assets, and growth and productivity improvements. Newly opened private sector banks, foreign banks, and a few other Indian banks have started Electronic Money activities, which open up business opportunities but carry risks that need to be recognized and managed prudently. The Basle Committee on Banking Supervision has raised issues of critical importance to banking authorities in this regard. There is no evidence that these aspects are being looked into in India, yet there is a need for auditing firms to be aware of this issue.

Despite recapitalization, the overall performance of PSBs continues to lag behind those of private sector and foreign banks. Questions of ownership, management, and governance are central to this issue. Under public ownership, it is almost impossible to draw a distinction between ownership responsibility and managerial duty. For this reason, Government owned banks cannot insulate themselves from interference. Inevitably, some PSBs are overregulated and over administered. A central concern is that banking operation flexibility, which is essential for responding to changing conditions, is difficult to implement. Under public control, the efficiency objective in terms of cost, profitability, and market share is subordinated to the vaguely defined public interest objective. Moreover, it is not only difficult to inject competition between PSBs since they have a common ownership, but Government-imposed constraints have also meant that they have not been able to effectively compete with private sector banks. India still has to find a middle path of balancing divergent expectations of socioeconomic benefits while promoting competitive capitalism. Political sensitivities can make privatization difficult but the Government aims to bring down its holdings to 51 percent. When that happens, a great stride will have been completed. In 1998, announcements have been made on corporation of IDBI and reduced Government holdings in Bank of Baroda, Bank of India, Corporation Bank, Dena Bank, IDBI, Oriental Bank of Commerce, and SBI. Importance of Branches

Brand Identity. PSBs and the rural banking system have to build up the transaction and advisory services of their branches. In a competitive marketplace, a retail branch environment that can project and deliver the brand promise has become increasingly important. As retail banks undertake strategic reengineering of distribution and delivery strategies, product and service enhancement and network downsizing, they ignore the role of the branch and the power of a brand at their peril, since the branch is a retail bank's shop window and platform for differentiating its products and services. With the growth of automated transactions, the role of the branch is changing and must reflect new marketing and brand communication strategies. Is the branch to be a retail opportunity drawing customers for financial services advice, or is it an outpost of technology and remote transaction efficiency? Can the branch network provide both? The answers lie in the strength, depth, and clarity of an organization's brand identity, which is the foundation upon which a retail bank can communicate its unique product or service.

Interdepartmental Coordination. Branch investment and reengineering is often the responsibility of operations or premises departments with little regard for coordination with marketing departments. In order to maximize the benefits of branch investment or reengineering, astute management teams should integrate all aspects of their brand and its customer interface under identity management to harness the power of the bank

Regional Spread of Banking. RBI currently uses only demographic data for issuing branch licenses. The "population served per branch" criterion is the yardstick that is routinely used to measure the adequacy or otherwise of banking facilities in regions that have been demographically demarcated as follows: rural (population below 10,000), semi-urban (population between 10,000 and 100,000), urban (population between 100,000 and 1 million), and metropolitan (population above one million).

Dividing the total population by the number of bank branches, the population per branch has fallen from 64,000 in 1969 to 15,000 as of June 1997. This does not take into account, however, staff redundancies likely from computer-based banking including the spread of automated teller machine (ATM) outlets. Even in the most advanced branch banking and computerized banking environments such as Canada, the ratio of population to branch is only 3,000 and if ATM banking is included as branch-type retail outlet, the ratio is still lower. In India, foreign banks are fast experiencing staff redundancy and aging problems but not allowed to branch out freely into places requiring competition, especially in foreign trade financing. The Government needs to expand the branch network to ensure a reduction in the population per branch ratio further to 10,000 (phase I), 5,000 (phase II), and 3,000 (phase III) by including, if necessary, ATMs and similar outlets as branches at metro and urban centers.

Spread of Credit Card Culture. It would be worthwhile for RBI to reward banks through a special subsidy for spreading a credit card culture on the basis of the number of credit cards and annual transition volumes. The largest bank, SBI, did not even have a credit card until the formation of its joint venture with GE Capital in 1998/99.

Narrow Banking. Weaker banks have been under pressure to cease lending and concentrate on investments in Government securities, which are subject to depreciation risks. Narrow banking is therefore not a solution for weak banks. Enhancing the branch network can improve the bottom line and should be explored. Such banks require all-round restructuring.

Credit Delivery System. Indian banks' low coverage of bills and receivables financing, and low level of exposure of bank clientele to the foreign trade segment. Partly these should be ascribed to a lack of banking services or expertise of centers where demand for the services exists but is met by distantly placed branches. Inadequate bills and direct receivables financing results in under utilization of network branches through which collections can take place.

Table 3.6 Distribution of Outstanding Credit of Scheduled Commercial Banks According to Type of Account, (percent)

Type of Account	**No. of Accounts**	**Credit Limit**	**Amount Outstanding**
Cash credit	16.1	35.7	35.7
Overdrafts	6.8	7.7	7.4
Demand loans	7.2	7.9	8.0
Medium-term loans	24.8	9.4	10.3
Long- term loans	42.9	18.9	19.8
Packing credit	0.5	7.3	7.0
Export trade bills purchased	0.3	3.2	2.6
Export trade bills discounted	0.1	2.1	1.8
Export trade bills advanced	0.1	1.1	0.9
Advances against export cash incentives and duty drawback claim	0.0	0.1	0.1
Inland (Trade) bills purchased	0.4	1.3	1.2
Inland (Trade) bills discounted	0.3	2.4	2.2
Inland (Others) bills—purchased	0.2	0.9	0.9
Inland (Others) bills—discounted	0.1	0.8	0.7
Advances against important bills	0.1	0.8	0.8
Foreign currency checks/TCs/DDs/TTs/ MTs purchased	0.2	0.4	0.4
Total	**100.0**	**100.0**	**100.0**
Amount (Rs billion)	**4,767,771.0**	**2,684.4**	**2,184.4**

DD = demand draft, MT = mail transfer, TC = travelers check, TT = telegraphic transfer.

Source: Reserve Bank of India.

HUMAN RESOURCES ISSUES IN BANKING

Labor Union and Human Resources. The number of bank management staff and employees in India is vast (223,000 in SBI; 81,252 in SBI Associates; 581,000 in nationalized banks; 57,241 in old private sector banks; 1,620 in new private sector banks, and 13,510 in foreign banks operating in the country). The total is 957,623, with the number of staff employed in cooperative and rural banks equally large. Potentially, the gap between availability of required skills and actual requirements is increasing as more complex product mixes are introduced and traditional banking products are replaced. Another reason is the skewed age profile of employees, some of whom were taken on 30-35 years back when the branch expansion programs started.

Indian banks are highly unionized and productivity benchmarks are not clearly established. To create a more constructive work attitude, the disinvestment or privatization programs of PSBs should include share offerings to staff, an idea successfully carried out by SBI, Bank of Baroda, and Bank of India, among others. The spread of computerization (so far inhibited by staff union pressures on quotas and wage hikes) must be evaluated in terms of return on information technology assets of the banks and revised productivity benchmarks. Another issue requiring attention is regular recruitment in various grades every year, since experienced employees in banking are built up over several years. An embargo on recruitment since 1985 has skewed the age profile of the workforce in PSBs. Such imbalances are difficult to rectify. There are those who argue for productivity-linked wages, which is a dangerous recipe in the context of a unionized workforce.

What is needed is fair competition, merit-based career progression policies, strong management of staff, and transparent performance evaluation systems (experience of international banks paying proprietary rewards and packages for specialist traders, etc., have not exactly been happy since such staff have landed some banks with losses). The merger of banks as recommended by Narasimham Committee (II) to create strong banks that can compete internationally can result only in the creation of formidable union power and amplify inefficiencies. Policies are also needed to prevent significant turnover of banking staff in cities, urban as well as semi urban and rural branches. Incentives must be given to staff in rural and semi-urban branches to increase motivation and minimize fast personnel turnover.

Wage hikes. For the first time, the Government, RBI, and IBA have ruled out a uniform wage increase formula that is not linked to banks' productivity and performance. Across-the-board pay hikes blur the distinction between good and bad performers while operating costs continue to mount. About 80 percent of the operating expenses of PSBs are accounted for by wages and salaries. RBI data on bank intermediation cost (BIC) ratios show that PSBs in the period 1991-1998 recorded an average rise in the BIC ratio, in contrast with Indian private sector banks, which managed to hold the ratio down. The only way forward now is for banks to be left free to genuinely compete.

The Chief Vigilance Commission in 1999 has clarified those banks should be 100 percent computerized by the year 2000 and that bank unions will have no say in this matter. This is to ensure that frauds, which have reached serious proportions under the manual processing system, are kept in check. The area of computer fraud, however, is not addressed. Foreign banks have started reducing staff under the Voluntary Retirement Scheme. Such packages for staff of weak PSBs remain under discussion. Table shows the number of staff deployed in scheduled commercial banks (SCBs), and the number of deposit accounts and borrowing accounts handled. As can be seen from the table, improvements must be made in branch service operations, staffing, and expansion in rural and semi-urban SCBs considering the high volume of banking transactions and the relatively smaller number of staff per branch compared with urban/metropolitan SCBs.

Table 3.7 Number of Offices, Deposits and Borrowing Accounts, and Staff in Scheduled Commercial Banks (inclusive of regional rural banks), as of March 1996

Branch Location	**No. of Branches**	**No. of Staff**	**Amount of Deposit Accounts (Rs million)**	**Amount of borrowing Accounts (Rs million)**	**Staff/ Branch**	**Deposit / Branch**	**Borrowing / Branch**
Rural	32,981	196,031	112.9	28.8	6	3,423	873
Semi-urban	13,731	227,039	109.4	15.9	17	7,968	1,158
Urban	9,798	595,955a	88.5	7.0	34a	9,028	718
Metropolitan	7,946		81.2	4.9		10,224	621
Total	**64,456**	**1,019,025**	**392.0**	**56.7**			

a Includes metropolitan staff. *Sources: Reserve Bank of India, Indian Banks Association.*

Priority Sectors. Indian banks have been assigned an important public role of allocating financial resources to specified priority sectors, a system that has contributed to the creation of assets, a green revolution, and a white revolution,5 apart from strengthening the base of small-scale industries. The level of NPAs should not detract policymakers from supporting banks' roles in the development of the priority sectors. A fair, objective assessment of socioeconomic benefits is needed. Branch expansion in unbanked areas will have to continue to create wealth and prosperity. The economic reforms cannot be molded to leave 60-70 percent of the country's population with only a trickle down effect from reforms.

The shackles of "directed lending" have been removed and replaced by the criteria of merit and commercial viability. Also, expansion in the definition of priority sector, upgrades in value limit to determine SSI status, and provisions for indirect lending through placement of funds with NABARD and SIDBI have lightened the performance load of banks. SSI and export financing take place more in metro and urban areas in a competitive environment. As such, priority sector financing is no longer a drain on banks. There is also a need to simplify reporting formats and cutback on paperwork. This can be done by dividing bank capital for metro/urban areas branches and rural/semi-urban area branches, and imposing the discipline of the CAR and CAMELS model for internal performance evaluation at regional offices supervising such branches. The cooperative banking segment also needs urgent recapitalization support since its entire market and client base is in the priority sectors. Priority sector financing is a continuing priority for survival of banks with large networks of rural and semi-urban branches.

RURAL BANKING

Position of rural banks. RRBs (accounting for 30 percent of the branch network of SCBs) are prime candidates for merger to create a single large rural-oriented outfit with a commercial approach and competencies.

PSBs perceive RRBs as a drag on the system. Although RRBs sponsored by different banks are fragmented outfits, their staff unions have successively fought and secured wage parity with the staff of sponsor banks. As a result, there is a weak rural banking system of branches with highly paid staff instead of the original plan to create "barefoot bankers." RRBs as small banks will remain fragile and their recapitalization (Rs3.64 billion added so far to the Rs1.96 billion of the earlier paid-up capital) has remained a long haul, though the amounts required are much smaller than those received by sponsor banks themselves by way of recapitalization. A large-scale merger would force an appropriate recapitalization, which entails only a one-time cost to the taxpayer instead of a continuous annual invisible cost load. Traditionally rural and semi-urban areas have been looked upon as requiring help and lacking in competent management. This mindset in policy formulation, regulations, and procedures governing the rural banking system has left the rural system ailing, as was revealed during recapitalization/restructuring exercises on RRBs, which had operated under adverse regulatory constraints.6 Liberalization of RRBs' activities has permitted them to participate in more profitable businesses. A single, strong, merged RRB setup would bring to the rural economy a well-directed banking apparatus to take care of infrastructure, export financing, and traditional businesses. This will require better management or setting up new RRB branches in district locations and state capitals, regional boards, and a central board for operational policy governance. Such a bank should be charged with developing linkages between rural and urban centers to provide commercial banking services and not merely rural finance. Agricultural product exports are increasing, establishing the need for new services even at rural and semi-urban level. Unfortunately, post-reform thinking has dampened the will of nationalized banks to serve such needs. Reform proponents have advocated pruning of priority sector credit from 40 to 10 percent for PSBs without considering how cooperative banks and RRBs can fill the void that may be created by withdrawal of major players from the activity.

Clearing system reform. Industrial location policy requires that apart from notified industries of a nonpolluting nature, new industries must be set up beyond the 25 kilometer radius of any city with a population of more than one million. While this has forged close economic links and sparked a daily flow of banking transactions between city and rural bank branches, the latter are not admitted to the city's clearing house facilities. Check collection and related banking services are, as a result, riddled with delays, slowing down the circulation of money and adding to the amount of paperwork, interoffice transactions, and risk of fraud. Expansion of city clearing systems will radically simplify banking and reduce transaction costs of rural branches.

Supervision. NABARD has a statutory supervisory role over 28 state cooperative banks, 364 district central cooperative banks, and 196 RRBs. It also exercises voluntary supervision over 19 state-level and 738 primary-level agricultural rural development banks by virtue of its refinancing and developmental role. An Expert Committee set up by NABARD in January 1998 recommended a comprehensive package of reforms, including extending the capital adequacy norm to cooperative banks and RRBs gradually within a period of five years and three years, respectively. The committee noted that a large number of cooperative banks (66) and RRBs (170) were debilitated and not in a position to meet even the minimum capital requirements because of heavy erosion of assets. In order to improve the prudence of bank management, the internal auditing system must be improved systematically, for instance based on CAMELS rating model.

Computerization.Simple personal computer (PC)-based computerization of rural and semi-urban branches would cost about Rs1.8 billion (cost of PC [Rs40,000] X No. of branches [45,000]), or about $43 million for PSBs. The business of these branches is largely retail and better control on priority sector loans at these branches requires equipment upgrades. Staff training and system upgrades at these branches would have to follow.

NONBANKING FINANCIAL COMPANIES

Fragility of nonbanking financial Companies. Unlike in other Asian economies, the nexus between banks and NBFCs in India is not significant. From 1985 when mutual funds and merchant banking expanded, RBI emphasized that there should be an "arms' length" relationship between banks and their affiliates. This "Chinese Wall" is stronger now than ever before. Private market lenders are considered to have stronger incentives or greater ability to monitor borrowers, and better positioned than public creditors to renegotiate contract terms or exercise control rights in the event of problems. While banks and finance companies are equally likely to finance problematic firms, the latter tend to serve riskier borrowers, particularly those who are more leveraged. This is important for a country such as India, where nationalization of banks has, in many instances, diluted the informality that lower class of borrowers prefer. NBFCs and informal credit markets have thrived on lack of interest in this field among the PSBs and expanded their asset base, fed on appetite for deposits at high rates.

With strict capital adequacy, income recognition, and NPA norms in the offing and with the SSI sector remaining at the receiving end of the economic slowdown problems faced by large corporate, too many restrictions on NBFCs will create only a void in the credit chain that banks cannot fill. Like small private sector banks and primary urban cooperative banks, NBFCs have their place in the financial system and this should not be subject to sweeping changes by regulators. If depositors looking for high deposit rates are willing to take risks, there is no need for them to be cautioned, except in cases of frauds and misfeasance. NBFCs operate in different market segments with relevant marketing strengths such as in leasing, hire purchase, factoring, merchant banking, car financing, transport financing, and home financing. They have different risk profiles as well as asset-liability composition. It is not pragmatic to club them together to be subjected to a strait-jacketed regulatory regime. RBI announced guidelines for NBFCs in January 1998. Among other things, the directives linked the quantum of public deposits that can be accepted by NBFCs directly to their credit rating, and the excess deposits held were required to be repaid before 31 December 1998. The result was panic among the public. RBI has since then modified the rules but there is no assessment so far as to how many NBFCs will be deemed as unviable. Credit rating is a relatively new field in India and public awareness of the nuances of credit rating grades remains poor. NBFCs are mainly deposit-taking companies and a depositor has no way to secure liquidity in the midst of a possible downgrade. Credit-rating agencies already have their hands full with corporate rating business and it is doubtful if NBFCs operating in remote corners of the country can achieve ratings to satisfy their depositors and RBI. And it is also unlikely that all NBFCs can be effectively regulated and inspected by RBI, as the cost would be out of proportion to the risk to be controlled. The best way out for the public affected by the dilemma would be to identify priority centers where bank branches should be opened as alternate service providers in place of NBFCs ceasing to operate or forced to close down.

Need for inter-NBFC money market. NBFCs will remain important as the Government has tasked them to retail the sales of Government securities to the saving public. Moreover, the public will need their services in all other areas not touched by banks. Like banks, NBFCs may have to develop a second tier money market in which borrowing/lending will automatically come under "credit limit" and "credit watch" discipline of the players in similar lines of business. Temporary cash flows must therefore find safe, acceptable investment avenues in the second tier money market. Entities such as mutual funds will welcome this. The gain on the whole will be market-regulated functioning of NBFCs.

Factoring Services. Several companies and SSI units are often exposed to credit risks on sales but do not have the required competencies in receivables portfolio management. Banks providing working capital finance do not give adequate attention to default risks and the quality of receivables. On the basis of recommendations of a Government Committee on economic reforms (1985), the system of factoring was looked into by another committee, and factoring companies were set up as subsidiaries by banks such as SBI and Canara Bank in 1992. In February 1994, perhaps to give further impetus to the factoring system, RBI directed that banks will also have the option to undertake the activity departmentally, though at select branches of the banks since factoring services require special skills and infrastructure. Aside from the four basic factoring services of administration of the sellers' sales ledger, provision of prepayment against the debts purchased, collection of debts purchased, and covering the credit risk involved, factoring companies can also provide certain advisory services to the client by virtue of their experience in credit and financial dealings and access to extensive credit information. Credit information services are highly deficient in India and there is little sharing of information among banks. As a financial system combining all the related services, factoring offers a distinct solution to the problems posed by working capital tied up in trade debts, more than 70 percent of which arise in Indian businesses by virtue of selling "on account (A/C) terms of payment." This is a large volume over which Indian banks have had poor control. Bankers are relatively slow in responding to this important aspect of working capital finance management.

Policy Recommendations. Some major issues are highlighted on the problems of the Indian banking system arising out of the discussion so far, and quoting, where relevant, Narasimham Committee (II) recommendations.

NONPERFORMING ASSET MANAGEMENT

Asset classification. RBI should not relax NPA norms in response to a slowdown in the economy. For prudential norms relating to income recognition, it should adopt the Narasimham Committee (I) recommendation to gradually shorten norms from 180 to 90 days for incomes that stop accruing to be classified as NPAs. Asset quality improvement should take place by tightening norms for classifying assets from substandard to the doubtful category. The downgrading of assets in the Indian system is lax as the move from substandard to doubtful category is made only if it is past due for 30 months or remains in the substandard category for 24 months. This has to be improved upon. Also, the quantifiable criterion for defining a weak bank should be: accumulated losses + net NPAs exceeding the bank's net worth. Payment defaults by borrowers are mainly due to neglect of the receivables portfolio of their current assets, a reason why banks ought to seriously launch factoring and receivable portfolio management services to improve velocity of receivables and the overall credit quality. Net NPAs have to be brought down to below 5 percent by 2000 and to 3 percent by 2002. However, banks with international presence should reduce gross NPAs to 5 and 3 percent by 2000 and 2002, respectively, and net NPAs to 3 and 0 percent by the same period.

As discussed previously, RBI guidelines stipulate that interest on NPAs should not be charged and considered in the income account. The guidelines create some complications in the accounting system. For instance, if a loan has turned into an NPA shortly before the end of a financial year, the interest payments during that and the previous financial years are considered not yet earned and the corresponding book entries recognizing interest income should be reversed. The definition of income recognition has become a critical issue in presenting a clear picture on the profit/loss account of banks. A review and, if necessary, change in the guidelines and accounting system should be immediately undertaken. Banks must adopt methods of converting debt into equities in NPA accounts whenever possible to either ensure turnaround in corporate performance or sell equities to limit future losses. Today banks do not have an exit route.

Analysis of NPAs needs to be carried out not only with reference to sectoral dispersal of NPAs but also to specific accounts of NPAs that are common in balance sheets of banks and AIFIs, to bring about harmonization of their recovery efforts. Among banks and AIFIs, research into cases handled by Credit Guarantee Schemes, Export Credit Guarantee Corporation and state-level institutions as well as by BIFR should help to crystallize core problems of lending systems and problem areas of economic activity.

Problem of the real sector vs. banking sector reforms. Strengthening the viability of the real sector is important for improving Indian banking and the financial system as a whole, which is but an institution to facilitate effective transmission of policies and smooth flow of resources within the economy. The Committee on Capital Account Convertibility has not dwelt on the impact to the real sector of expected inflow of capital in relation to efficiency and absorptive capacity of that sector. In short, the future of reforms will have to focus on how the real sector and banking sector strengthen each other.

Provisions. Prudential norms requiring general provision of at least 1 percent on standard assets must be established. Also, the general provision should consider potential loss assets determined through historical accounts. International banks practice different general provision standards and these should be examined. General provision should also include tax holidays to be granted as an incentive to banks, to accelerate strengthening of their capital base. A risk weight of 5 percent should be applied to investments in Government and other approved securities to hedge against market risk. Also, the entire portfolio should be marked to market in three years. Other non-SLR investment assets of banks need to be brought in line with risk weights assigned to loans and advances. A 100 percent risk weight must be applied to foreign exchange open positions. Gap management is needed to correctly reflect foreign exchange risk exposure.

Focus on nonperforming asset Management. Raising interest rates and relating the economy through increased Government expenditure must be avoided. The risks to the banks and financial institutions come from NPAs that may be generated by a continued industrial slowdown. Thus, NPA management can be carried out by maximizing attention to the extent of credit concentration and considering diversification of credit portfolios through consumer financing, housing loan provision, factoring, and agricultural and SSI financing. Management of NPAs should also focus on improving management culture that permeates various organization levels instead of being restricted to concerns on recovery, capital adequacy, and accounting processes. The NPA problems and their consequences will need to be assessed on the extent of mismanagement, including fraud.

Disclosure, Accounting Framework, and Supervision. There should be consolidation of balance sheets of different entities of banks to reveal their strength and to disclose connected lending, pattern of assets and liabilities (domestic and foreign) in different maturities, and NPAs. Some banks overseas are required to publish cash flows; practice Indian banks have started. The disclosure should also include migration patterns of asset classification, e.g., from "standard" to "substandard", and vice versa, as a measure of the quality of management.

The Indian system of governance (in the public and private sectors) has long fostered a climate of resistance to bankruptcy and also a tendency to provide bailouts that distort the risk. As such, the reform process will be a long haul. The sequencing may not be perfect and will necessitate adjustments. Restructuring will also be required separately for institutions remaining in difficulty. Real sector reforms, especially in terms of international auditing standards, accounting, timely and accurate information to markets, and good governance practices, must be aggressively pursued to support improvements in the soundness of the financial system.

REGULATION AND SUPERVISION

Regulatory framework. The Narasimham Committee (II) suggested that the "Basic Core Principles of Effective Bank Supervision" be regarded as the minimum to be attained. Banks must be obligated to take into account market risk weights to foster a sound and stable system. For RBI to effectively carry out its monetary policy, delineation of supervision/regulation from monetary policy is required. The executive associated with monetary authority should not be in the supervision board, to avoid weakening of monetary policy, or banking regulation and supervision. The separation of the Board of Financial Supervision (BFS) from RBI has to be initiated to supervise the activities of banks, FIs, and NBFCs. A new agency, the Board for Financial Regulation and Supervision (BFRS), would have to be formed. To bring about integrated supervision of the financial system, the Narasimham Committee (II) recommended putting urban cooperative banks (UCBs) within the ambit of BFS and proposed prudential and regulatory standards besides new capital norms for UCBs. The Narasimham Committee (II) recommended amendments to the RBI Act and Banking Regulation Act with regard to the formation of BFRS. It also gives more autonomy and powers to PSBs (Nationalization Act). As the changes in the legal framework affecting the working of the financial sector sought by the Narasimham Committee are wide ranging, an expert committee could be constituted.

Regulation and supervision have been strengthened through prescriptions that include the establishment of a statute for BFS. Independence and autonomy of BFS would not be impaired by being a part of RBI. What is important is autonomy for the RBI and dilution of Government ownership in banks. Some legislative action may be needed to support the banking regulatory framework reforms. The reform issues should be examined by research institutions dealing with banking concerns.

Regulation of financial conglomerates. The BIS Tripartite Group agreed that the term "financial conglomerate" should be used to refer to "any group of companies under common control whose exclusive or predominant activities consist of providing significant services in at least two different financial sectors [e.g., banking, securities, insurance]." Many of the problems encountered in the supervision of financial conglomerates arise when they offer not only financial services, but also nonfinancial services and products. Coordination between RBI, Insurance Regulatory Authority, and SEBI is increasingly urgent.

Separating supervision. The likely conflict between monetary policy and supervisory concerns can be taken as the basis and the rationale for combining the two functions. Separate authority structures for the two functions have more likelihood of coming into conflict with each other. The regulatory and supervisory systems have to take into account peculiarities of the banking and financial structures. For instance, India's RRB structure is vast, its cooperative movement quite strong, but banks in this sector are generally quite weak. Creating equal opportunities for banks and FIs has been slow. As a result, financial packaging and closure of projects (term loans and working capital) suffer. Progress on this structural reform has to be constantly monitored. IDBI, ICICI, and IFCI should move toward acquiring banking licenses to provide one-stop services. Since the 1960s, there has existed an unnatural divide between term-lending functions and working-capital finance. The solution lies in putting in place stringent credit monitoring in which banks and FIs should share their expertise and information. There is no need for a super regulator as recommended in 1998/99 by the Khan Committee, which examined harmonization of roles/functions of banks and FIs. RBI should remain the sole regulator to ensure that the financial system is well supervised and that the risks of the real sector do not get transmitted to the financial sector by default. The current worries about strengthening of the financial system stem more from the industry's lack of transparency, corporate governance standards, and accountability to shareholders. Requiring disclosure for quarterly results is changing this situation and making the information flow to investors more orderly. This requirement applies now to banks and FIs that have raised public money. Consequently, tightening of the financial system will be accelerated.

In 1998/99, the World Bank issued a directive that international audit firms cannot put their name to accounts of Indian companies that are not in line with high quality international financial reporting standards. Standards are indeed low but implementing the World Bank directive would not be practicable without Government legislation on standardization of various reporting systems and their incorporation into the Companies Act. The Government has to quickly remove these bottlenecks to boost investor confidence, attract foreign direct investment, and minimize damages to the financial sector.

ASSET LIABILITY MANAGEMENT

Focus on asset liability management. In general, the development of ALM operations has to be in the direction of an objective and comprehensive measurement of various risks, a pursuit of returns commensurate with the size of the risk, and a strategic allocation of capital and human resources based on the risk. The evolution in financial management with the sophistication of ALM operations has to be an autonomous response and not driven by regulators. As banking and financial sector reforms have been under way in India for the last six years, the only factor that could affect their balance sheets is lack of ALM in terms of maturity and interest rate mismatches. Banks will have to participate actively in forming money markets and to enforce data generation at each branch level. RBI, in its Monetary and Credit Policy Review (30 October 1998), announced the introduction of interest rate swaps but these will be used only when banks discover the extent of mismatches that cannot be cleared through term-money markets. With respect to "off-balance sheet" assets, there will be a need to create a corporate level knowledge base in banks about items that offer "price risk transferring" or "credit risk transferring" or both opportunities. Examples of the former are swaps, futures, options and loan caps, forward rate agreements, and credit enhancing guarantees. Credit risk transferring opportunities include letters of credit and note issuance facilities.

Bill culture. In order to promote bill culture and the secondary market, RBI directives require borrowers to resort to bill financing to a minimum of 25 percent of receivables. Most borrowers, especially among SSIs, find compliance difficult and it is not known how many are forced to forgo financing from banks and resort to market borrowings. The "on account payment" invoicing is the dominant trade practice in India and unless banks introduce factoring, the legitimate bank credit needs of such borrowers will remain unmet. Deficiencies of Indian bills and money markets have persisted despite reports by high-level committees during the late 1980s. The quality of receivables continues to be unsupervised and securitization is still a remote possibility.

Trading risk management. The trading portfolio of banks in India is becoming more diverse with a range of bonds, equities, and derivatives available, and RBI permitting investments in overseas markets. Debt swaps and interest rate swaps as well as currency swaps are entered into with foreign banks and such exposures need special monitoring. There is an eagerness to introduce a variety of derivatives but the regulatory and risk management apparatus is not fully ready.

Internal audit machinery and compliance. There are dangers in banks' practice of cosmetic cleaning or "ever greening" of advances to prevent NPAs. In 1996/97, the Jilani Committee10 observed that banks' internal audit machinery and compliance are weak. RBI stipulates that audit committees of boards should seek to ensure management's commitment to internal audit control. This can be made stronger by stating that internal audits are management's reporting responsibility to stockholders. The internal auditing system should be established by training bank inspectors and rotating their assignments. With regard to computer audits, SBI and IBA have been doing work in this area since 1987. Computer audit skills are lacking even in India's chartered accountant firms. It is worth having computer audits as a statutory requirement. In the US, the Federal Reserve and FDIC have jointly issued manuals on electronic data processing audit on the grounds that "technology changes the way business is done in banks." The computer audit of computer service agencies by banks employing them is mandatory (with respect to outsourced work).Certification of Information Systems Auditors (CISA) examinations from the US are now available in India, but few bank staff take them. Banks' inspectorates and chartered accountant firms should have CISA qualified auditors.

Similarly, banks, nonbanks, and companies require professionals qualified in handling foreign exchange trading. In fact, RBI has taken the lead to define risk management standards in PSUs that take on foreign exchange exposure. There is also a need for professionals qualified to carry out securities and stock market trading in all the market intermediaries.

Capital Adequacy. A capital adequacy of 9 percent should be achieved by the year 2000 and 10 percent by 2002. This goal should be weighed against the expected financial support from banks for economic growth and protection of risk assets. In the first phase of reforms (1991-1997), banks changed their approach from "growth budgeting" to "balanced growth budgeting" (i.e., with reference to their own funds). The dilemma of banks' shortage of capital to cope with increasing credit demand must be resolved as a priority so that capital adequacy does not become an end in itself.

Measures should not be implemented in isolation. If the capital adequacy levels are being brought to international levels, then the concept of a tier-3 capital should also be introduced, i.e., as a subordinated debt instrument (of shorter maturity of two years)much like the bonds issued towards tier-2 capital (of five years maturity). Other measures to strengthen banks should seek to eliminate the management dilemma. This can be done if banks themselves internalize a culture of self-evaluation under the CAMELS model by undertaking periodical management audits. The core message of capital adequacy and prudential norms is self-regulation. Measures to be taken in the second phase of banking reforms should be based upon a study of the impact of reforms initiated in the first phase. But as the reforms were introduced in stages, it is too early to assess their impact. What has been achieved is transparency with respect to banks' financial statements, bringing Indian accounting standards closer to internationally accepted norms. One discernible impact has been that all but two PSBs (Indian Bank and United Commercial Bank), had met by 31 May 1997 the capital adequacy norm of 8 percent and some are already well above that threshold. For instance, that for SBI is 14.58 percent; UBI, 10.86 percent; BOI, 9.11 percent; Dena Bank, 11.88 percent; and IDBI, 13.7 percent. The weaknesses that have emerged in the banking system are in fact weaknesses of the perform period. The issues to be tackled in the second phase of reforms are large and cannot be delayed because the adjustment process would become increasingly difficult. As far back as 1961, RBI advised banks to aim for a CAR of 6 percent (of paid-up capital and reserves to deposits) because they had been increasing their assets without a corresponding augmentation in the capital base. This ratio declined from 9 percent in 1950 to 4 percent in 1960 and 1.5 percent in 1978.

Mergers and Recapitalization. The Narasimham Committee recommended that after the activities of DFIs and banks have converged for a period, the DFIs should be converted into banks, leaving only two types of intermediaries—banks and nonbanks. While mergers between strong financial institutions would make sense, the weak banks in the system would have to be given revival packages. The licensing of new private sector banks needs to be reviewed, while foreign banks will have to be encouraged to extend their operations.

The importance of the tasks ahead is underlined by the fact that Government recapitalization of nationalized banks has cost Rs200 billion. SBI has been an exception particularly because it has addressed (since 1974) the task of reflecting its financial strength through the building of reserves. This is due to the requirement to raise lines of credit in the international market for itself and for Indian corporate. SBI has done this regularly for some years since 1972. It was late in establishing offices overseas but quickly caught up with international standards of management. One factor that has helped SBI has been the private shareholdings held in it even after 1955 when RBI acquired a majority share. As a result, SBI has been required to hold annual general meetings of shareholders and has benefited from the system of checks and balances, disclosure disciplines, and dividend expectations of shareholders. With most nationalized banks incurring continuous losses since 1992/93, returns on capital have been negative, preventing buildups of reserves. Slow accretion in reserves was also due to higher provisioning requirements under the new prudential norms. With the Government no longer willing to provide further capital, the only route for PSBs to improve their capital base is through substantial improvement in generation of internal surplus so as to be in a presentable shape to approach the capital market. These features and the weaknesses of the rural banking system should determine the measures required in the second phase of reforms.

Government-guaranteed advances that have turned sticky should be classified as NPAs and, in cases where sovereign guarantee argument is advanced; there should be appropriate disclosure in the balance sheet of banks. Potential for conversion of such loan assets into Government debts in the form of securities issued to banks should be looked into as a way of removing contamination from banks' balance sheets. This way, a loan asset in a bank's balance sheet would be transformed into an investment asset. The measure would not only help to clean up bank balance sheets but also strengthen the Government's resolve to eventually sell off or privatize the business units for which the Government provided a guarantee to a bank. This will in turn contribute to an improvement in the recovery climate.

BANK RESTRUCTURING

Fiscal implications. All bank restructuring attempts have fiscal implications that are bad if considered in isolation. The advantage lies in taking on the fiscal impact and not allowing problems to fester. The Government should draw up a total balance sheet of bank nationalization and socioeconomic gains to strengthen PSBs, on which it will have to depend if it is to reduce the population/branch and ATM11 ratio from 15,000 to 3,000.

Asset Reconstruction Company. The Government should not provide capital support or indirect financing to ARCs. The Narasimham Committee (II) recommended that there should be no further bank recapitalization other than the undisbursed amount of Rs4 billion from the previous budget provision that can be diverted as seed capital for ARCs. ARCs will be required for banks that are not viable over a three-year period. Such banks will have to be referred to the Restructuring Commission. The Narasimham Committee proposed the establishment of ARCs to tide over the backlog of NPAs. Banks would undertake financial restructuring by hiving off their NPA portfolios to ARCs and obtaining funding from it through swap bonds or securitization.

But the Indian banking sector does not require any emergency policy for rebuilding, despite the NPA problem. The only banks that need to be recapitalized in the near future are some rural and cooperative banks. The dangers of ARCs are obvious since it could prove to be an easy route for commercial banks to clean up their balance sheets, creating scope for staff to repeat mistakes instead of learning from them. Banks have managed recoveries and creation of ARCs would only reverse the healthy recovery of management systems that banks are hoping to establish.

Operational efficiency. The private sector's partial ownership of SBI has contributed to its exceptional operational efficiency even after 1955 when RBI acquired majority shares. This suggests that it is advisable in the long term for the Indian banking sector to increase the share of private ownership. In order to reduce the social burden caused by banking sector inefficiency, banks should be given wider management autonomy. The Government should gradually but steadily reduce its ownership of the banking industry while maintaining rigorous prudential regulation and rationalizing its supervision capacity. To bring about efficiency in banks, the Narasimham Committee (II) recommended a number of measures. These included revision and regular update of operational manuals, simplification of documentation systems, introduction of computer audits, and evolution of a filtering mechanism to reduce concentration of exposures in lending and drawing geographical/industry/ sectoral exposure norms with the Board's concurrence. Besides, the Narasimham Committee suggested the assignment of full-time directors in nationalized banks. As outsourcing of services would improve productivity, it recommended that the same be introduced in the fields of building maintenance, cleaning, security, dispatch of mail, computer-related work, etc., subject to relevant laws. It also suggested that the minimum stipulated holdings of the Government/ RBI in the equity of nationalized banks/SBI be reduced to 33 percent.

With regard to the tenure of a bank's chief executive, the Narasimham Committee indicated a minimum period of three years. However, a more reasonable length of tenure should not be less than five years. Managers should be given incentives to adapt their managerial structure to new developments in financial technologies and to changes in client demand for financial services. The Government needs to seriously consider an increase in management autonomy in the banking industry, because it is essential to efficient management. Systems and methods in banks should be improved. Some of the issues are at the micro level and best achieved if banks internalize the system of self-evaluation under the CAMELS rating model. Banks also need to effectively exploit their networks of branches established in the past at low cost. It is necessary for PSBs to introduce factoring services and also activate a short-term bill financing mechanism, both of which entail utilization of the branch network for collection of the factored invoices and bills for clients.

Autonomy and Governance. Autonomy and sound governance are likely to be achieved after privatization of banks has taken place. The Narasimham Committee's observation that most banks do not even have updated instruction manuals proves the point. RBI's selection of statutory auditors for banks may seem to conflict with the requirement for sound corporate governance. However, such regulatory intervention will remain useful until banks can fully strengthen their internal systems and procedures, risk management standards, and the required preventive and detective controls. Recruitment and workforce management as well as remuneration management should be left for banks to handle. But apart from exceptional cases, this is not a priority area. Although the problem of overstaffing is a legacy not easy to get rid of, it has been halted since 1985/86 through restrictions in fresh recruitment. All appointments of chairpersons, managing directors, and executive directors of PSBs and financial institutions should be determined by an appointment board. The Narasimham Committee felt that there was an urgent need to raise competency levels in PSBs through a lateral induction of talented personnel. It also indicated that the remuneration structure should be flexible and market driven.

The Government should quickly take steps to induct shareholder nominees on banks who have raised money from the public but do not have representation on the boards. It will also have to reorient economic governance to ensure that transaction costs to the public, trade, industry, and financial sectors are reduced or eliminated. For example, in 1998, the Government released an autonomy package for nine more PSBs (totaling 14 as of 31 March 1998), which result in the elimination of consultations and delays in decision making. A step further would be to install regional boards for PSBs in order to delegate power and improve operational governance. Centralization has built rigidities, fostered mediocrity, and curbed bank expansion in the rural and semi-urban areas. If the Government's plan to computerize all branches is to be achieved, capital will be required that can be found only through cost cutting which itself is dependent on decentralization. Nationalized banks need to have regional boards of directors like SBI to decentralize decision making.

Human Resources Development. Human resources are not merely an asset but the real capital of a bank. Banking in the future will require knowledgeable workers. A bank should have a group of chief officers in a variety of fields so that the collective wisdom of their organization is at the fingertips of every employee. An integrated body of knowledge and professionalism in banking has to be in place to ensure continued financial viability. Staff morale plays a crucial role in developing good organizational culture. In that context, training is going to be an important factor. Resuming recruitment of young trainees, training and retraining of personnel, accelerated promotions for young people through competition, studious habits, strong staff management, matching resources with emerging responsibilities, developing backup support to determine recruitment needs of new skills, and spread of an IT culture are among the issues that have to be addressed. The focus should be to create core competencies for handling various types of risks and customer sophistication, to meet all needs, from rural to urban. There are several institutes and colleges that provide skills- and management-oriented training programs to staff every year. Some are dedicated to individual banks, while a few institutes cater to the needs of all Indian banks and FIs. However, there is only one institute that conducts professional examinations— the Indian Institute of Bankers, which has completed 70 years of service to the banking industry in the country. It develops professionally qualified and competent bankers through examinations and continuing professional development programs. Recognizing that the trend throughout the world is to acquire proficiency in management through Master of Business Administration (MBA) degrees, the institute has signed a memorandum of understanding with the Indira Gandhi National Open University, New Delhi, to offer an MBA in Banking and Finance. This program will enable a practicing banker to bridge professional experience with academic excellence. Banks need to encourage the attainment of relevant professional qualifications among staff, and the institute's activities are steps in the right direction.

Analysis of NPA management in banks has revealed that instruction manuals in most banks are not up-to-date. Audit systems concerned with exercise of preventive and detective controls cannot be effective in such an environment, while training systems will lack a proper foundation. RBI should assign proportionate punitive negative ratings to banks for such deficiencies. The Narasimham Committee (II) has also called for the updating of manuals in banks. Another area of training should concern codes of ethics and public accountability.

Reduction in Priority Sector Loans. Both Narasimham Committees recommended that the directed credit component needs to be reduced from 40 to 10 percent since contamination of banks' balance sheets has come from payment defaults in this sector. With more disintermediation and competition coupled with rising costs and falling income margins in metro and urban centers, more than 70 percent of the branch network of PSBs situated in rural and semi-urban areas should look upon local market opportunities as being a "priority" for the banks themselves. These areas are rich in potential, which banks can tap only if they can introduce technology and computerization at relatively low investment costs. Banks' neglect in this area explains to some extent the growth of the informal sector and NBFCs. Yet the farming community in many states today is well educated and needs modern banking support, which neither foreign banks nor newly opened private sector banks would offer. According to data quoted in the R. V. Gupta Committee Report (April 1998) on agricultural credit through commercial banks: "There has been an increase in the flow of credit to the agricultural sector from Rs112.02 billion by all agencies in 1991/92 to Rs286.53 billion in 1996/97, and to an estimated Rs342.74 billion in 1997/98. This has been possible on account of more refinance extended by NABARD to rural financial institutions, RBI's increased support by way of general line of credit to NABARD for the short term, and introduction of special agricultural credit plans by commercial banks for this sector. RBI has played a central role in motivating commercial banks to place a special emphasis on agriculture. In spite of these initiatives, there is a perception that investments in agriculture have not kept pace with demand."

There is a need to review the best banking practices that brought prosperity to rural and semi-urban areas. The causes of decline should be isolated and tackled. Most of the factors causing NPAs in the priority sectors can be brought under control. The priority sectors include SSI financing, which is handled prominently at bank branches in metro and urban areas (not only in rural and semi-urban areas) and is commercial except that it is under priority credit. By the same argument, agriculture financing in rural and semi-urban areas is equally a commercial proposition. As such, the calculation of contamination coefficient of directed credit13 requires review and should not lead to policies that curtail financing to important economic segments. Most important, a rural banking system under control of NABARD is too weak to shoulder the burden of rural credit. The Government and banks interpret the term "directed" as "targeted" in reference to the Narasimham Committee (I) recommendation for a "directed credit allocation to the priority sector." The shift in focus should be towards timely and adequate credit to eligible borrowers. The "service area approach "introduced in 1987 that allocated command areas to rural banks restricted the choice of bank for borrowers and choice of borrowers for banks that allocated command areas to rural banks. The freedom to manage advocated by Narasimham Committee (II) warrants abandonment of this "service area approach." Freedom also should exist for reporting performances in lending to agriculture with reference to harvest periods instead of using a fixed date of 31 March, which is the banks' balance sheet date, when demand for agriculture credit is depressed.

The Gupta Committee has identified core human resources problems such as staff of rural/semi-urban branches commuting daily from places where their families can stay comfortably. Lack of recognition of performance at such branches by their senior management is another problem. The issue of merging RRBs to create a single rural- oriented banking institution deserves support since recapitalization of more than 140 sick RRBs has still not been decided. Also, capital infusion into cooperative banking is long overdue. This contrasts sharply with the urgency with which nationalized banks received a large amount of recapitalization support from the Government. India cannot have a strong banking system only for metro and urban services if it wants to be globally competitive.

RURAL BANKING

Rural banking and small industrial credit. In the wake of computerization of banks, the management challenge concerns staff redundancies. Branch expansion in rural and semi-urban areas would be a logical way to deploy the excess staff. Some 600 million people (out of a population of more than 900 million) live in these areas. The population branch ratio of 12,000 on a gross basis needs to be reworked separately for rural and semi-urban areas (making allowance for good communication and transportation networks that are available in metro and urban areas) and improved significantly. Economic liberalization since 1991/92 has failed to fully bring forth the "trickle down" benefits to the rural and semi-urban poor and has instead resulted in high investment in the luxury goods sector. The bias should be corrected by boosting Government investment in rural infrastructure and expanding banking activities. RRBs are presently under the control of four regulators: the sponsor bank, state governments, NABARD, and indirectly RBI (under a system of consolidated supervision to which the parent bank of the RRB is subjected). A single countrywide entity merging 196 RRBs of more than 14,000 branches (functioning in 23 different states and 435 districts) could end this fragmentation and develop a focused system. This system could mobilize a large volume of deposits through active management and low-cost technology to achieve a reduction in transaction costs, have its own dedicated training system, establish internal controls, regionalize supervision and audits, create payment networks by having branches at each district under which present rural branches of any RRB fall, and provide timely, need-based credit at each rural area.

More than 14 countries have benefited from "Project Micro banker," a customized version of which can be used by RRBs. Alternatively, software can be developed that will be feasible and cost effective if RRBs are amalgamated. A nationwide payment and remittance system at rural level is necessary because there has been a regular migration of people from different states as farm laborers and industrial workers and these need remittance services. Amalgamation will result in creation of a strong national rural banking apparatus if commercial orientation and management upgrades are also tackled alongside recapitalization. Such a large bank should have branches at districts and state capitals to foster strong links between these centers and outlying rural areas where the majority of RRB branches operate. Besides creating a strong nationwide payment network, it would achieve harmonization of policy and growth strategies—especially in agriculture and agro industry exports for which adequate services are not available from commercial banks (centers where the business potential is high). The amalgamation of RRBs could take place through four to five subsidiaries; i.e., groups of RRBs in contiguous regions, or by having a single amalgamated bank structure with regional boards and a central board based on the SBI structure.

The Government has introduced a Rural Infrastructure Development Fund, which is administered by NABARD, for financing state governments. Perhaps a strong commercial rural-oriented banking vehicle can deliver better results.

Currently, RRBs are standalone institutions with branches functioning in a highly adverse and isolated environment. A centralized institution of RRBs by merger could attract better managerial talent and also take its cues from the corporate sector and multinationals, which regard the rural economics of India as potentially a fast developing market. In fact, some corporate and multinationals today are engaging MBA degree holders qualified in rural development subjects. Some rural areas are potential candidates for development into export centers for which modern banking facilities should be made available, instead of making the customers commute to urban centers to meet their international banking needs. There are other justifications for merging RRBs into a single unit. It is true that the merger of weak units cannot build strength but the merger will attract the required attention to the system in which the scope for synergy is high. The risk of putting RRBs in the same club as cooperative banks is that the method of supervision fails to distinguish the ownership pattern and differences between the two sets. NABARD should benefit from realignment of its supervisory load if RRBs are merged and provided a strong central management. This rural banking apparatus can create competition, which is absent totally in the rural banking field. RRBs are already permitted to invest in shares and debentures and units of mutual funds up to 5 percent of their incremental deposits. All RRBs, if merged, could generate a sizable corpus of funds and also management competencies to handle such an investment portfolio, which today each RRB has to separately develop. The Narasimham Committee proposed that the operation of rural financial institutions be reviewed and strengthened in their appraisal, supervision, follow- up loan recovery strategies and development of bank-client relationships, in view of the higher NPAs in PSBs due to directed lending. With regard to CAR, RRBs and cooperative banks should reach a minimum of 8 percent over five years. Also, all regulatory and supervisory functions over rural credit institutions should rest with the proposed BFRS.

Banks would have to offer financial solutions to the agricultural sector and put to use expertise in private equity, venture funding, and corporate finance to tap the potential of agri-based businesses in India.

Banks and corporate as well as cooperatives will have to take into account changes in consumer attitude toward processed food and modernize the distribution and retail systems. There should be proper advisory services, project financing, venture capital, strategic and private equity and asset financing— including off-balance sheet financing—to come up with investments in this sector. Though India is the third largest producer of fruits and vegetables in the world, it lacks a market information system. The rural banking system will have to develop this. Profits from agriculture produce are heavily dependent on infrastructure and market information. Market information system is the key to development of infrastructure for rural markets. The system would include all information regarding prices, investments, manufacturing, and requirements of all products. The Government National Information Centers have a big database in each state, but market-oriented use and the sharing of it with banks are required.

Nonbanking Financial Companies. The NBFC reform agenda is complex because of the large number of NBFCs, their locational spheres, varied composition of assets and liabilities, failure rate, and incidences of fraud that have caused a loss of depositors' confidence. There are also new requirements of credit rating, capital adequacy, statutory liquidity, and registration with RBI. In many areas, there might be forced or voluntary closures of NBFCs that are not able to comply with the norms. RBI should identify such places and ask banks to open branches to provide alternatives to depositors where none exists.

Factoring Services. Factoring services have not taken off even though they improve velocity of receivables, thus affording better credit control. Only three important factoring systems have been established, namely, SBI, Canara Bank, and SIDBI. Experience of existing factoring companies in India is that average credit period of receivables is cut by more than 25 percent resulting in cost reduction of working capital. The rigorous follow-up by factoring companies also decreases debt delinquency. Application of electronic data interchange (EDI) needs to be progressively adopted to accelerate growth of factoring services. Banks, corporate, medium-size industries, and SSIs should unite to develop electronic message formats in receivable portfolio management and collection systems. The adoption of EDI will allow computer-to-computer exchanges of business transactions such as purchase orders, invoices, shipping notices and other standard business correspondence between trading partners. Exporters and importers as well as domestic traders can translate all foreign or domestic trade related documents electronically without any human intervention from their own premises, drastically reducing paperwork and increasing efficiency. Even though measures are being taken to increase exports and earn foreign exchange, the no implementation of EDI is proving to be a major obstacle to boosting exports because many countries carry out trade transactions mostly electronically.

External sector. External sector development, particularly with respect to trade, should continue to be a major concern if stable growth is to be encouraged and economic competitiveness enhanced. The consequences of the banking and financial sectors might be serious if export performance does not improve. External assistance to the export sector should be extended by multilateral agencies through the Indian banks and FIs. During 1989/90, the World Bank extended loans to Indian banks to finance export projects and to allow repayments to be retained as equity for banks. This should be undertaken again in the current and future financing activities of multilateral loan institutions.

Capital Account Convertibility vs. Banking Sector Vulnerability. Current account convertibility (CAC) is not going to benefit Indian banks, which still have to get to grips with the full-scale convertibility on current accounts in force for the last few years. At the macroeconomic level, there are two aspects that merit special attention: India's external debt is now close to $100 billion; and it has a strong parallel economy (black market), which can weaken its balance of payments in a CAC type of regime. The Government should improve its utilization of aid funds and foreign capital rather than just basing economic growth requirements on free capital inflows (which cannot be obtained unless outflows are freed).

Indian banks need to become competitive with branches of foreign banks in centers where both exist, and the number of such centers ought to be enlarged to promote modernization in Indian banks. There is no risk of Indian banks being dislodged from their prime position in the home market if more branches of foreign banks open at important centers nor can their foreign branches become internationally competitive since capital that Indian banks can spare for foreign branches is marginal and low.

UNIVERSAL BANKING

Caution must be applied on universal banking because of the following considerations:

- Disintermediation (i.e., replacement of traditional bank intermediation between savers and borrowers by a capital market process) is only a decade old in India and has badly slowed down due to loss of investor confidence;
- There is ample room for financial deepening (by banks and DFIs) since loans market will continue to grow;
- DFIs as holders of equity in most of the projects promoted in the past have never used the tools advantageously;

- DFIs are now only moving into working capital finance, an area in which they need to gain a lot of experience and this involves creation of a network of services (including branches) in all fields: remittances, collections, etc.; and • reforms of India's capital market is still at the halfway stage. The priority will be to ensure branch expansion, financial deepening of the credit markets, and creation of an efficient credit delivery mechanism that can compete with the capital market.

MONEY MARKET

The Narasimham Committee recommended that banks and primary dealers alone should be allowed in the interbank call and notice money market. NBFCs would get access to other forms of instruments in the money market such as bill rediscounting, commercial papers, and T-bills. It also suggested opening the T-bill market to FIIs to broaden its base. The imperfections of money market lie in the traditional nomenclature used; for instance, the "call money market," which, instead of allowing clearance only of temporary surpluses and deficits, is actually treated as a source of regular funding by banks (particularly foreign banks). The need is to remove the word "call" from various reports and publications of RBI and define it clearly as a composite money market for call funds and term funds. There is little activity in the term funds market even though the liability structure of banks and DFIs has undergone a considerable transformation.

1. The State Bank of India (SBI) and Associate Banks of SBI were formerly Imperial Bank of India, Ltd. and Major Princely State Banks, respectively. It is legally prescribed that RBI must hold at least 55 percent of SBI.

6. The ordinance came into effect on 31 October 1998.

7. Debt Recovery Tribunals (DRTs) are established consequent upon enactment of the Recovery of Debts due to Banks and Financial Institutions Act of 1993 (pursuant to recommendations of Narasimham Committee [I]) but have not made much impact on recovery performance of banks. The number of DRTs has remained inadequate with disposal of cases slow, as gathered from data recorded in para 2.95 of RBI Report on Trends and Progress of Banking in India, 1997-1998. DRTs are known to have functioned with multiple states jurisdiction and inadequate infrastructure, a reason why the Working Committee on DRTs was set up in 1998 by RBI/Government to look into the related problems.

8. India's judges/people ratio is the lowest in the world. The accumulation of old age of cases remaining indisposed is large and recovery suits filed by banks lie in the queue. The Reserve Bank of India's Health Code Scheme in the 1980s impelled segregation of loan assets by quality of bank balance sheets, which until 1992 (when the formal reform process started) showed a rosy picture. Banks did not take full advantage of the Health Code classification with the result that bad borrowers got an extended breather to saddle banks with loss assets.

9. Production of milk in India is among the world's biggest producers.

10. The mindset is loaded with concerns over poverty more than recognizing that rural banking promoted since 1969 up to 1991 has transformed several poverty regions to high levels of prosperity.

11. These activities should be treated on par with loans and advances and should accordingly be given risk weight of 100 percent for calculation of capital-to-risk-asset ratio. Further, the extant guidelines on income recognition, asset classification, and provisioning would also be applicable to them.

12. A bank's exposure shall not exceed 25 percent of the banks' capital funds to an individual borrower and 50 percent to a group of borrowers. The facilities extended by way of equipment leasing, hire purchase finance, and factoring services would also be covered within the above exposure ceiling.

13. Banks undertaking factoring services departmentally should carefully assess the clients' working capital needs taking into account the invoices purchased. Factoring services should be extended only in respect of those invoices that represent genuine trade transactions. Banks should take particular care to ensure that by extending factoring services, the client is not over financed. No worthwhile progress has taken place, reflecting apathy of banks towards factoring.

14. The Government appointed in 1985 a committee under the chairmanship of Dr. Sukhamoy Chakravasti to review the workings of the monetary system. The report of this committee provided several directions to the future shape of financial sector reforms. Among its various recommendations, the Committee advocated stricter credit discipline and a reduction in the importance of cash credit, greater resort to financing of working capital through loans, bills, and receivables.

15. RBI constituted in 1997 a working group under the chairmanship of S. H. Khan, Chairman of Industrial Development Bank of India, to (i) review the roles, structures and operations of development finance institutions (DFIs) and banks in the emerging operating environment; (ii) suggest measures for bringing about harmonization in lending and working capital finance by banks and DFIs; (iii) examine scope for

increased access to short-term funds by DFIs; and (iv) strengthen organization, human resources, and related issues of DFIs and banks in the prospect of introduction of capital account convertibility.

16. To strengthen internal audit and inspection machinery of banks, RBI felt the need for a review of existing systems for which a working group under the chairmanship of Rashid Jilani, chairman of Punjab National Bank, was set up in 1996. The committee made several important recommendations, which RBI accepted and directed banks to follow.

17. ATM is deemed as a branch, being a service provider.

The main objectives of the institute are as follows:

- To encourage the study of banking and institute a system of examinations, certificates, scholarships, and prizes;
- To promote information on banking and related subjects through lectures, discussions, books, correspondence with public bodies and individuals, or otherwise; and
- To collect and circulate statistics and other information relating to the business of banking in India.

A McKinsey & Company/Faida Report estimated the future market size of India's basic food sector as follows: dairy, $11 billion; animal feed and poultry, $10 billion; wheat milling and processing, $6 billion; and beverages, $4 billion by 2005. There would emerge the concept of "large market high growth segment" for India and the need for the development of larger food and agriculture companies and necessary funding arrangements.

CHAPTER-4

PERFORMANCE OF INDIAN BANKING SECTOR'S IN THE POST-LIBERALIZATION PERIOD WITH NEW APPROACHES

There cannot be a discussion on financial sector in India without the mention of the banking industry. Banking industry is considered as the backbone of Indian economy. After liberalization of the policies by the government, the banks have to be more competitive and performance-oriented in the new environment. It has become quite difficult for them to survive, perform and succeed in the market. Under these circumstances, there is a need to have a look at the emergence of the Indian banking system right from it early days till now.

HISTORY OF INDIAN BANKING

Commercial banking has been one of the oldest businesses in India and the earliest reference of commercial banking in India can be traced in the writings of Manu. The establishment of the General Bank of India in the year 1786 marked the development of a structured banking system in India. Later the Bank of Hindustan and Bengal Bank came into existence. The East India Company established three banks. These three banks were amalgamated in the year 1920 to form the new Imperial Bank of India. The Imperial Bank was nationalized and renamed as the State Bank of India with the passing of the Act in 1955. The Swadeshi Movement witnessed the birth of several indigenous banks, such as Punjab National Bank, Bank of Baroda and Canara Bank (ICFAI, 2004). In order to increase its control over the banking sector, the Government of India had nationalized 14 major private sector banks with deposits exceeding Rs.500 million in 1969. This had raised the number of scheduled bank branches under government control to 84 per cent from 31 per cent (Chakraborty, 2006).

The present banking system can be classified into the following categories:

(i) Public Sector Banks (ii) Private Sector Banks (iii) Foreign Banks (iv) Regional Rural Banks (v) Co-operative Sector Banks (vi) Development Banks.

While several committees have gone into the problem of commercial banks in India, the recommendations made by the high level committees on the financial sector reforms, chaired by Mr. M. Narasimham, laid the foundation for the banking sector reforms.

These were:

a) Narasimham Committee-I (1991) b) Narasimham Committee-II (1998).

PHASES OF INDIAN BANKING

The Indian banking system and its regulations can be better understood when divided into the following two phases:

- Post-Nationalization
- Post-Liberalization.

The era of nationalization commenced in 1969 when the country's 14 major commercial banks were nationalized. In continuation of this process, 6 more banks were nationalized in 1980. As a result of nationalization, the aggregate deposits of scheduled commercial banks (SCBs) which stood at Rs.4,669 crore during July 1969 touched Rs.2,33,753 crore by the end of March 1992 (Statistical Tables relating to Banks in India- Various Issues, RBI).

The poor performance of the public sector banks was increasingly becoming an area of concern. The continuous decline of profitability and rise of Non-Performing Assets (NPAs) of banks posed a significant threat to the stability of the financial system. Till the early 1990s, the financial sector could be described as a classic example of 'financial repression' (the term coined by Mckinnon and Shaw) (Rajput, 2008).

LIBERALIZATION

The Government of India framed its policies in the year 1991-92, keeping in view the benefits of liberalization. It was expected that in the process of opening up its economy to the outside world, increased competition could turn the banks more efficient, bring about improvement and ultimately benefits the customers (ICFAI, 2004).

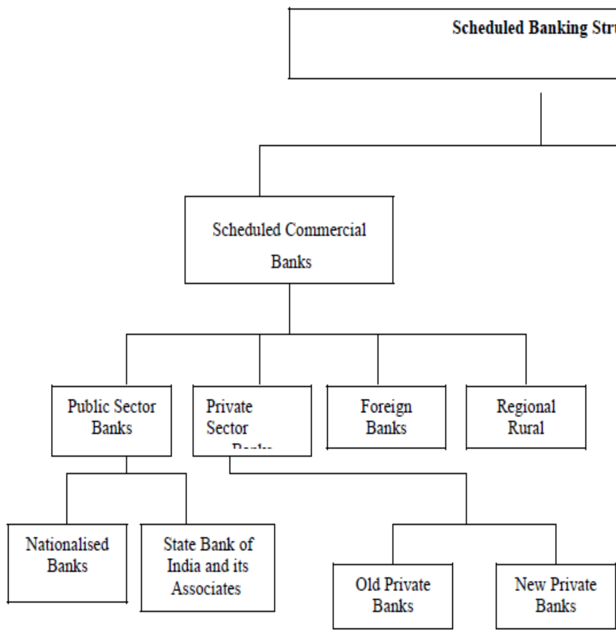
Some of the root causes that were behind the dull performance of the banks prompted the initiation of the banking sector reforms. Some of these causes were:

- Greater emphasis on directed credit programmes;

- Regulated interest rate structure;
- Excessive regulations on organization's structure and managerial resources;
- Lack of focus on profitability;
- Lack of competition;
- Lack of proper Accounting and Risk Management System;
- Lack of operational transparency and
- Excessive support from government.

The reforms were initiated with an aim to bring about a paradigm shift in the banking industry. Hence, banking reforms were made an integral part of the liberalization process. The financial sector reforms started in 1991 had provided the necessary platform for the banking sector to operate on the basis of operational flexibility and functional autonomy; enhancing productivity, efficiency and profitability.

Figure 4.1 Scheduled Banking Structure in India



Source: *Report on Trend and Progress of Banking India, RBI Publication, 2007-08.*

Impact of liberalization on the performance of Indian banking sector. Banking sector plays an important role in the economic development of a country. The banking sector reforms in India were started as a follow up measure of economic liberalization and financial sector reforms in the country. The banking sector being the life line of the economy was treated with utmost importance in the financial sector reforms. The reforms were aimed at to make the Indian banking industry more competitive, versatile, efficient, and productive, to follow international accounting standards and to free from the government's control. The reforms in the banking industry started in the early 1990s have been continued till now (Bansal, 2004). The Indian banking registered tremendous growth in the post-liberalization era. Since the beginning of 1991, there has been a sea change in the rule, regulation, organization, and scope and activity level of Indian financial sector. The Indian banking industry has witnessed a rapid growth after economic reforms. It has shifted from regulated to de-regulated market economy and defined a new role for the banks. All these reforms have changed the Indian banking market from 'Sellers market' to 'Buyers market'.

The Narasimham Committee, 1991 had recommended several reforms in banking sector with the change wind of financial sector reforms (Sekhar, 2007). Some of the important financial liberalization measures are:

- Reduction in pre-emption of funds through reduction of CRR and SLR.
- Introduction of prudential provisioning and Capital Adequacy norms.
- Phasing out the directed credit programmes.
- Deregulation of interest rates.

- Infusion of competition (Entry of Private Sector Banks).
- Imparting transparency.
- Introduction of universal banking.
- Mergers and Acquisitions.
- Development of technology.
- Emphasis on corporate governance.

Table 4.1 Scheduled Commercial Banks at a Glance *(In Rs. Crores)*

Indicators	June 1969	March 2001	March 2005	March 2006	March 2007	March 2008
Number of Commercial Banks	89	300	289	222	183	174
(a) Scheduled Commercial Banks	73	296	285	218	179	170
(b) Non-scheduled Commercial Banks	164	4	4	4	4	4
Number of Bank Offices in India	8262	67937	70373	71685	74346	77773
Population per Office (in thousand)	64	15	16	16	15	15
Aggregate Deposits of SCBs in India	4646	989141	1700198	2109049	2611934	3196940
(a) Demand Deposits	2104	159407	248028	364640	429731	524310
(b) Time Deposits	2542	829734	1452171	1744409	2182203	2672630
Credit of SCB in India	3599	529271	1100428	1507077	1931190	2361913
Deposits of SCBs as percentage to GNP	15.5	56.0	60.0	65.4	70.1	74.7
Credit Deposit Ratio (Percent)	77.5	53.5	62.6	70.1	73.5	74.6
SCBs Advances to Priority Sector (Rs. crore)	504	182255	381476	510175	632647	738686
Cash Deposit Ratio (Percent)	8.2	8.4	6.4	6.7	7.2	9.7
Per Capita Deposit of SCBs (Rs)	88	9770	16281	19130	23382	28610

Source: *Compiled from Statistical Tables relating to Banks in India, Various Issues.*

The winds of change gained momentum in the last few years, such as globalization of Indian economy and opening up of financial services under WTO. It is expected that the banking sector will undergo mergers and acquisitions (M&A), consolidation, globalization of operations, development of new technology, best corporate governance practices and universalisation (Sekhar, 2007). The main objective of this chapter is to make a simple assessment of the impact of the reforms of the Indian banking sector. It has been more than 18 years of the start of the economic reforms in India and financial sector reforms were one of the important parts of the process. A comparative analysis of various bank groups with respect to different variables has been taken. Important indicators of scheduled commercial banks (SCBs) are analyzed from 1969 to 2008. The number of commercial banks increased to 174 in March 2008 as compared to 89 in June 1969. India had just 89 commercial banks, both scheduled and nonscheduled at the time of nationalization of banks. Over a period of time, their number increased to 300 as on March 2001. After that the number gradually came down to 222 and then to 174 as on March 2006 and March 2008 respectively. The decline in number of banks is due to mergers and acquisitions taking place in the banking Industry. The Indian banking industry had made sufficient progress during the reforms period. The progress of the industry can be judged in terms of growth of Credit and Deposits, Branch expansion, Advances to Priority Sector, etc.

Aggregate Deposits and Credit of Scheduled Commercial Banks. Table shows that the demand deposits of scheduled commercial banks (SCBs) had increased from Rs. 2,104 crore in 1969 to Rs. 5,24,310 crore as on March 2008. However, time deposits of banks increased to Rs. 26,72,630 crore from Rs. 2,542 crores during the same period. The growth of time deposits in absolute terms has been more than demand deposits. The high growth of time deposits over demand deposits is mainly due to higher interest rates being offered by the banks on such deposits as well as availability of tax benefits to certain deposit schemes. The study carried out by CRISIL revealed that growth of term deposits is due to the sensitivities of interest rate, while other deposits such as demand and savings deposits show no sensitivities to interest rate movement. The interest rate offered by the scheduled commercial banks (SCBs) on term deposits on an average was 6 to 9 per cent which is having a maturity period of three to five years looking at the trend of interest rate of last four to five years. The private sector banks are also offering more or less the same rate of interest as offered by public sector banks (PSBs). As a result of this, there is a growth in aggregate deposits of scheduled commercial banks from Rs. 4,646 crore in 1969 to Rs. 9,89,141 crore in 2001, and increased to Rs. 31,96,940 crore in March 2008. Along with the increase in aggregate deposits of SCBs, the credit of the banks has also increased from Rs. 3,599 crores in 1969 to Rs. 529271 crore in 2001 and increased to Rs. 23,61,913 crore in March 2008. The growth of credit has been largely due to the robust growth of industrial sectors and the government decision to increase credit to the agricultural sector which led to rapid increase in bank credit. The per capita deposits of SCBs increased from simply Rs. 88 crore in 1969 to Rs. 9,770 crore in 2001 and to Rs. 28,610 crore in March 2008. Moreover, deposits of SCBs as percentage of Gross National Product (GNP) at factor cost (at current prices) has increased from 15.5 per cent in June 1969 to 74.7 per cent as on March 2008.

Table 4.2 Growth of Indian Banking: Assets to GDP Ratio *(Per cent)*

Year	**All Scheduled Commercial Banks**	**Public Sector Banks**	**Private Sector Banks**	**Foreign Banks**
1997-98	53.4	44.1	4.8	4.4
1998-99	56.6	46.3	5.8	4.6
1999-00	58.8	47.7	6.4	4.7
2000-01	62.1	49.9	7.6	4.6
2001-02	67.3	53.5	8.5	5.3
2002-03	73.3	55.0	12.7	5.6
2003-04	75.9	56.7	13.1	6.0
2004-05	77.4	59.7	14.4	5.3
2005-06	79.0	77.1	11.5	5.4
2006-07	103.3	79.6	17.6	6.2

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

Priority Sector Lending. The flow of credit to priority sectors increased to Rs. 7,38,686 crore in March 2008 as compared to Rs. 1, 82255 crore in March 2001 and Just Rs. 504 crore in June 1969. Credit flow to the priority sector is mainly to Agriculture, Small scale industries, Housing and service sector. The share of priority sector advances to total credit has increased to 32.9 per cent as on March 2008 as compared to 14.00 per cent in June1969. The increase shows more than double the increase in priority sector advances to total advances over 40 years. But it remains same during the beginning of post-reform period to till date.

Credit-Deposit Ratio. The credit-deposit ratio (CD ratio) of all scheduled commercial banks over a period of time has increased from 53.5 per cent in March 2001 to 74.6 per cent in March 2008. The increase in demand for commercial credit and also food and non-food credit has led to an increase in total credit of scheduled commercial banks (SCBs) over the last few decades and as a result of this, the credit-deposit ratio continued to increase. But it started declining after 2007.

Cash-Deposit Ratio. The cash-deposit ratio during the period of nationalization of banks in 1969 was 8.2 per cent and the same has declined to 7.2 per cent as on March 2007. The declining trend of cash-deposit ratio reveals efficient management of cash flow of SCBs during the period concerned. But during 2007-08, the cash-deposit ratio increased to 9.7 per cent as compared to 7.2 per cent during the previous year.

The size of the bank assets of an economy is a measure of financial maturity. The size of the bank assets in relation to GDP has important implications for financial development of any economy. In India, the ratio of bank assets to GDP of all scheduled commercial banks was 53.4 per cent in 1997-98 and it increased to 103.3 per cent in 2006-07. Out of this, public sector banks (PSBs) accounted for nearly 80 per cent assets as a percentage to GDP. In the case of public sector banks (PSBs), the ratio of bank assets to GDP increased from 44.1 per cent in 1997-98 to 79.6 per cent in 2006-07. The share of private sector banks in the ratio of bank assets to GDP rose to 17.6 per cent in 2007 from merely 4.8 per cent in 1998 as shown in Table.

After analyzing the scheduled commercial banks at a glance, other important indicators such as taking credit, aggregate deposits, total investments and investments in government securities as a percentage to GDP for the period from 1950-51 to 2005-06 for scheduled commercial banks (SCBs) have been analysed and shown in Table.

Table 4.3 Scheduled Commercial Banks: Ratio as Percentage to GDP

Year	Credit	Total Investment	Investment in Government Securities	Aggregate Deposits
1950-51	5.5	-	-	8.9
1960-61	7.8	-	3.3	10.1
1970-71	10.3	3.1	3.0	12.9
1980-81	17.6	9.2	6.4	26.4
1990-91	20.5	13.2	8.8	33.9
2000-01	24.2	17.6	15.1	45.7
2004-05	35.3	23.7	23.0	54.5
2005-06	42.7	20.3	19.8	59.7

Source: *Handbook of Statistics of Indian Economy – 2006, RBI.*

The table reveals that the increase in percentage share of aggregate deposits to GDP has been more than credit percentage to GDP of scheduled commercial banks.

Thus, credit as well as aggregate deposits as percentage of GDP over a period of 50 years have shown an increasing trend. The credit as a percentage of GDP increased to 42.7 per cent in 2005-06 from a meager 5.5 per cent in 1950-51 and the aggregate deposits increased to 59.7 per cent in 2005-06 from 8.9 per cent in 1950-51. Similarly, total investment and investment in Government securities increased to 20.3 per cent and 19.8 per cent respectively in 2005-06 over 3.00 per cent in 1970- 71. At the end of March 2006, the percentage of bank credit to GDP ratio for India was as low as 50 per cent reflecting tremendous 'untapped' potential in the sector (for instance, the Credit-GDP ratio for East Asian and pacific nations is around 105 per cent). So, banks have started taking a new mantra of 'Financial inclusion' (Kalita, 2004). The impact of reforms (Financial liberalization) on the performance of Indian banking sector was measured / analyzed on the basis of different indicators of performance. To make a comparative analysis of various indicators of performance of different banks from 1997-98 to 2007-08, the banks were divided into five groups, i.e. All Scheduled Commercial Banks, Public Sector Banks, Old Private Sector Banks, New Generation Private Sector Banks, and Foreign Banks. To measure the impact of liberalization, privatization and globalization on the performance of Indian banking sector, the following indicators were used to analyze the impact of various reforms:

- Profitability Indicators.
- Productivity Indicators.
- Assets Quality Indicators.

- D Prudential norms like CRR, SLR, structure of Interest rates, priority, sector lending indicatory, competition and institutional features etc.
- Technology Development Indicators.
- Profitability Indicators

Profit is the very reason for the continued existence of every commercial organization. The rate of profitability and volume of profits are, therefore, rightly considered as indicators of efficiency in the deployment of resources of the banks. Profitability indicates earning capacity of the banks. It highlights the managerial competency of the banks. It also portrays work culture, operating efficiency and overall performance of the banks.

Table 4.4 Income as Percentage of Total Assets (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	10.79	10.42	11.71	11.67	13.36
1998-99	10.52	10.24	11.25	10.72	12.68
1999-00	10.40	10.21	11.33	9.18	12.47
2000-01	10.20	10.05	10.75	9.53	11.77
2001-02	9.83	10.15	11.74	5.66	11.44
2002-03	10.15	10.00	10.73	10.71	10.35
2003-04	9.31	9.35	9.57	8.80	9.55
2004-05	8.08	8.15	7.89	7.51	8.49
2005-06	7.92	7.93	7.73	7.61	8.86
2006-07	7.94	7.70	8.12	8.35	9.90
2007-08	8.53	8.14	8.63	9.55	9.60

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

Various structural factors include geographical spread of bank branches, decentralization in management and structural changes in deposits and advances. Banking structure and profitability structure of banking systems across countries have a bearing on the profitability of banks. The profitability of banks is affected by one way or the other by these factors. After liberalization, profitability has regained its lost importance. Now banks are being directed to achieve the profitability targets. Since all the banks in the country function under similar environment, the low performance of any bank can be attributed to a large extent to their managerial inefficiencies and structural deficiency (Bansal, 2004). The impact of reforms on the profitability of banking sector has been studied on the basis of various variables of profitability like income, interest income, non-interest income, gross profit, net profit, spread, expenditure, interest expended, operating expenses, cost to income as percentage of total asset of five bank groups from 1997-98 to 2007-08.

The income to asset ratio of all scheduled commercial banks (SCBs) shows a declining trend. The income as percentage of total assets of scheduled commercial banks (SCBs) was 10.79 per cent in March 1998 which declined to 7.92 per cent at the end of March 2006. But the ratio improved marginally to 8.53 per cent at the end of March 2008. Further bank group-wise analysis shows that the ratio of income to total assets has shown a declining trend for the period 1997-98 to 2005-06. The reason for such trend of total income as a percentage of total assets was the declining of interest as well as non-interest income as a percentage of the total assets. However, upward trend has been observed in the remaining two to three years (2005-06 to 2007-08) for majority of the bank groups. The income to asset ratio of all the five bank groups increased during the year 2007-08 as compared with the income to asset ratio during the last three years. During the period of study, it showed a declining trend but after 2004-05, it showed an upward trend for all the bank groups as is evident from Table This was due to boom in the Indian economy.

Table 4.5 Interest Income as Percentage of Total Assets (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	9.27	9.10	10.00	9.27	10.42
1998-99	9.18	9.01	9.92	9.19	10.27
1999-00	8.97	8.92	9.66	7.60	9.93
2000-01	8.88	8.85	9.53	8.17	9.27
2001-02	8.26	8.72	9.36	4.48	8.56
2002-03	8.28	8.34	8.50	8.13	7.68
2003-04	7.31	7.45	7.56	6.71	6.74
2004-05	6.61	6.79	6.95	5.77	5.94
2005-06	6.65	6.84	6.92	5.89	6.17
2006-07	6.70	6.89	7.15	6.51	6.53
2007-08	7.16	7.08	7.55	7.57	6.71

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

The interest income as a percentage of total assets of all the scheduled commercial banks (SCBs) shows a declining trend. The interest income as a percentage of total assets of all scheduled commercial banks was around 9.27 per cent in March 1998 which declined to 6.61 per cent at the end of March 2005. However, upward trend has been observed during the last few years of study period, i.e., 2005-06 to 2007-08. Further, the bank group-wise analysis of the table shows that the ratio of interest income to total assets has shown a declining trend for the period 1997-98 to 2004-05. The reason for such a declining trend is the deregulation of interest rates which forced the banks to reduce their interest rates to be in the market.

Table 4.6 Non-interest Income as Percentage of Total Assets (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	1.52	1.33	1.71	2.40	2.94
1998-99	1.34	1.22	1.32	1.53	2.43
1999-00	1.42	1.29	1.66	1.58	2.54
2000-01	1.32	1.22	1.23	1.35	2.47
2001-02	1.57	1.43	2.38	1.17	2.88
2002-03	1.86	1.66	2.25	2.58	2.64
2003-04	2.01	1.91	2.01	2.10	2.84
2004-05	1.46	1.36	0.94	1.74	2.52
2005-06	1.35	1.16	0.81	1.63	2.65
2006-07	1.24	0.86	0.98	1.84	2.57
2007-08	1.37	1.06	1.08	1.98	2.89

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

Various structural factors include geographical spread of bank branches, decentralization in management and structural changes in deposits and advances. Banking structure and profitability structure of banking systems across countries have a bearing on the profitability of banks. The profitability of banks is affected by one way or the other by these factors. After liberalization, profitability has regained its lost importance. Now banks are being directed to achieve the profitability targets. Since all the banks in the country function under similar environment, the low performance of any bank can be attributed to a large extent to their managerial inefficiencies and structural deficiency (Bansal, 2004). The impact of reforms on the profitability of banking sector has been studied on the basis of various variables of profitability like income, interest income, non-interest income, gross profit, net profit, spread, expenditure, interest expended, operating expenses, cost to income as percentage of total asset of five bank groups from 1997-98 to 2007-08. The total income of a bank consists of interest income and non-interest income. Non-interest income includes income earned in the form of commission, exchange and brokerages and income from profit on sale of investments and non-banking assets.

Table 4.7 Net Interest Income (Spread/Margin) as Percentage of Total Assets. (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	2.95	2.91	2.57	2.23	3.93
1998-99	2.78	2.80	2.15	1.98	3.47
1999-00	2.73	2.70	2.33	1.95	3.92
2000-01	2.85	2.86	2.51	2.14	3.63
2001-02	2.57	2.73	2.39	1.15	3.22
2002-03	2.77	2.91	2.47	1.70	3.35
2003-04	2.88	2.98	2.60	2.03	3.59
2004-05	2.83	2.91	2.70	2.17	3.34
2005-06	2.81	2.85	2.75	2.27	3.58
2006-07	2.58	2.55	2.83	2.10	3.76
2007-08	2.35	2.15	2.43	2.40	3.79

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

Table shows that the non-interest income of all scheduled commercial banks (SCBs) has declined from 1.52 per cent of total assets in 1997-98 to 1.24 per cent during 2006-07. The non-interest income of public sector banks (PSBs) and old private sector banks has shown a sharp decline to less than one percent during 2006-07. But the non-interest income of new private sector banks and foreign banks has shown an increase from 1.53 per cent and 2.43 per cent in 1998-99 to 1.98 percent and 2.89 per cent respectively in 2007-08. But, in the year 2007-08, non-interest income of scheduled commercial banks (SCBs) and old private sector banks showed an upward trend as compared with the previous period of 2006-07. The table shows that there is a mixed trend in the ratio of non-interest income as a percentage of total assets. It has also been observed that this ratio was highest during the years 2001-02 to 2003-04 for all the bank groups except foreign banks. It is worth mentioning that this ratio improved in the year 2007-08 as compared to the previous years. The reason for such improvement is that now banks are focusing more on noninterest income as compared to interest income.

Table 4.8 Gross Profit/Loss as Percentage of Total Assets (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	1.84	1.58	1.97	2.86	3.91
1998-99	1.45	1.37	1.21	1.78	2.32
1999-00	1.66	1.46	1.82	2.11	3.24
2000-01	1.53	1.34	1.75	1.74	3.05
2001-02	1.94	1.88	2.70	1.22	3.10
2002-03	2.39	2.31	2.67	2.31	3.20
2003-04	2.66	2.67	2.64	2.08	3.68
2004-05	2.17	2.18	1.68	1.85	2.98
2005-06	2.03	1.94	1.51	1.78	3.34
2006-07	1.91	1.73	1.89	1.88	3.51
2007-08	1.93	1.67	1.85	2.10	3.84

Source: Report on Trend and Progress of Banking in India, Various issues, RBI.

Net interest income (spread) is defined as the difference between interest income earned and interest expended. It is an important indicator of efficiency of the banks. The net interest income (spread) of scheduled commercial banks (SCBs) as percentage of total assets has almost remained unchanged at around 2.8 per cent in 2005-06 as compared to 1998-99. The net interest margin of foreign banks in India remained between 3.5 to 4.0 per cent of total assets during 1997-98 to 2007-08, higher than other four bank groups as shown in Table. But the net interest margin of public sector banks (PSBs) and old and new private sector banks remained stable around 2.5- 3.00 per cent of total assets during the period of study. The net interest income (spread) of scheduled commercial banks (SCBs) as percentage of total assets declined marginally to 2.35 per cent in 2007-08 from 2.81 per cent in 2005-06. The decline in interest income and interest expended as a percentage of total assets has been due to decrease in prime lending rate (PLR) now called as base rate of banks during the period of study.

Table 4.9 Net Profit/Loss as Percentage of Total Assets (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	0.82	0.77	0.81	1.55	0.97
1998-99	0.47	0.42	0.48	1.03	0.69
1999-00	0.66	0.57	0.81	0.97	1.17
2000-01	0.49	0.42	0.59	0.81	0.93
2001-02	0.75	0.72	1.08	0.44	1.32
2002-03	1.01	0.96	1.17	0.90	1.56
2003-04	1.13	1.12	1.20	0.83	1.65
2004-05	0.89	0.87	0.33	1.05	1.29
2005-06	0.88	0.82	0.58	0.97	1.54
2006-07	0.90	0.83	0.70	0.91	1.67
2007-08	0.99	0.88	1.02	1.01	1.82

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

The financial performance of scheduled commercial banks (SCBs) had improved during the recent past as reflected by their profitability indicator. The gross profit to asset ratio of scheduled commercial banks (SCBs) which was around 1.45 percent in 1998-99 increased to 2.66 per cent in 2003-04, but again declined to 1.93 percent in 2007-08. The ratio of operating profit to assets of foreign banks and new private sector banks has declined from 3.91 per cent and 2.86 per cent in 1997-98 to 2.98 per cent and 1.85 per cent in 2004-05 respectively. This was due to the impact of greater competition and improved efficiency of public sector banks (PSBs). But in 2007-08, the gross profit as percentage of total assets of all scheduled commercial banks (SCBs) increased marginally to 1.93 per cent in 2007-08 as compared to 1.91 per cent in 2006- 07. But after 2005-06, all the banks have shown an upward trend in gross profit to the total assets ratio except public sector banks which showed a declining trend till date since 2003-04.

Table 4.10 Expenditure as Percentage of Total Assets (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	9.98	9.56	10.91	10.12	12.39
1998-99	0.03	9.82	10.78	9.69	11.78
1999-00	9.74	9.63	10.52	8.21	11.31
2000-01	9.70	9.63	10.16	8.71	10.84
2001-02	9.08	9.43	10.66	5.21	10.12
2002-03	9.14	9.04	9.56	9.81	8.78
2003-04	8.18	8.23	8.37	7.98	7.90
2004-05	7.19	7.28	7.56	6.46	7.19
2005-06	7.09	7.17	7.25	6.64	7.32
2006-07	7.04	6.92	7.45	7.49	7.43
2007-08	7.54	7.26	7.62	8.54	7.78

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

The financial performance of scheduled commercial banks (SCBs) has improved as a result of financial liberalization in the Indian banking sector. The net profit to total assets ratio of all scheduled commercial banks (SCBs) remained in the range of 0.47 per cent to 1.13 per cent during the period of study, i.e., 1997-98 to 2007-08. The ratio of net profit to total assets of new private sector and old private sector banks showed a declining trend from 1.55 per cent and 0.81 per cent in 1997-98 to 0.91 per cent and 0.70 per cent respectively in 2006-07. But the foreign banks are able to increase their net profit to total assets ratio from 0.69 per cent in 1998-99 to 1.82 per cent in 2007-08 as shown in Table. The increase in the profitability of all the groups after 2005-06 is due to an increase in non-interest incomes of the banks as compared to interest income. Now all the banks are focusing on non-interest income by diversifying their product portfolio offered to customers. The net profit as a percentage of total assets of all scheduled commercial banks and public sector banks almost remained the same during the last four years except new private sector banks which showed a declining trend, while foreign banks showed an upward trend as shown in Table. But during the year 2007-08, all the bank groups were able to increase their net profit to total assets ratio as compared with the previous year 2006-07.

Table 4.11 Operating Expenses as Percentage of Total Assets (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	2.63	2.66	2.31	1.76	2.97
1998-99	2.65	2.65	2.27	1.74	3.37
1999-00	2.50	2.53	2.17	1.42	3.22
2000-01	2.64	2.72	1.99	1.75	3.05
2001-02	2.19	2.29	2.07	1.10	3.00
2002-03	2.24	2.25	2.04	1.97	2.79
2003-04	2.21	2.21	1.97	2.04	2.75
2004-05	2.13	2.09	1.96	2.06	2.88
2005-06	2.11	2.06	2.09	2.12	2.94
2006-07	1.91	1.77	1.85	2.11	2.82
2007-08	1.78	1.54	1.66	2.28	2.84

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

The expenditure to assets ratio of all scheduled commercial banks (SCBs) declined from around 10 per cent in 1998-99 to around 7 per cent in 2006-07. The ratio of expenditure to total assets of all the five bank groups showed a declining trend during the period of study. Among the major component of the expenditure of scheduled commercial banks (SCBs), while interest expended increased during the previous years (after 2005-06), but non-interest operating expenses declined during the past few years due to improved technology, implementation of voluntary retirement scheme and ban on further recruitment of employees. This may lower the wage bill of all the bank groups which ultimately led to a decline in expenditure level of various banks. Wage bill as a percentage of total assets also declined to around one percent of all the bank groups except public sector banks (PSBs). In the recent years, per employee cost of the public sector banks (PSBs) has risen due to changed composition of the staff and increased provisioning towards superannuation liabilities. The more technology-intensive new private sector and foreign banks had significantly lower proportion of wage bill in operating expenses as compared with the old private sector banks and public sector banks (Sekhar, 2007).

Table 4.12 Interest Expended as Percentage of Total Assets (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	6.32	6.19	7.43	7.04	6.49
1998-99	6.41	6.21	7.77	7.21	6.79
1999-00	6.25	6.22	7.33	5.64	6.01
2000-01	6.03	5.29	7.02	6.03	5.64
2001-02	5.70	5.99	6.97	3.33	5.34
2002-03	5.51	5.43	6.03	6.43	4.33
2003-04	4.44	4.47	4.96	4.68	3.15
2004-05	3.78	3.88	4.25	3.60	2.63
2005-06	3.84	3.98	4.17	3.62	2.58
2006-07	4.16	4.24	4.42	4.41	2.74
2007-08	4.81	4.93	5.12	5.17	2.91

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

Operating expenses include payment and provision for employees, rent and taxes, lighting, printing and stationery, insurance and others. Operating expenses as percentage of total assets of five bank groups have been shown in Table for the period 1997-98 to 2007-08. The three groups of banks, namely, scheduled commercial banks (SCBs), public sector banks (PSBs) and old private sector banks have shown a declining trend in operating expenses as percentage of total assets from 1997-98 to 2007-08. But the new private sector banks and foreign banks recorded their operating expenses as percentage of total assets more than the above three bank groups during the period concerned. Operating expenses as percentage of total assets of above three bank groups have been less than 2.00 per cent of total assets, whereas the new private banks and foreign banks have shown operating expenses as percentage of total assets more than 2.00 per cent of total assets during the period of study. However, in the case of foreign banks, operating expenses as a percentage of total assets was around 3 per cent. From the overall profitability viewpoint, operating expenses need to be seen in conjunction with non-interest income. The interest expended as percentage of total assets from the period 1997-98 to 2007-08 of different bank groups has been shown in Table. The interest expended as a percentage of total assets of all the five bank groups have also declined from 1997-98 to 2005-06. The table further reveals that interest expended as percentage of total assets has also declined from 6-7 per cent in 1997-98 to around 4.00 per cent in 2005-06 across all the bank groups. The decline in interest income and interest expended as percentage of total assets is due to decrease in the prime lending rate (PLR) of banks during the period of study. But from the period 2005-06 onwards, the interest expended as percentage of total assets of the entire bank groups has shown an upward trends and registered around 4-5 per cent of total assets except foreign banks. The cost-income ratio (defined as the ratio of operating expenses to total income less interest expense) of Indian banks showed a declining trend during the post-reform period. For instance, Indian banks paid roughly around 50 per cent of their net income towards managing labor and physical capital in 2007 as against nearly 60- 65 per cent in 1997 as shown in Table. All the bank groups showed a declining trend in their cost-income ratio. But among various ownership patterns, public sector banks (PSBs) and old private sector banks tended to have relatively higher cost-income ratio as against new private sector banks and foreign banks. According to the data reported in The Banker 2004, the cost-income ratio of world's largest banks varied markedly from a low of 48 per cent to a high of 116 per cent and ratio around 50 per cent is an indicative benchmark (RBI Annual Report-2005). In this respect, the costs-income ratio of Indian banks is now comparable internationally (Mohan, 2004).

Table 4.13 Cost to Income as Percentage of Assets (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	61.03	64.29	57.28	39-52	45.32
1998-99	58.84	62.89	53.98	38-02	43.24
1999-00	64.33	65.76	65.42	49.58	57.22
2000-01	60.25	63.41	54.25	40.12	49.85
2001-02	63.47	67.00	53.36	50.15	49.92
2002-03	53.03	55.05	43.40	47.22	49.19
2003-04	48.28	49.35	43.22	46.03	46.50
2004-05	45.29	45.29	42.65	49.52	42.84
2005-06	49.54	48.95	53.85	52.69	49.15
2006-07	51.09	51.38	56.95	50.13	45.74

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

Table 4.14 Selected Productivity Indicators of Scheduled Commercial Banks (Rs. in Lakh)

Year	Business Per Employee	Profit Per Employee	Business Per Branch
1996-97	66	0.4	1290
1997-98	75	0.5	1449
1998-99	84	0.3	1587
1999-00	97	0.5	1794
2000-01	115	0.5	1962
2001-02	137	0.9	2149
2002-03	150	1.2	2348
2003-04	163	1.5	2545
2004-05	173	1.3	2670
2005-06	217	1.5	3337

Source: *Compiled from Statistical Tables relating to Bank in India, Various issues.*

Productivity Indicators. Among various productivity indicators, employee productivity indicators like business per employee and profit per employee are most commonly used. In addition, business per branch and profit per branch are also used to judge the branch level productivity. The business per employee of scheduled commercial banks increased over three-fold in real terms from Rs. 66 lakh in 1996-97 to Rs. 217 lakh in 2005-06, exhibiting an annual compound growth rate of nearly 10 per cent. At the same time, the profit per employee increased more than four-fold, from Rs. 40000 to Rs.150000 over the same period as shown in Table. Branch productivity also showed a similar trend as is evident from Table. Business per branch increased more than 2.5 times during the period of study. Overall, the figures suggest distinctive productivity improvements in the banking sector over the reform period. Such improvements could be driven by two factors: Technological improvements, which expand the range of products possibilities, and a catching up effect, as peer pressure amongst banks compels them to raise the productivity level. In the context of gradual deregulations of financial sector, several factors could have been at work: a significant shift of the best practice frontier, driven by a combination of technological advances, financial innovation and different strategies pursued by banks suited to their business philosophy and risk-return profile, changing composition of banks input-output, and reduction in total cost due to improvement in overall efficiency (Kalita, 2004).While it is difficult to pinpoint the relative mix of these factors in raising productivity, the bottom line is clear. Indian banks witnessed significant productivity improvements in post-reforms period

Table 4.15 NPAs as Percentage of Total Advances (Gross NPAs/Gross Advances) : (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	14.40	16.00	10.92	3.51	6.38
1998-99	14.70	15.90	13.06	6.19	7.60
1999-00	12.70	13.98	10.78	4.14	6.99
2000-01	11.40	12.37	10.94	5.13	6.84
2001-02	10.40	11.09	11.01	8.86	5.38
2002-03	8.80	9.36	8.86	7.64	5.25
2003-04	7.20	7.79	7.59	4.99	4.62
2004-05	5.20	5.53	5.97	3.59	2.85
2005-06	3.29	3.64	4.39	1.74	1.95
2006-07	2.51	2.66	3.13	1.93	1.77
2007-08	2.25	2.23	2.25	2.54	1.75

Source: *Compiled from Statistical Tables relating to Bank in India, Various issues, RBI Publications.*

Table 4.16 NPAs as Percentage of Total Advances (Net NPAs/Net Advances) : (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	7.30	8.20	6.46	2.63	2.25
1998-99	7.60	8.10	8.96	4.46	2.94
1999-00	6.80	7.40	7.06	2.88	2.41
2000-01	6.20	6.70	7.30	3.09	1.82
2001-02	5.50	5.82	7.13	4.94	1.89
2002-03	4.40	5.53	5.54	4.63	1.76
2003-04	2.90	3.00	3.85	2.36	1.48
2004-05	2.60	2.06	2.74	1.85	0.86
2005-06	1.22	1.32	1.65	0.78	0.83
2006-07	1.01	1.05	0.96	0.97	0.97
2007-08	1.00	0.99	0.66	1.21	1.21

Source: *Compiled from Statistical Tables relating to Bank in India, Various issues, RBI Publications.*

Assets Quality Indicators. The measure of Non-Performing Assets (NPAs) explains the efficiency in allocation of resources made by the banks to productive sectors. The problem of NPAs arises either due to bad management by banks or due to change in business cycle. The sharp rise in credit growth continued to be accompanied by significant improvement in asset quality. Among the several channels of recovery available to the banks dealing with Non-Performing Loans (NPLs), the Debt Recovery Tribunal (DRT) and the SARFAESI Act have been most effective in terms of amount recovered. The assets quality of Indian banking sector has improved significantly over the past one decade. The NPAs of all scheduled commercial banks (SCBs) which stood at 14.40 per cent of gross advances in 1997-98 declined to 2.25 per cent of gross advances in 2007-08 as shown in Table. The public sector banks (PSBs) and old private sector banks brought down their NPAs from 16 per cent and 11 per cent of their gross advances respectively to 2.25 per cent during the period of study. Both new private sector banks and foreign banks have also controlled their NPAs as percentage of gross advances. Similar trends can also be seen in the net NPAs ratios during the same period reflecting better recoveries by banks and better allocation of funds. A significant improvement in recovery of NPAs, along with sharp increase in gross loans and advances led to sharp decline in the gross NPAs to gross advances ratio also. The setting of the Asset Reconstruction Company Limited (ARCIL) also helped to a great extent in recovery of dues. The measure of Non-Performing Assets (NPAs) explains the efficiency in allocation of resources made by the banks to productive sectors. The problem of NPAs arises either due to bad management by banks or due to change in business cycle. The net NPAs as percentages of net advances has significantly reduced across all groups of banks from 1997-98 to 2007-08 as shown in Table. However, in the case of new private sector banks and foreign banks, there was an increase in the net NPAs as percentages of net advances in the years 2006-07 and 2007-08 as compared to previous years of the study except 2001-02. The net NPAs as a percentage of net advances of scheduled commercial banks (SCBs), public sector banks (PSBs) and old private sector bank were around 6-8 per cent in 1997-98 which declined to around one per cent in 2007-08. In the case of new private sector banks and foreign banks, there is significant change over the period of study.

Table 4.17 NPAs as Percentage of Total Assets (Gross NPAs/Total Assets) : (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	6.40	7.03	5.06	1.57	3.05
1998-99	6.20	6.71	5.78	2.26	3.10
1999-00	5.50	5.95	5.22	1.60	3.16
2000-01	4.90	5.32	5.14	2.05	3.04
2001-02	4.60	4.89	5.20	3.91	2.41
2002-03	4.00	4.21	4.34	3.76	2.43
2003-04	3.30	3.50	3.64	2.42	2.13
2004-05	2.52	2.74	3.15	1.56	1.42
2005-06	1.83	2.05	2.51	0.96	0.97
2006-07	1.46	1.60	1.85	1.07	0.82
2007-08	1.30	1.34	1.31	1.40	0.78

Source: *Compiled from Statistical Tables relating to Bank in India, Various issues, RBI Publications.*

Table 4.18 NPAs as Percentage of Total Assets (Net NPAs/Total Assets) : (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	3.00	3.27	2.84	1.12	1.02
1998-99	2.90	3.14	3.56	1.59	1.10
1999-00	2.70	2.94	3.27	1.08	1.03
2000-01	2.50	2.72	3.28	1.18	0.77
2001-02	2.30	2.42	3.23	2.10	0.81
2002-03	1.90	1.93	2.61	2.16	0.79
2003-04	1.20	1.28	1.77	1.10	0.66
2004-05	0.92	0.99	1.39	0.80	0.42
2005-06	0.67	0.72	0.92	0.43	0.47
2006-07	0.58	0.62	0.56	0.54	0.33
2007-08	0.57	0.59	0.38	0.66	0.34

Source: *Compiled from Statistical Tables relating to Bank in India, Various issues, RBI Publications.*

Among several channels of recovery available to the banks dealing with bad loans, the Debt Recovery Tribunals (DRTs) and SARFAESI Act have been most effective in terms of amount recoveries. The setting up of the Asset Reconstruction Company Limited (ARCIL) also helped to a great extent in recovery of dues. The sharp rise in credit growth continued to be accompanied by significant improvement in assets quality. The gross NPAs as percentage of total assets have significantly reduced across all the bank groups from 1997-98 to 2007-08 which is shown in Table. The scheduled commercial banks (SCBs), public sector banks (PSBs) and old private sector banks had around 6-7 per cent of NPAs during 1997-98 which declined to around 1.0-1.50 per cent in the year 2007-08. In the case of new private sector and foreign banks, the percentage declined to 1.07 and 0.82 percent respectively during the year 2006-07. However, in the case of new private sector banks, it started increasing to 1.40 per cent in 2007-08 as compared to previous period of 2004-05, 2005-06 and 2006-07.

Table 4.19 NPAs Recovered by Scheduled Commercial Banks (SCBs) through Various Channels
(Amount in Rs. crore)

Year		One-time Settlement (Compromise Scheme)	Lok Adalats	Debt. Recovery Tribunals (DRTs)	SARFAESI ACT	Asset Reconstruction Companies (ARCs)
2003-2004						
i.	No. of cases referred	1,39,562	1,86,100	7544	2661*	-
ii.	Amount involved	1510	1063	12305	7847	-
ii.	Amount recovered	617	149	2117	1156	-
2004-05						
i.	No. of cases referred	1,32,781	1,85,395	4744	39288*	-
ii.	Amount involved	1,32,781	801	14317	13224	368
iii.	Amount recovered	880	113	2688	2391	14506
2005-06						
i.	No. of cases referred	10262	2,68,090	3534	41180*	-
ii.	Amount involved	772	2144	6273	8517	-
iii.	Amount recovered	608	265	4735	3363	-
2006-07						
i.	No. of cases referred	-	160368	4028	60178 *	-
ii.	Amount involved	-	758	9156	8517	-
iii.	Amount recovered	-	106	3463	3363	-
iiii.	Percentage amount Recovered	-	14.0	37.8	41.4	-
2007-08						
i.	No. of cases referred	-	1,86,535	3728	83942 *	-
ii.	Amount involved	-	2142	5819	7263	-
iii.	Amount recovered	-	176	3020	4429	-
iiii.	Percentage amount Recovered	-	8.2	51.9	61.0	-

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*
*No. of notices issued under section 132 of the SARFAESI Act.

The decline of NPAs implies that the asset quality of banks registered a significant improvement with rapid increase in quantum of credit to the commercial sector. The robust industrial performance along with recovery shows a significant reduction in the level of NPAs. There has been a distinct improvement in recovery climate in recent years facilitated by strong macroeconomic performance and institutional measures adopted by the Reserve Bank/Government (Mohan, 2005). Among the several options available to the banks particularly after the passing of SARFAESI Act, 2002; for dealing with bad loans (Non-performing Loans) and the improved industrial climate in the country helped in recovering a significant amount of NPAs during the recent years as shown in Table. The net NPAs as a percentage of total assets have significantly declined across all bank groups from 1997-98 to 2007-08. The scheduled commercial banks (SCBs), public sector banks (PSBs) and old private sector bank had around 3-4 percent (NPAs) during 1997-98 which declined to around half (0.50) per cent in the year 2007-08. In the case of foreign banks, the percentage declined to 0.30 per cent during the year 2007-08 as compared to 1.00 per cent of total assets in the year 1997-98. In continuation with the recent trend of recoveries in Non- Performing Assets (NPAs) during 2005-06 outpaced fresh accruals during the year. This trend was observed across all bank groups. In a nut shell, the net NPAs as percentage of total assets of all scheduled commercial banks (SCBs) remained almost the same during the last two years, i.e., 0.57 per cent of total assets.

PRUDENTIAL NORMS

Since the beginning of financial sector reforms, an important task of the policymakers was to bring in an appropriate regulatory framework. The design of an appropriate regulatory framework is to encourage competition and efficiency in banking services and at the same time ensure a safe and sound banking sector. It may be very difficult and complex component of banking sector liberalization process. The Narasimham Committee - I report provided guidance on the actual design of the regulatory mechanism. The regulatory framework for banks known as 'Prudential Regulation' in the literature consists broadly of capital adequacy norms, restrictions on the lines of activities that banks can participate in, restriction on entry and deposit insurance (Sen and Vaidya, 1997).

The prudential regulatory framework for banks has been designed to address the following issues:

- Market Structure,
- Capital Adequacy Norms,
- Accounting and Provision for NPAs,
- Supervision of the Banks, and
- Privatization of Banks.

One of the most important components of prudential regulation of banks is the maintenance of minimum capital ratios. The Basel Committee on banking regulations and supervisory practices, known as Basel-I recommended adoption of common capital adequacy standards known as cook-ratio. The cook-ratio is a risk weighted approach to capital adequacy so that institutions with a higher risk profile maintain higher levels of capital. For the purpose of calculating capital, Bank of International Settlement (BIS) classified capital into two broad categories: Tier-I capital constituting share capital and disclosed reserves and Tier-II capital consisting of undisclosed and latent reserves, general provision, and hybrid capital and subordinated debt. The Capital to Risk weighted Asset Ratio (CRAR) suggested by BIS in 1992 was 8 per cent i.e. Tier-I and Tier-II capital should be equal to minimum of 12 percent of the total assets of the bank (Kalita, 2004).

Table 4.20 Distribution of Commercial Banks according to the CRAR (Number of Banks)

Year	Below 4 per cent	4 to 8 per cent	9 to 10 per cent	Above 10 per cent	Total
1996-97	8	9	33	42	92
1997-98	5	1	30	64	100
1998-99	3	2	27	71	103
1999-00	4	2	23	76	105
2000-01	3	2	12	84	101
2001-02	3	2	11	84	100
2002-03	1	2	7	81	91
2003-04	2	0	04	87	93
2004-05	1	1	08	78	88
2005-06	3	-	4	78	85
2006-07	1	-	02	79	82
2007-08	-	-	02	77	79

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

The Narasimham Committee 1991 has recommended that all banks in India must reach the figure in a phased manner latest by March 1996. In 1995, 13 of the 27 public sector banks had attained the 8 per cent capital to risk assets ratio, 11 banks had reached 4 percent and the remaining less than 4 per cent. This move to achieve capital norms has been greatly boosted by the infusion of fresh capital in several public sector banks by the government in 1993- 94 and 1994-95 budgets by the amount of Rs. 57000 million and Rs. 56000 million respectively. However, to meet the international standards, this has been raised to 9 per cent with effect from March 31, 2000 and 12 per cent with effect from March 31, 2008 (Kalita, 2004). The overall capital position of commercial sector banks had witnessed a mark improvement during the reform period. At the end of March 2008, all the commercial banks in India maintained CRAR at or above 12 per cent. The corresponding figure for 1995-96 was 75 out of 92 banks as shown in Table.

As far as the individual bank groups are concerned, all the bank groups in India are maintaining CRAR above 12 per cent in 2008. The CRAR level across the groups of banks has been continuously increasing over the reform period. The new private sector banks are having the highest level of CRAR in 2007-08 with 14.39 percent followed by old private sector and foreign banks with 14.08 per cent and 13.08 per cent respectively. The public sector banks (PSBs) have the lowest CRAR in 2007-08 that stood at 12.51 per cent. The overall CRAR of all scheduled commercial banks was 13.01 per cent in 2007-08 as shown in Table. Commercial banks in India are expected to start implementing Basel-II norms with effect from March 2008. Implementation of Basel-II will require more capital for banks in India to account for operations risk and accordingly, banks have to explore new ways of raising additional capital to meet Basel-II norms. Among the bank groups, the CRAR of new private sector banks and foreign banks improved, while in the case of other bank groups it declined during the period 1997-98 to 2000-01. After 2001-02, the CRAR of all the banks increased during the period ending March 2008. The CRAR of public sector banks (PSBs) and old private sector banks, which had improved marginally in the previous year, declined to industry average at the end of March 2006, but CRAR of old private sector banks remained below the industry average. The CRAR of scheduled commercial banks (SCBs) declined on account of high growth in advances, increase in risk weights for certain sensitive sector and also application of capital charge for market risk in investments.

Foreign banks in India have had higher capital adequacy ratio (higher than industry average) during the period 2001-06, than other four groups of banks as shown in Table. During 2006-07, the overall CRAR of all scheduled commercial banks (SCBs) remained at previous year's level of 12.3 per cent. It means that the increase in capital kept pace with sharp increase in risk-weighted assets. The increase in risk-weighted asset was mainly due to the rapid growth of credit. Among the bank groups, the CRAR of public sector banks (PSBs) and old private sector banks improved, while that of new private sector banks and foreign banks declined during the period 2006-07. The CRAR of new private sector banks which had improved during the previous year, declined below the industry average at end of March 2007. The CRAR of foreign banks, which usually remained much above the other bank groups declined from 13.00 per cent at end March 2006 to 12.4 per cent at end March 2007 to converge with industry average. The CRAR of both new private sector banks and foreign banks declined on account of high groups of risk-weighted assets as they have relatively large exposure to the sensitive sector to which higher risk weights are applied. But during the year ended 2007-08, the CRAR improved across all the banks crossing industry average of 12.00 per cent and as well as in tune with the Basel-II recommendations by the Bank of International Settlement (BIS).

Table 4.21 Capital Adequacy Ratio - Bank Group-wise (Per cent)

Year	All Scheduled Comm. Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks
1997-98	11.50	11.60	12.30	13.20	10.30
1998-99	11.30	11.30	12.10	11.80	10.80
1999-00	11.10	10.70	12.40	13.40	11.90
2000-01	11.40	11.20	11.90	11.50	12.60
2001-02	12.00	11.80	12.50	12.30	12.90
2002-03	12.70	12.60	12.80	11.30	15.20
2003-04	12.90	13.20	13.70	10.20	15.00
2004-05	12.80	12.90	12.50	12.10	14.00
2005-06	12.40	12.20	11.70	12.10	13.00
2006-07	12.28	12.36	12.08	11.90	12.39
2007-08	13.01	12.51	14.08	14.39	13.08

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

INTEREST RATE DEREGULATION

The main aim of the interest rate reforms was to simplify the complex and the tiered interest rate structure that India had during pre-1990s. Different interest rates, based upon size, purpose, maturity of loan, group, sector, region, etc. were rationalized to converge at a single lending rate called as prime lending rate over a period of five years. The aim was to provide more options and flexibility to banks for their assets liability management operation and shift towards indirect monetary control. Along with the interest rate deregulation, quantitative restrictions were initiated simultaneously. The amount of money available with the banks for credit was very small. The reserve requirement was progressively down in time. The statutory liquidity ratio

(SLR) was brought down from 38.5 per cent in 1990 to 25.0 per cent in 2001. The cash reserve ratio (CRR) was also steadily brought down to its minimum level during the period of study. The motive behind the liberalization of interest rate in the banking system was to allow the banks more flexibility and encourage competition. Banks can charge rates according to their cost of funds and to reflect the creditworthiness of different borrowers. Banks can vary nominal rates offered on deposits in line with changes in inflation to maintain real return. The most important and far reaching impact of banking liberalization in India has been the deregulation of interest rates. The Indian banks are now adopting a completely market driven interest rate structure which was earlier a government driven interest rate structure. The Interest rate deregulation has resulted in the integration of interest rates across spectrum. The prime lending rate (PLR) of each bank is now synchronized with bank rate. The bank rate was revived by the RBI to serve as a reference rate for the banking sector. In India, interest rate deregulation has contributed a downward movement of domestic interest rates and narrowing of the domestic foreign rate differential (Kohli, 2005).

Table 4.22 Interest Rate Deregulation: Bank Rate, CRR and SLR

Year	Bank Rate Effective rate	CRR Effective rate	SLR Effective rate
1996-97	12	13.5,12,11.5,11	31.5
1997-98	11,10.9,11,10.5	10.5,10	31.5,25
1998-99	10,9,8	9.75, 9.5, 10.10.5, 10.25	25
1999-00	8	10,11, 10.5	25
2000-01	7,8,7.5,7	10,9.5, 9,8.5	25
2001-02	6.5	9,8.5, 8, 8.25, 7.5, 5.75, 5.5	25
2002-03	6.5	5,4.75	25
2003-04	6	4.5	25
2004-05	6	4.75, 5	25
2005-06	6	5	25
2006-07	6	5.5, 6, 6.5	25
2007-08	6-7	6,5.5	25

Source: *RBI Handbook of Statistics on the Indian Economy, Various issues.*

DIRECTED CREDIT

Direct credit policies have been an important part of Indian financial sector reforms. Under the directed credit policy commercial banks are required to provide 40 percent of their commercial loans to priority sectors which include agriculture, small scale industries and other priority sector. The Narasimham Committee had recommended reduction of direct credit to 10 per cent from 40 per cent. But the policy of 40 per cent of loans to priority sector has not been abolished by the government. However, the definition of priority sector activities has been with the new inclusion and reclassification (Kalita, 2004). The committee on banking reforms has suggested inclusion of activities related to food processing, dairying and poultry in the priority sector list. This will increase the list of activities under the priority sector credit and also improve the quality of the portfolio. The priority sector should be considered as a percentage of the total assets of the banking system and not as percentage of commercial advances as at present. The issue of priority sector lending, an important concern against privatisation, is no longer that crucial, since in 2003 the share of credit of private sector banks going to the priority sector had surpassed that of public sector banks as shown in Table (Kalita, 2004). Despite a decline, direct lending to the disadvantaged segments under the priority sector advances remained high during the reform period (Mohan, 2004). The decline in priority sector lending since the initiation of reforms, in fact, reflects greater flexibility provided to banks to meet such targets. At present, if a bank fails to fulfil the target for priority sector lending, it can invest the shortfall amount in RBI securities dealing with the flow of funds towards agriculture and small scale industries but it is still desirable that banks should adhere to the priority sector lending targets (Kalita, 2004).

TECHNOLOGICAL INDICATORS

Technological Development in Banks. Technological development and the use of information technology (IT) have transformed the functioning of the banking sector in the country. Banks in India have used IT not only to improve their own internal processes but also to increase facilities and services to the customer. Furthermore, the large scale increase in the number of transactions handled by the banks has enhanced the dependence of banking sector on modern technologies including the use of computers. Apart from reducing transactions cost, the use of technology has also provided new avenues to banks to expand their outreach, especially in the remote and rural areas. Several banks have been positioning themselves as a **one stop shop** financial service provider with a fairly exhaustive range of products.

Computerization in Banks. The process of computerization, which marked the starting point of all technological initiatives, is reaching near completion for most of the banks. Public sector banks continued to provide adequate resources for computerization and development of communication networks. The cumulative amount spent from September 1999 to March 2008 aggregated Rs.15,016 crore (Report on Trend and Progress of Banking in India, 2007-08). A major development during 2007-08 was a significant increase in coverage of the number of branches providing core banking solution (CBS). The percentage of branches to total bank branches under CBS increased from 11.00 per cent in 2004-05 to67.00 per cent in 2007-08. At the end of March 2008, the number of fully computerized branches reached to 93.6 per cent as against 71 per cent at the end of March 2005 as shown in Table.

Table 4.23 Priority Sector Lending by Scheduled Commercial Banks (In Rs. millions)

Public Sector Banks											
Item	**1997-98**	**1997-98**	**1997-98**	**1997-98**	**1997-98**	**1997-98**	**1997-98**	**1997-98**	**1997-98**	**1997-98**	**1997-98**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Priority Sector	913190 (41.8)	1040940 (39-2)	1274780 (40.2)	1491160 (43.7)	1711850 (43.1)	2030950 (42.5)	2444560 (43.6)	3100930 (43.3)	4097480 (40.3)	5213760 (39.7)	6089630 (44.6)
Agriculture	343050 (15.7)	376310 (14.2)	452960 (14.3)	535710 (15.7)	630820 (15.9)	735070 (15.4)	844350 (15.1)	1124750 (15.7)	152200 (15.3)	2026140 (15.4)	2486850 (17.4)
SSI	381090 (17.5)	425910 (16.1)	46045s0 (14.6)	484000 (14.2)	497430 (12.5)	529880 (11.1)	583110 (10.4)	676340 (9.4)	824340 (8.1)	1025500 (7.2)	1486510 (10.9)
Other Priority Sector	188810 (8.7)	236610 (8.9)	308160 (9.7)	407910 (12.0)	537120 (13.5)	714480 (15.0)	1017100 (18.1)	1299840 (18.1)	1637560 (16.1)	2066610 (15.7)	2116270 (15.5)
Private Sector Banks											
Priority Sector	116140 (40.9)	141550 (41.4)	183680 (38.0)	215500 (38.2)	257090 (40.9)	367050 (44.4)	489200 (47.3)	693840 (43.3)	1065860 (42.8)	1445490 (42.9)	1632230 (47.5)
Agriculture	27460 (9.7)	32570 (9.5)	40230 (8.3)	53940 (8.5)	80220 (8.5)	118730 (11.2)	1477300 (14.2)	214750 (12.1)	367120 (13.6)	520340 (12.7)	577020 (15.4)
SSI	58480 (20.6)	64510 (18.9)	80000 (16.5)	81580 (14.4)	86130 (13.7)	68570 (8.2)	75000 (7.3)	86680 (5.4)	104210 (4.2)	131360 (3.9)	460690 (13.4)
Other Priority Sector	30200 (10.6)	44470 (13.0)	63450 (12.0)	79980 (14.2)	90740 (14.4)	176020 (22.1)	266000 (22.7)	392410 (24.5)	577770 (23.21)	7691510 (22.9)	594520 (17.8)

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

Note: The figures given in parentheses represent percentages to net bank credit for the respective bank group.

Computerization of Branches in Public Sector Banks. The total number of nodes/PC in the computerized branches (fully and partially) increased by 61,437 during 2007-08 representing an increase of 11.1 percent. Table shows that public sector banks recorded significant progress after fully computerizing their branches. Of the 27 public sector banks, only 9 banks were fully computerized in the year 2004-05, while 6 banks could computerize their branches between 70 and 100 percent. However, the number of banks having their branches fully computerized increased to 20 in 2007-08 as against 9 banks in 2004-05. Up to March 2008, only 5 banks computerized their branches between 70 and 100. In a nut shell, most of public sector banks (PSBs) have fully computerized their branches at present. Only two banks, viz. Punjab and Sind Bank and UCO Bank are yet to computerize more than half of their branches (Report on Trend and Progress of Banking in India, 2007-08).

Table 4.24 Computerization in Public Sector Banks (Percentage of Total Bank Branches)

Year	***Branches Already Fully Computerized (i)**	**Branches under Core Banking Solution (ii)**	**Fully Computerized Branches (i +ii)**	**Partially Computerized Branches**
2004-05	60.00	11.00	71.00	21.80
2005-06	48.50	28.90	77.50	18.20
2006-07	41.20	44.40	85.60	13.40
2007-08	26.60	67.00	93.70	6.30

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

*Other than branches under core banking solution.

Table 4.25 Computerization of Branches in Public Sector Banks (As at end March)

Extent of Computerization		Number of Banks			
		2005	2006	2007	2008
1.	Up to 10 per cent	1	1	NIL	1
2.	More Than 10 up to 20 Per cent	1	NIL	1	-
3.	More Than 10 up to 30 Per cent	3	NIL	1	-
4.	More Than 10 up to 40 Per cent	NIL	-	1	-
5.	More Than 10 up to 50 Per cent	3	NIL	1	1
6.	More Than 10 up to 60 Per cent	3	3	-	1
7.	More Than 10 up to 70 Per cent	1	2	1	-
8.	More Than 10 up to 80 Per cent	2	2	1	1
9.	More Than 10 up to 90 Per cent	2	-	4	3
10.	More Than 10 up to 100 Per cent	2	5	2	1
11.	**Fully Computerized**	9	10	15	20
Total		**27**	**27**	**27**	**27**

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

Note: IDBI Bank has not been included in the above data.

Branches and ATMs of Banks. To provide their customers greater flexibility and convenience as well as to reduce servicing cost, banks have been investing to computerize their branches and introduce new delivery channels, such as ATMs, phone banking, internet banking and mobile banking etc. The total number of ATMs installed in the country was 17642 at the end of March 2005. New private sector banks constituted the largest share of ATMs. The percentage of ATMs to total branches was 333 per cent in the case of new private sector banks followed by the foreign banks which account for 329.3 per cent. In case of scheduled commercial banks (SCBs), the percentage of ATMs to total branches was 32.83 in 2004-05. Old private sector banks and public sector banks (PSBs) are lagging much behind as compared with the new private sector banks and foreign banks which account for 27.51 per cent and 21.13 per cent respectively at the end of March 2005. During 2007-08, the total number of ATMs installed by the banks increased by28.4 per cent to 34,789 representing 56.9 per cent of total branches at the end of March 2008. While, the ATMs installed by foreign banks and new private sector banks were nearly four and three times of their respective branches respectively. The ATMs to branch ratio was much lower for public sector banks (41.2 per cent) and for old private sector banks (47.2 per cent). While the ATMs to branch ratio were much higher in the case of new private sector banks (279.9 per cent) and foreign banks (334 per cent) as on 31st march 2008. Of all the ATMs installed in the country at the end of March 2008, new private sector banks had the largest share in the Off-site ATMs, while nationalized banks had the largest share in On-site ATMs.

Table 4.26 Branches and ATMs of Scheduled Commercial Banks

Year	SCB			PSB			Old Private			New Private Foreign Bank			Foreign Bank		
	Total No. of Branches	Total No. of ATMs	% age of ATMs to Total Branches	Total No. of Branches	Total No. of ATMs	% age of ATMs to Total Branches	Total No. of Branches	Total No. of ATMs	% age of ATMs to Total Branches	Total No. of Branches	Total No. of ATMs	% age of ATMs to Total Branches	Total No. of Branches	Total No. of ATMs	% age of ATMs to Total Branches
2004-05	53726	17642	32.83	47288	9992	21.13	4511	1241	27.51	1685	5612	333.0	242	797	329.3
2005-06	54618	21147	38.71	47843	12598	26.33	4566	1547	33.88	1950	6112	313.4	259	880	339.7
2006-07	57042	27088	47.50	49666	16329	32.90	4606	1607	34.90	2497	8192	328.1	273	260	351.6
2007-08	61132	34789	56.90	52880	21788	41.20	4450	2100	47.20	3525	9867	279.9	277	1034	33.4

Source: Report on Trend and Progress of Banking in India, Various issues, RBI.

Real Time Gross Settlement and Other Electronic Transactions. Although cash continue to be used heavily in retail transactions in India, the use of cheque and several other payment instruments such a Credit cards, Debit cards and Smart cards, on the whole, has been increasing in the recent years. The use of payment cards, both in volume and value terms, more than doubled in 2004-05. As a result of sharp increase in RTGS and other electronic transactions, the proportion of electronic transactions both in volume and value has increased sharply. Electronic payments are cheaper as compared to paper-based instruments. They can also be carried out faster in comparison with paper-based transactions. The increased use of electronic payments has, thus, increased the efficiency of the payment system. The Table shows a comparison between paper-based and electronic transactions. The RTGS was operationalised on March 26, 2004. Its usage for transfer of funds especially for large values and for systematically important purpose has increased since then. The large value payment systems include the Real Times Gross Settlement (RTGS), government securities clearing and forex clearing. The RTGS system has been in operation for more than four year since its operationalisation. At present, 51095 branches provide the RTGS facility at more than 10,000 centers leading to increased usage of this mode of fund transfer. The daily average volume of transactions is about 38000 for about Rs.1,15,600 crore of which 30,900 transactions for about Rs. 69,123 crore pertain to customer transactions as at end September 2008 (Report on Trend and Progress of Banking in India, 2007-08).

Retail Electronic Payment Methods. The use of electronic payments, both retail and card-based, increased in recent years, reflecting the increased adoption of technology. The electronic payment systems such as electronic clearing service (ECS) - both debit and credit, national electronic funds transfer system (NEFT) and card based payment (credit and debit) are becoming increasingly popular as indicated by the increase in transaction through retail electronic payment methods. Both the variants of ECS, i.e., ECS (credit) and ECS debit for direct credit such as salary and pension payments; and the other for direct debits, such as collection of bills, insurance premium and equated monthly installment (EMI) payments of loans are being increasingly preferred. ECS is now available at all bank branches at 70 centers. The volume of electronic transactions increased by 41.4 per cent in 2007-08 as compared with 32.9 per cent in the previous year. Transactions in terms of value increased by almost three and a half times during 2007-08 mainly on account of large increase in transactions through ECS credit.

Table 4.27 Paper-Based Versus Electronic Transactions

Year	Paper-based	Electronic	Total
1	2	3	4
Volume (in lakh)			
2002-03	10139	1730	11869
2003-04	10228	2152	12280
2004-05	11671	4200	15871
2005-06	12895	11300	241985
Value (Rs. crore)			
2002-03	1,34,24,313	37,536	1,34,61,849
2003-04	1,15,95,960	67,461	1,16,63,421
2004-05	1,01,20,716	42,21,153	1,43,41,269
2005-06	1,13,37,062	1,18,84,429	2,32,21,491

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

Table 4.28 Transactions through Retail Electronic Payment Methods

Type	Volume of Transactions (000s)			Growth in Volume (%)		Value of Transactions (Rs. crore)			Growth in Value (%)	
	2005-06	***2006-07***	***2007-08***	***2006-07***	***2007-08***	***2005-06***	***2006-07***	***2007-08***	***2006-07***	***2007-08***
ECS Credit	44,216	69,019	78,365	56.1	13.5	32,324	83,273	7,82,222	157.6	839.3
ECS Debit	35,958	75,202	1,27,120	190.1	69	12,986	25,441	48,937	95.9	92.3
EFT/NEFT	3,067	4,776	13,315	56.7	178.8	61,288	77,446	1,40,326	26.4	81.2
Credit Card	1,56,086	1,69,536	2,28,203	8.6	34.6	33,886	41,361	57,984	22.1	40.2
Debit Card	45,686	60,177	88,306	31.7	46.7	5,897	8,172	12,521	38.6	52.3
Total	**2,85,013**	**3,78,710**	**5,35,309**	**32.09**	**41.4**	**1,46,381**	**2,35,603**	**10,41,990**	61	**342.1**

Source: *Report on Trend and Progress of Banking in India, Various issues, RBI.*

The use of ECS (credit) and ECS (debit), in particular, increased sharply during 2007-08, while the ECS (credit) volumes increased by 13.5 per cent in 2007-08, value increased by more than eight times. The substantial increase was due to the use of ECS for refund of initial public offering (IPOs). The volume under ECS (Debit), which is mostly used for payment of utility bills and regular premium, increased by 69.0 per cent in 2007-08 and by 92.3 per cent in value as shown in Table. It has been observed that the banking sector in India has provided a mixed response to the reforms initialed by RBI and the Govt. of India since 1991. The Indian banking system is growing in a robust manner. The sector has responded positively in the field of profitability, productivity, assets quality I.e. reduction of NPAs, enhancing the role of market forces, norms of prudential regulations of accounting, income recognition, provisioning and exposure, introduction of CAMELS supervisory rating system, and the up gradation of technology. The financial sector reforms have brought the Indian financial system closer to the global standards. The Indian banking sector has still a long way to go to catch up with their counterparts.

CHAPTER-5

BANKING SECTOR PERFORMANCE DURING 2005-08

The Indian banking system, reaped the benefits of strong credit off take, improved risk management practices and a benign environment, has continued to report increase in earnings over the last five years, while improving on its solvency (Net NPAs as % of Net Worth) profile substantially. Gains from trading portfolios booked when interest rates were on a decline during April 2002-March 2004, also supported banks' earnings while helping them make higher provisions against NPAs (and thereby improved their Net NPAs and solvency). In the subsequent period, higher income (as a result of increase in proportion of higher yielding credit book), lower credit provisions and improving operating efficiency enabled banks to absorb the higher provisioning requirement on fixed income portfolio while continuing to show strong profitability*. Going forward, however, the opening up of financial sector, expected increase in credit provisioning, adoption of new capital adequacy framework and the revised AS-15 framework pose new challenges for the banking system as a whole.

The legal environment in India has also improved with operationalization of credit information bureau, the SARFAESI act and setting up of asset recovery companies. This coupled with the likely continuance of a favorable operating environment continued to support the bank's earnings. However, effective risk based pricing to meet the ever-increasing competitive pressures determined the profitability levels of Individual banks. On a systemic level, ICRA expects that the past profitability levels sustained, however the internal capital generation was unlikely to be commensurate to support the expected capital requirement (without impacting the capitalization levels) for the organic growth, adoption of new capital adequacy framework and the revised AS-15. Thus, the banks continued to resort to external sources for capital augmentation. To maintain easy access to external capital sources, it was being imperative for the banks to maintain superior earnings and solvency.

ANALYSIS OF PERFORMANCE

Credit off-take continues to grow and provide impetus to bank's asset base. Driven by buoyant economic conditions leading to strong demand for credit from all sectors and individual banks efforts to increase their asset base, the credit portfolio of banks have been increasing at a brisk pace in the last few years. As per RBI, the corporate sector has shown the highest growth in 2006-07, though retail demand, too, continued to be robust. The growth in credit portfolio of the private sector banks continued to overshadow the growth of the public sector banks, although the gap has been reducing on the last few years. The credit portfolio of the banks was better diversified with the increase in proportion of retail loans. Retail loans account for over 25% of the total credit portfolio as on March 31, 2007 as compared with around 14% as on March 31, 2003. The obvious benefit to the banks was that the loans were now spread across a large number of customers instead of a few large borrowers. Within the retail space, mortgage loans and personal loans account for almost 80% of the exposures. While the asset quality of these exposures has been fairly good till date, they were yet to be tested in an economic down cycle. With rise in interest rates in the last 12-18 months, there was a rise in delinquency indicators.

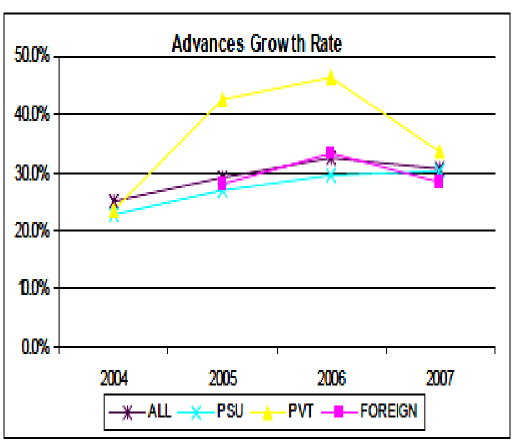


Figure 5.1a

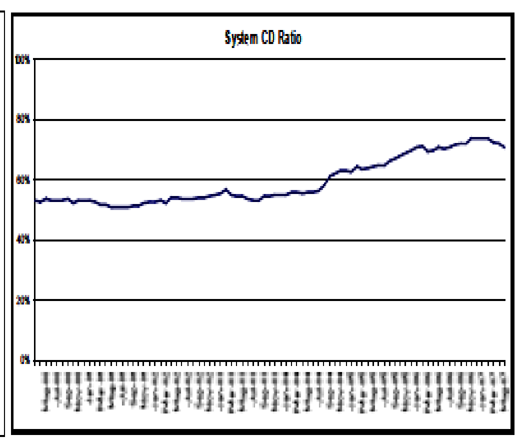


Figure 5.1b

In the corporate credit, sectors such as infrastructure, textiles, chemicals, metals and petroleum have shown the maximum growth. Given the robust growth in the economy, it was expected these sectors to continue consume more bank credit over the medium term. During 2006-07, sectors such as real estate and capital markets too witnessed high growth. However, the slew of RBI initiatives on interest rates and exposure to sensitive sectors such as capital markets, real estate and non-bank finance companies has moderated the credit growth in the last few months with the outstanding bank credit declining sharply in June 2007 over the March 2007 levels. The incremental loan to deposit ratio has declined from over 100% in 2005-06 to around 86% in 2006-07. We expect the credit off-take to pick up in the busy season. However, the growth rates may be moderated on account of the aforesaid measures of the RBI.

Asset quality indicators continue to improve; can the trend reverse? Asset quality and solvency indicators for the Indian banking have improved considerably over the last few years. The gross Non Performing Assets (NPAs) have reduced as a result of relatively lower fresh slippages and better recovery from stock of existing NPAs. Further, the gains from the trading portfolio, booked in the declining interest rate scenario in April 2002 – March 2004, helped the banks to make higher provisions against the NPAs to improve their solvency profile. The reduction in incremental provisions in the last few years has not led to any material deterioration in the solvency of the banks, as recoveries from existing NPAs balanced out the fresh slippages helping the banks in curbing overall Gross NPAs. One also needs to note that a part of the improvement in the asset quality indicators is also aided by the robust growth in the bank's credit portfolio and the increasing emphasis on risk management in the last few years. Other contributory reasons include shift in credit deployment in favor of less vulnerable sectors such as retail and away from SSIs (characterized by high NPA percentages). Although the NPA percentage in the retail segment in general has remained higher for the public sector banks compared with the better-managed private banks, they compare better (lower) than the reported NPAs in most other segments.

General improvement in the economy. Improving legal system that facilitates recovery. Debt Recovery Tribunals, Lok Adalats, SARFAESI Act have helped the banking system recovery in the last few years.

The operationalization of Credit Information Bureau of India Limited (CIBIL), which now has collated a database of over 90 million borrowers along with their credit history, provides a platform for the lenders to weed out some of the risky borrowers.

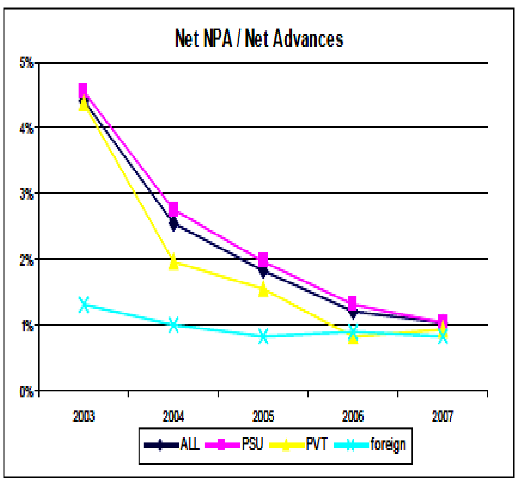


Figure 5.2a

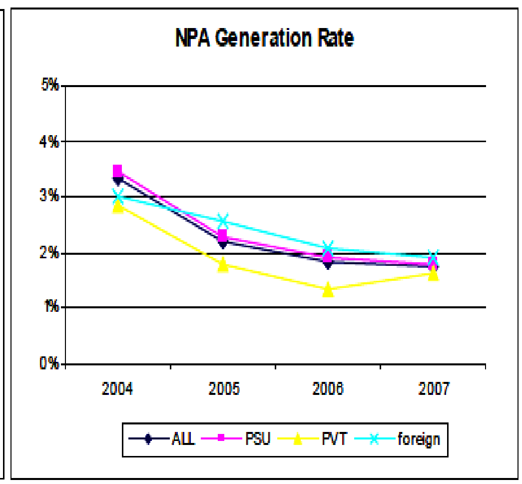


Figure 5.2b

* Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest

Going forward, while the overall business environment is expected to remain benign, a moderate deterioration in the credit profiles of corporate may be expected, which may increase the fresh NPA generation rate for the banks as these loans have not yet been tested in a negative credit cycle. With banks increasing credit to riskier segments such as unsecured retail loans, we expect to see some deterioration going forward. With increasing interest rates, this trend is being seen in case of retail portfolio of some of the private sector banks While the improvements in regulatory environment may continue to facilitate recoveries from NPAs, stagnation or a possible correction in collateral values may reduce the quantum of recoveries from existing stock of NPAs. Thus the incremental NPA generation may exceed the recoveries / up gradations, which would force the banks to make higher credit provisions so as to maintain Net NPA% at reasonably low levels.

Investment portfolio grows in 2006-07 after declining in the previous year. In absolute terms, the investment portfolio of banks has risen in 2006-07 as compared to 2005-06. However, driven by rising interest rates that leads to depreciation on the investment portfolio and a growing loan demand, the proportion of investments as a percentage of total assets continue to decline. G-Secs at over 80% (around 73% for the private sector banks) form the bulk of the investment portfolio. As on March 2007, G-Secs accounts for around 27% of net demand and time liabilities of the banking system (NDTL) compared to over 40% three years back. In the last few months, with the credit portfolio declining, the proportion of G-Secs has again increased marginally to around 28% as on June 2007.

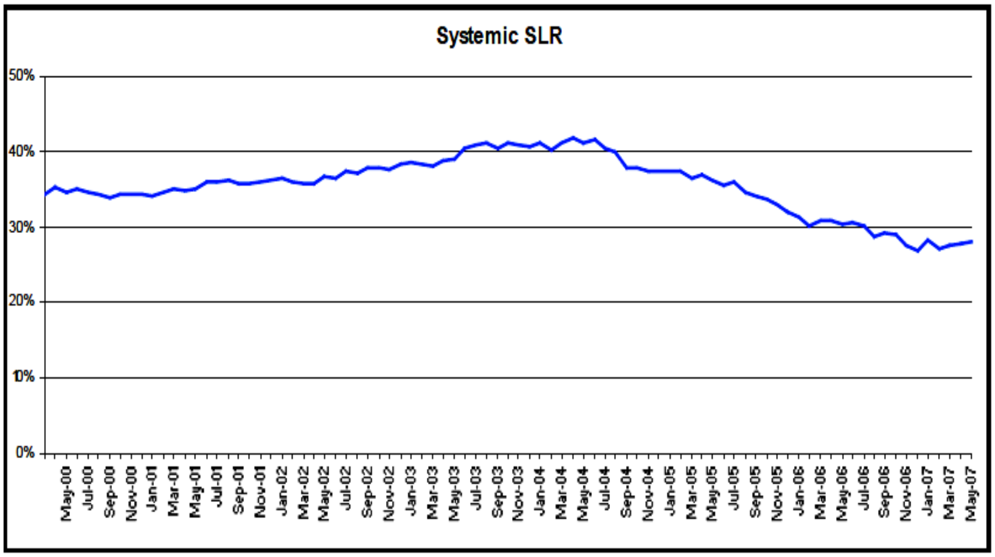


Figure 5.3

In order to mitigate the accounting impact of adverse movements in interest rates, banks have been consciously trying to reduce the duration of the AFS portfolio. At the same time, most banks have transferred a significant proportion of their investments to HTM category and, in the process, booking onetime loss on such transfers in the last three years. However, some of the public sectors banks still have a high proportion of their investments in the AFS category and continue remain more vulnerable to rising interest rates.

Most banks relatively less vulnerable to rise in interest rate than before. In the last few years, the bank's investment portfolios (which are predominantly in fixed rate securities) have been adversely impacted by the rise in interest rates. Most banks have managed to bring down the duration of the AFS securities to around 2-2.5 (around 1 for private sector banks) thereby limiting the marked to market risks. However there are still some public sector banks that continue to maintain modified duration levels of over 3. These banks could continue to face pressures in a rising interest rate regime. However we feel that interest rates should stabilize or remain range bound at the current levels as the RBI's efforts (especially over the last 6 months) in curbing inflation indicators and credit off-take has begun to yield the desired results. At the same time, with bulk of the advances being linked to prime lending rates, they can protect themselves against any adverse interest rate movements that increase their cost of funds. We however acknowledge that the ability to increase lending rates would be a function of the competitive market forces.

Deposits remain the main source of funds for banks. With a wide number of branches (70,711 as on March 31, 2007), deposits remain the preferred source of funds for the Indian banking system. For the public sector banks, deposits account for over 80% of the liabilities while it is around 72% for the private sector banks as on March 31, 2007. The reach and the franchise of the public sector banks are well captured by the CASA (current and savings accounts) that account for nearly 40% of total deposits while it is around 30% for the private sector banks. The deposit base of the banking system grew by 24% in 2006-07 as compared to 18% in the previous year with the private sector and foreign growing at a faster pace. With the rising interest rate regime, the proportion of term deposits has risen for almost all banks. Thus it has become more challenging for banks to maintain their interest costs amidst competitive pressure.

Banks in the process of diversifying funding sources, especially in overseas Markets. With the rise in corporate demand for foreign currency funds, the banks have been increasing their foreign currency borrowings in the recent past. However this still continues to remain quite small in relation to the overall assets of the bank, because of regulatory restrictions on the overseas borrowing limits. With the increasing penchant for Indian banks to expand their overseas operations, we could see some increase in the overseas borrowings by these banks. Borrowings by banks (other than deposits and capital bonds) account for around 5-6% of the total liabilities of the system (10-13% for the private and foreign banks). The increasing corporate demand for foreign currency funds is also leading the banks to diversify their sources of funds.

Liquidity profile deteriorates in 2006-07 but remains comfortable. The liquidity profile of the Indian banking system is fairly comfortable given the high proportion of statutory investments (25% of NDTL). Consequently, the loan to deposit rations of the system is around 70-72%. As per our estimates the excess SLR in the banking system has reduced to around Rs 600 billion as on March 2007 from over Rs 2.5 trillion as on March 2005 and around Rs 1.2 trillion as on March 2006. As a result, the ability of the banks to repo these excess securities to meet any liquidity pressure have reduced. However, with lower credit off-take (advances portfolio has actually decreased over March 2007 levels) in the first quarter of 2007- 08 coupled with growth in deposits, the excess SLR has again increased to around Rs 1000 billion in June 2007. It is important to also note that the excess SLR is primarily with the public sector banks. While the strong franchise in terms of branch network and government ownership will help the public sector banks in times of crisis, the private sector banks will need to have strategies to manage such an eventuality though one does not rule out some form of support form the regulator. Our study indicates that as expected the mismatch profile in the system has deteriorated as on March 31, 2007 as compared to the past few years, driven primarily by an increasing proportion of short-term deposits. The short-term mismatches have increased to 12% of asset base as on March 2007 as compared to 11% as on March 2006.

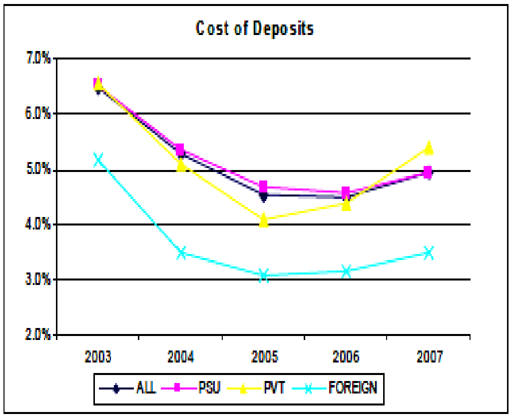


Figure 5.4a

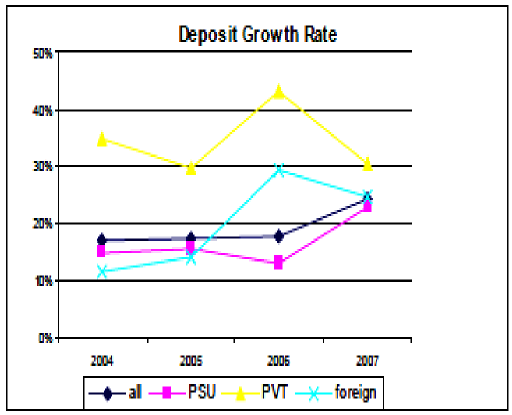


Figure 5.4b

Adequate systemic capitalization levels. The regulatory capital adequacy levels remains comfortable for the Indian banks with the overall capital adequacy for the system continuing to remain above 12% as compared to the regulatory minimum of 9%. The Tier I capital has however decreased in 2006-07 as the banks have been quite active in mobilizing hybrid debt capital instruments to shore up the regulatory capital levels. It is important to note that the amount of hybrid debt capital of the banking system is currently low in relation to the banks core Tier I capital and hence does not adversely affect the capital structure. We estimate the Tier I level of the system to be around 8% as on March 31, 2007 as compared to around 9% as on March 31, 2006.

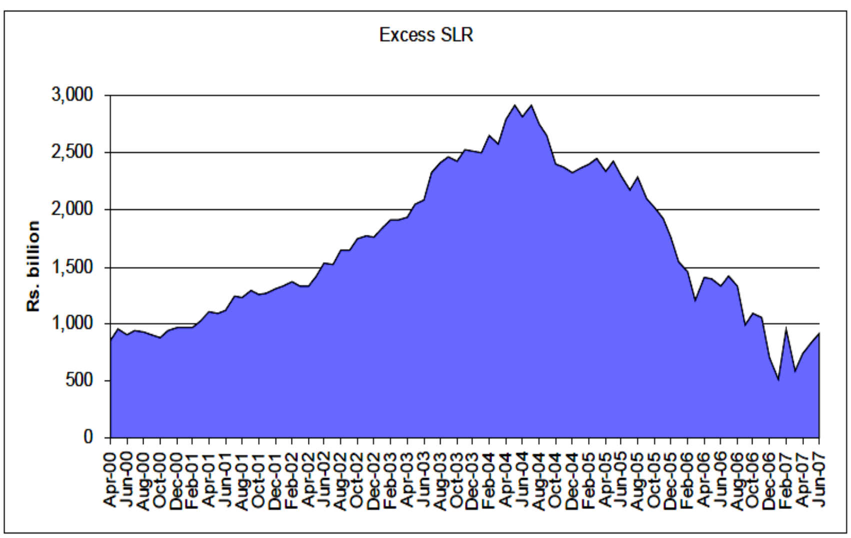


Figure 5.5

Fresh capital required to meet Basel II requirements, adoption of revised AS15 and also fund new assets. The credit portfolio of the banking system has been growing at around 30% for the last few years. Despite the reported lower growth rate in the last few months on account of the monetary measures taken by the Reserve Bank of India, we expect the system assets to grow at around 25% per annum in 2007-08 and the medium term. Apart from supporting the credit growth, fresh capital is also needed to meet the Basel II norms that become applicable to most banks by March 31, 2008. We believe that Basel II does not only aim at shoring up regulatory capital adequacy, it is another process that is being used by the Reserve Bank of India to strengthen the Indian banking sector. The RBI has been over the years revising its guidelines in order to strengthen the systems and risk culture in the Indian banks. We estimate that the gain for the banks on credit risk would be more than offset by the additional capital they would have to provide on account operations risk. As per our estimates the banking system would require significant amount of capital over the medium term to maintain the minimum 9% regulatory capital adequacy norms.

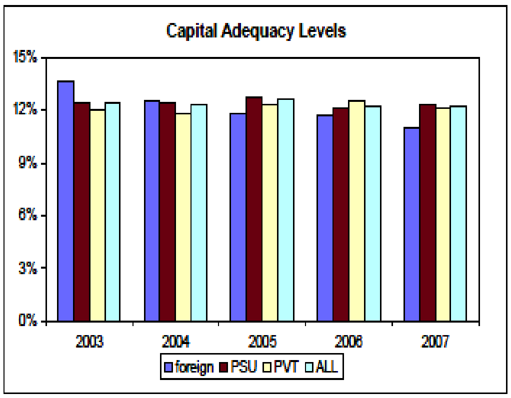


Figure 5.6a

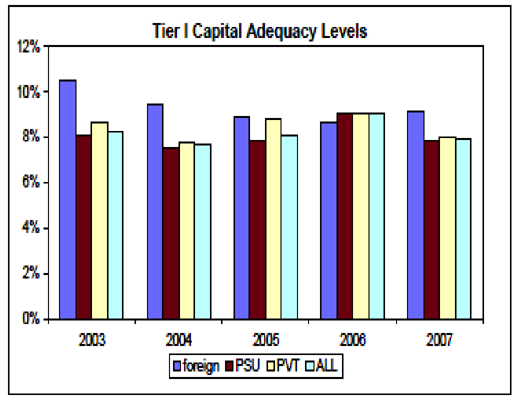


Figure 5.6b

Adoption of revised AS 15, could also impact the Tier 1 capital of Indian public sector banks substantially. However, the ongoing talks to defer the adoption of AS-15 over a period of five years starting 2007-08, may give a breather to absorb such deficit in a phased manner. The Tier I capital ratios has seen a decline in 2006-07 as the banks used the hybrid debt capital route to shore up the regulatory capital adequacy levels. The private sector banks do not have major problems in raising fresh capital but the same is not true for the public sector banks, who have a to maintain a minimum government holding of 51%. In most of the public sector banks, the government holding is less than 60% and the scope to raise fresh equity capital is restricted till the floor is revised1. We believe that the Government will first explore other avenues such as allowing banks to raise preference shares, allowing some more scope for hybrid debt capital instruments before diluting the stake below 51%. Consequently, we see some more pressure on Tier I capital unless they are able to raise equity capital. We expect the Tier I capital ratios for the private sector banks to improve as the largest three players in this space have already raised around US$ 7 billion by way of equity capital in the current financial year.

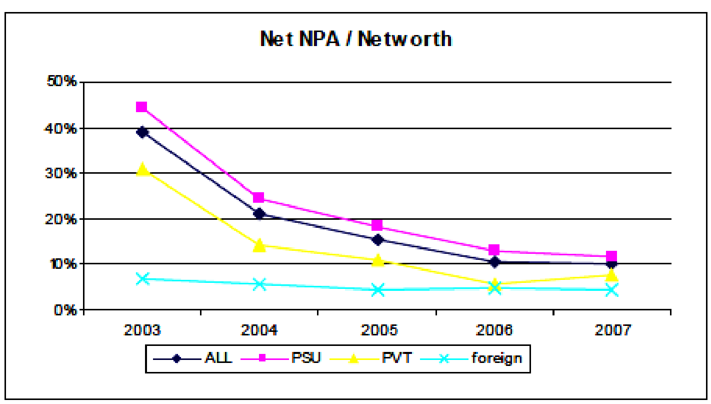


Figure 5.7

Solvency indicators continue to improve. The systemic solvency indicators (Net NPAs as percentage of Net worth) continue to improve over the previous years and are estimated at under 12% as on March 31, 2007 (13% as on March 31, 2006). It is however important to note that the solvency indicators for the public sector banks continue to improve while those of the private sector banks have deteriorated in 2006-07 on account of increased delinquencies. However, in absolute terms, the solvency indicators of the private sector banks (at around 8%) continue to compare favorably with public sector banks which are at around 13%. While no bank has its regulatory capital adequacy below the regulatory minimum of 9%, the solvency indicators (net NPA / net worth) of some of them still compare poorer at over 15%. With the top three private sector banks raising over US$7 million of equity capital in the first half of 2007-08 and some more planning to do so, the solvency indicators of the private sector banks is expected to improve further.

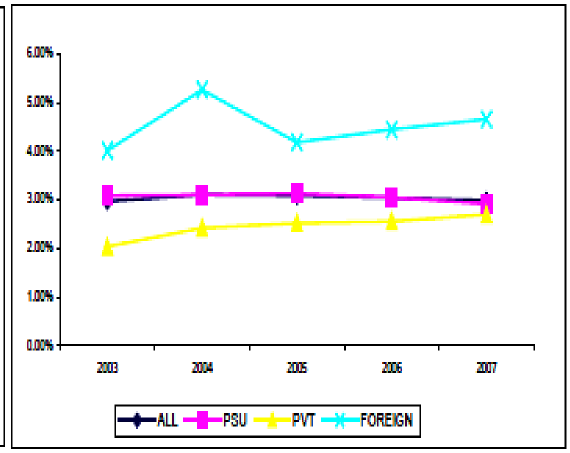
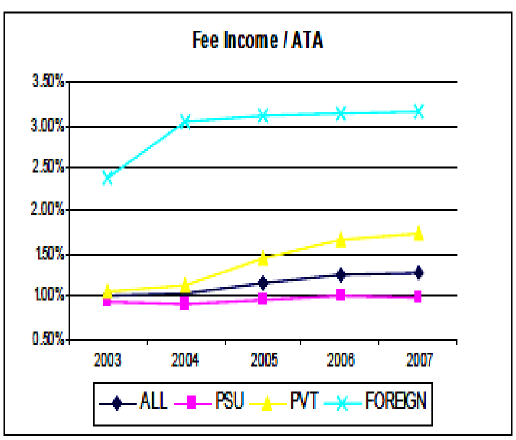


Figure 5.8a Gross Interest Spread **Figure 5.8b Net Interest Margin**

Interest margins decline marginally but may get supported by the rise in PLR rates affected by the banks in the last 3-6 months. The interest margins of the banking system, which have been declining over the last three years, reflect the performance of PSBs which hold around three fourth of total banking assets. Interest margins for PSBs have declined primarily on account of significant reduction in yields on investments, though lending spreads have expanded by over 40 basis points over the corresponding period. At the same time with the private sector banks improving their deposit profile (increasing the proportion of CASA deposits) and being more pro-active in raising the lending rates, their interest margins continues to rise. The foreign banks have traditionally been able to maintain a strong CASA mix despite their limited branch network and coupled with their continued focus on retail and SME segment, they have been able to improve their interest margins in 2006-07 as well. We do not expect any plans to reduce the Government holding in public sector banks below 51% over the medium Term Going forward, low yields on SLR and CRR balances would put pressure on the yields on the banks; moreover cost of funds could continue to rise given the continued competition to mobilize deposits. However, in the recent past, robust credit off take has facilitated banks in revising their PLRs in the recent past to pass on the increasing cost of funds to borrowers. The continuing pressure to increase volumes even as the overall credit off take moderates may make it difficult for the banks to doing so in future. However, in light over about 25% expected credit growth for 2007-08, we do not expect the interest margins to fall substantially.



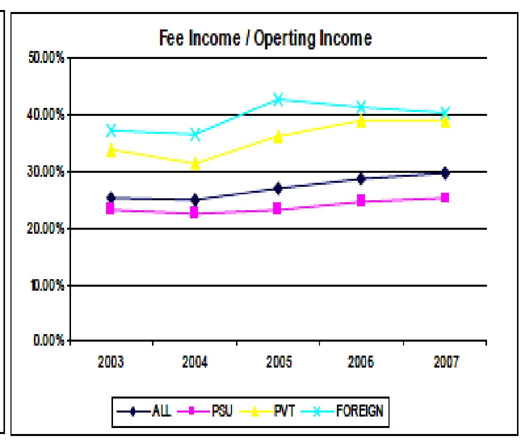


Figure 5.9a **Figure 5.9b**

Public sector banks continue to lag peers on fee income. Though public sector banks have taken initiatives to improve their core fee income over the last few years, their initiatives are yet to show any marked improvements. Consequently, they continue to lag their private and foreign counterparts on the quantum and quality of fee income. We believe that with the public sector banks, once they start utilizing their core banking platforms effectively would give competition to the private sector banks on fee income arena. The private sector and foreign banks continue to score significantly over the public sector banks in fee income generation driven by their strong IT platforms that help cross selling and meeting many needs of the customers. These banks continue to remain strong in areas like distribution of mutual funds and insurance products, and also foreign exchange transactions (including derivatives) in addition to loan processing fees, which account for bulk of the fee income. Another indicator for measuring the diversity of revenue streams of banks is fee income as a proportion of net income (total income less interest expense less trading profits). The foreign banks and private sector banks score over the public sector counterparts here as well. While the public sector banks have been reporting a steady improvement (driven by recovery from written off assets), the sustainability of the same remains to be seen.

Improvement on operating efficiencies with increased scale of operations. Strong growth in asset base coupled with rationalization of expenses has helped the banking system improve the operating efficiencies. In this regard, the public sector banks with their existing wide spread branch network have been primarily increasing their IT and employee expenditure, while the private sector banks are also incurring huge expenditure in expanding their branch network.

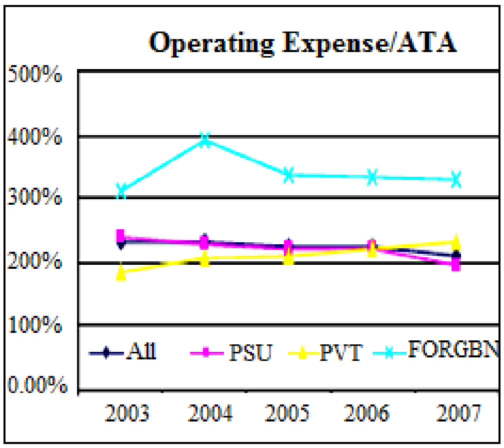


Figure 5.10a

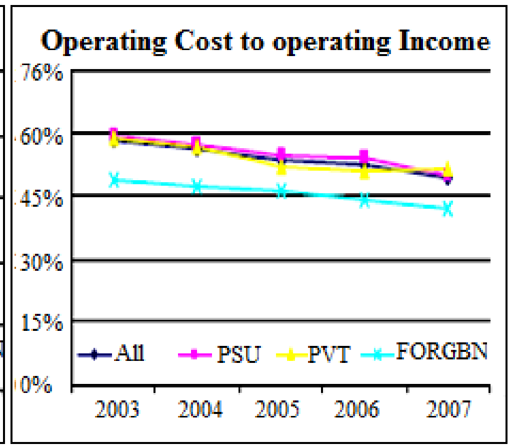


Figure 5.10b

Consequently, the operating efficiencies as defined by operating expenses as percentage to average total assets continue to improve for the public sector banks. However the branch expansion and incidental costs coupled with the expenses incurred in originating incremental retail assets (DSA/DMA route) lead to an increasing operating cost structure for the private sector banks. The cost to income ratio for public sector banks improved marginally while those of private sector banks deteriorated in 200-07. The foreign banks continue to compare favorable on the cost to income parameter on the back of their strong fee income profile.

Profitability levels improve for the banking system in 2006-07. Despite the competitive pressures, the banking system has been able to steadily improve its core operating profitability (net of treasury profits and provisions for credit & investments). The core profitability of the public sector banks continue to rise on the back of improving operating efficiencies while for the private sector banks, the improvement can be attributed to increase in interest margins and fee income. Any pressures on the net interest margins are likely to be offset by some improvement in the fee income and an improvement in operating efficiencies of the banks. The overall profitability of the foreign banks continue to out shadow those of its Indian counterparts by a wide margin.

Notwithstanding the rise in interest rate and the continued lower opportunities to make treasury profits, the banking system has been able to maintain its overall profitability defined as net profits as a percentage of average total assets at around 1%. The public sector banks have reported a marginal improvement to 0.92% of average total assets in 2006-07 while the private sector banks reported a marginal decline to 1.07% on account of rising operating expense and increased provisioning requirements. The foreign banks on the other hand continue to report significantly higher return on average assets of over 1.9% in 2006-07 driven by significantly higher interest margins driven by consumer lending and fee income supported by strong treasury and consumer operations. We do not expect the overall profitability of the banking system to deviate significantly from the 1% levels though for individual banks, it could vary depending on the asset and liability mix during the period.

Consolidation – a likely event in the medium term, but not devoid of risks. The debate for consolidation in the Indian banking sector is not new and we expect consolidation to gain pace as the Indian financial sector opens up by 2009. We have seen some consolidation in the recent past but they have been relatively few in number. In most of the cases, the consolidation process seem to have been driven more by the systemic problems that could arise with weak capitalization and/or distressed financial profile of some small public / private sector banks though "bank synergies" have been quoted as the reason. We do acknowledge that consolidation is not a panacea to overcome the challenges and exploit opportunities to compete effectively as the success remains contingent on the synergies between the banks as well as successful implementation of consolidation. We believe that barring a few banks, Indian banking system is largely fragmented and could benefit from consolidation process, especially the smaller regional banks, by improving their competitiveness.

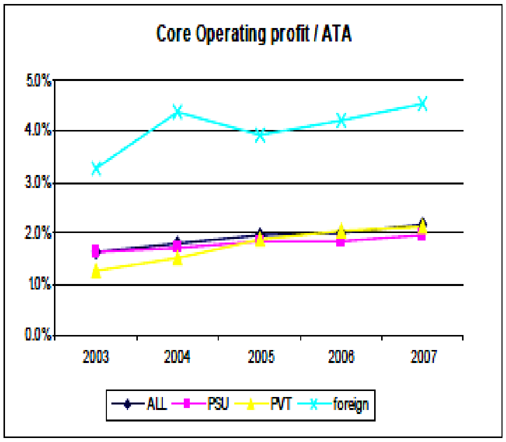


Figure 5.11a

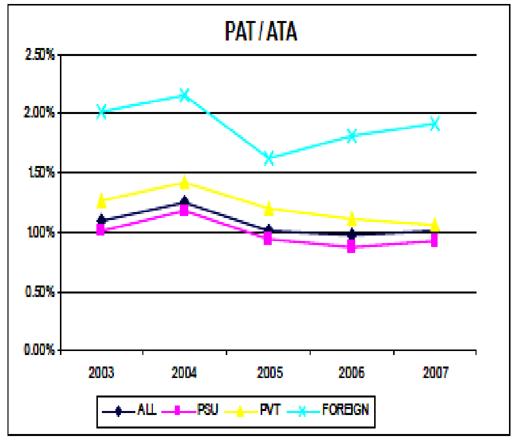


Figure 5.11b

Banking system should maintain profitability ratios in the current year. We expect the banks to maintain their interest margins, albeit with a downward bias consequent to the costly bulk deposits mobilized by them in the last quarter of 2006-07. We maintain our stand as most of the bank's lending are at floating rates and all banks have raised their lending rates in the past few months. Notwithstanding the steps taken by the public sector banks, fee income levels could at best be maintained while private sector banks are likely to continue their dominance on this front. Trading profits are likely to remain modest in the current year as well. We expect to see a further improvement in the operating cost structure of public sector banks as they improve of their scale of operations. However the operating cost structure could deteriorate for public sector banks depending on the accounting standards as regards to pension liabilities (AS15) as they are likely to be more severely impacted as compared to their private sector and foreign counterparts.

Incremental provisions for standard assets for certain categories of assets coupled with provisions on the delinquent assets could increase the overall provisioning requirements. This would however be mitigated by any recoveries from the delinquent assets aided by the buoyant economic conditions. Consequently, we expect banks to maintain their asset quality despite a likelihood of rise in slippages during the current year. Nominal treasury profits should help the banking system maintain net profitability levels though it may vary across banks. On the back of fresh capital mobilization during the current year, we do not expect any significant weakening in the regulatory capital adequacy ratios as on March 2008 despite the adherence to Basel II norms for most banks.

CHAPTER-6

FINDINGS, CONCLUSION, SUGGESTIONS

Banks act as important players in the financial markets. They play a vital role in the economy of a country. The Recession that began in December 2007 impacted the revenues and profitability of businesses worldwide. In globalised world and no more immune to the things happening outside our country. Built on strong financial fundamentals, strict vigil on risk appetite and firm monetary guidelines, Indian banks have proved among the most resilient and sound banking institutions in the world. But there has been considerable divergence in the performance of the various banking institutions in the country as also among the public, private and foreign banks operating in India. The Indian banking system is relatively insulated from the factors leading to the turmoil in the global banking industry. Going by the performance for the calendar year 2008, Indian public sector banks have not only been able to weather the storm of global recession but have been able to moderate its impact on the Indian economy as well, compared to its peers among the foreign and private banks. The banking sector faces profitability pressures due to higher funding costs, mark-to-market requirements on investment portfolios, and asset quality pressures due to a slowing economy. But Indian banks' global exposure is relatively small, with international assets at about 6 per cent of the total assets. The strong economic growth in the past, low defaulter ratio, absence of complex financial products, regular intervention by central bank, proactive adjustment of monetary policy and so called close banking culture has favored the banking industry in India in recent global financial turmoil.

Banks act as important players in the financial markets. They play a vital role in the economy of a country. The Recession that began in December 2007 impacted the revenues and profitability of businesses worldwide. The Indian banking system is relatively insulated from the factors leading to the turmoil in the global banking industry. Even as several top financial institutions and banks with footprint across several countries have crumbled under the relentless onslaught of a global financial turmoil, Indian banks and institutions have come out relatively unscathed from the recession. Built on strong financial fundamentals, strict vigil on risk appetite and firm monetary guidelines, Indian banks have proved among the most resilient and sound banking institutions in the world. Further, the tight liquidity in the Indian market is also qualitatively different from the global liquidity crunch, which was caused by a crisis of confidence in banks lending to each other. While the main causes of global stress were less relevant here, Indian banks do face increased challenges due to domestic factors. The banking sector faces profitability pressures due to higher funding costs, mark-to-market requirements on investment portfolios, and asset quality pressures due to a slowing economy. CRISIL views the strong capitalization of Indian banks as a positive feature in the current environment.

Indian banks' global exposure is relatively small, with international assets at about 6% of the total assets. Even banks with international operations have less than 11% of their total assets outside India. The reported investment exposure of Indian banks to distressed international financial institutions of about USD1 billion is also very small. The mark-to-market losses on this investment portfolio, will, therefore, have only a limited financial impact. Indian banks' dependence on international funding is also low.

Indian Banking Sector remains a bright spot. Citigroup totters on the brink. Bank of America is neck deep in trouble. Governments everywhere are at their wits' end in dealing with the financial crisis. And yet little of this storm has touched the Indian banking system.

It is not that the Indian economy has been spared in the present crisis. But the Indian situation is different from that in the western world. In the US and Europe, the housing market collapsed and dragged down banks. The two together have dragged down the real economy. In India, it is the real economy that got impacted first — on account of exports and the drying up of overseas finance for many firms. Banks were affected indirectly by the slowing down of the economy. The direct impact of the crisis on the Indian banking system has been small because Indian banks did not have big exposures to the subprime market. Indian banks were well placed to weather this impact. This is not a contrarian view. The RBI itself exudes optimism about the outlook for Indian banking in its latest Report on Trend and Progress in Banking. At a time when the financial system across the globe is engulfed in a deep crisis, the Indian banking system continued to show resilience. The underlying fundamentals of the Indian economy continued to underpin the robust performance of the banking sector which remained profitable and well capitalized.

There are good reasons for such optimism were as below :

1. First, unlike in the west where credit supply has collapsed, credit grew at 25% in 2007-08 and by 24% in the year to date. Banks might be expected to slow down credit growth given the uncertainties in the environment. But growth of around 20% is still an impressive figure.

2. Spreads in the Indian banking system remain high in comparison with other banking systems, although they declined for the second year in succession. The net interest margin, an indirect measure of spread, was 2.4% in 2007-08. This was lower than the spread of around 2.8% until 2005-06. But volume growth was is higher than in most of the post-reform period. Higher volume growth should offset the decline in spread. Besides, banks have learnt to boost revenues through non-interest income.
3. Non-performing assets (NPAs) were at an all-time low. The ratio of net NPAs to net advances is down to 1%, down from 9% a decade ago.
4. Return on assets in the Indian banking system was 1% in 2007-08. This figure was a widely accepted benchmark for performance in banking. Though there was a rise in NPAs and higher provisions in 2008-09 and 2009-10. But banks stand to gain on their bond portfolios as interest rates fall. So any decline in return on assets was small.

Does this all sound too good to be true?

1. The Indian banking system as an islet of tranquility in a sea of turbulence? One alarmist scenario was a big collapse in property prices — remember, the rise in property prices here has been steeper than in the US or Europe. No fears. Housing loans are only around 10% of overall banking assets. Even if 20% of housing loans go bad; figures have seen in the subprime crisis, the maximum impact was a rise in NPA/asset ratio to 3%. With an average capital adequacy ratio of 13%, banks were well placed to withstand an increase in NPAs of this order. But even this was unlikely because banks finance around 70% of the white component of housing loans. If it is assumed a black component of just 30% of the value of the property, banks were protected against a decline in property prices of 50% from their present levels.
2. There was always the danger of one or two weak players having serious problems. But the capacity to contain systemic risk arising from such a situation has helped. The broader lesson of the Indian banking system emerging relatively unscathed in the crisis must not be ignored. Our unique approach to the issues of bank ownership and regulation, our reliance on home-grown solutions, has served us well.
3. The need for caution was to be made on several fronts. However, there were two areas that did not receive the attention they merit. One was the need to improve the quality and performance of public sector bank boards. The RBI has laid down 'fit and proper' criteria for elected directors and must be extend to all directors. It has also advised PSBs to increase the sitting fee from the disgraceful figure of Rs 5,000 — this pretence of austerity was not helping anybody.
4. Another was the sharp rise in off-balance-sheet (OBS) assets in the banking system in recent years. For banks as a whole, OBS assets were 333% of balance sheets assets. The biggest exposures were among foreign banks (2,803%) and new private banks (302%). OBS items have proved the undoing of banks in the crisis. The RBI needs to keep its eyes and ears peeled.
5. There is a saying many Indians have heard from their grandmothers: "Spend only as much as you earn." It now seems that this piece of advice, apparently firmly ingrained in an average Indian mindset, has helped the survival of the Indian banking system which, experts and politicians maintain with increasing confidence, has emerged unscathed from the global economic meltdown.

According to some experts, this mindset is at the basis of the so-called conservative Indian mode of banking. Economic journalist and author Paranjoy Guha Thakurta says:

1. "Understanding why we managed to save ourselves from the global financial meltdown is fairly simple and sociological as well. In India our grandmothers used to say, spend only as much as you earn. In America people were doing the opposite. But in India it appears, people paid heed to their grandma's advice."
2. Indian banks have not just survived the crisis but appear to have emerged even stronger from the recession and even gone ahead and posted reasonable profits in the year 2008-2009. But do generally sensible borrowing practices explain why Indian banks emerge even stronger in such hard times?
3. Executive Director of one of Indian's biggest public-sector banks, Bank of Baroda, RK Bakshi, says: "Due credit should be given to the Reserve Bank of India (RBI). Being the apex bank of the country, it managed the monetary policies quite efficiently. When inflation was on the rise, RBI strengthened its hold over the markets and increased interest rates. But immediately after the fall of Lehman Brothers, RBI reduced the interest rates to increase liquidity in the markets. RBI also ensured that inter-bank transactions were not affected during this economic crunch, which in effect led to smooth payments and money transfers."
4. The conservative mode in which the Indian banks have operated since their nationalization in the late 60s and early 70s appears to be an important reason why they did not lose out in the after-effects of the global liquidity crunch following the collapse of Lehman Brothers. Proving the early scares wrong, not just the public sector banks but also the private banks of India remained unaffected by the recessionary spirals.

5. Rana Kapoor, Founder-Chairman of one of the fastest-growing private banks in India, Yes Bank, echoes this view: "The customer — private or corporate — can very well see for himself that the Government of India and even the RBI has never differentiated amongst the public-sector or private banks. We realized this especially during recession times that the common man in India did not differentiate between governments or a private bank and his trust remained as before. The private banks on their part have also followed the RBI banking guidelines which paid off very well."
6. A balanced and conservative approach, plus the ever watchful eyes of the Governments Reserve bank of India – these factors had been critical in helping to save Indian banking and monetary institutions following the seismic events of last September. RBI guidelines limit Indian banking forays into foreign portfolio investment. Banks can not lend beyond an unsecured capital and their investments in the share markets were also controlled by the RBI.
7. Another important factor was the limit over the Indian banks' use of foreign capital. As a result of this constraint, in an economic meltdown situation, when foreign companies start withdrawing capital, the Indian banks remained unaffected. Bank of Baroda's Executive Director RK Bakshi added: "Banks like us which have foreign operations in more than 75 countries, also have to follow the RBI foreign banking guidelines. In effect, although we are banking in foreign countries, our basic policies emerge from home. And that's the reason why in India also, one managed to curtail non-performing assets."
8. Not very long ago, many critics spoke about the need for privatization of the Indian banking sector, especially the public-sector banks. But these voices have faded away during recession. Paranjoy Guha Thakurta feels that stability of the government banks and customers' faith in them played an important role in delaying a complete privatization of the banking sector: "In times of economic liberalization and globalization, everyone wanted to bring reputed foreign banks in Indian markets. But after the fall of Lehman-like numerous institutions no-one even remembers this debate."
9. As leading global powers announced deadlines to come out of the recessionary phase, more and more people were acknowledging the fact that careful monetary policies by the Government of India saved Indian banking institutions from contracting the 'meltdown virus'. The Indian banking industry on its own part has also realized that having a strict watchdog like the Reserve Bank paid rich dividends in times of one the biggest economic crisis the world has ever witnessed. That, but also that old grandma advice to only spend what you earn, of course.

Indian Banking sector challenged by domestic, not global, factors!

The reasons for tight liquidity conditions in the Indian market were quite different from the factors driving the global liquidity crisis. Some reasons include large selling by Foreign Institutional Investors (FIIs) and subsequent Reserve Bank of India (RBI) interventions in the foreign currency market, continued grow in advances, and earlier increases in cash reserve ratio (CRR) to contain inflation. RBI's recent initiatives, including the reduction in CRR by 150 basis points from October 11, 2008, cancellation of two auctions of government securities, and confidence-building communication, have already begun easing liquidity pressures. The strong capitalization of Indian banks, with an average Tier I capital adequacy ratio of above 8 per cent, is a positive feature in their credit risk profile. Nevertheless, Indian banks faced challenges in the Indian economic environment, marked by a slower gross domestic product growth, depressed capital market conditions, and relatively high interest rate regime. The profitability of Indian banks was expected to remain under pressure due to increased cost of borrowing, declining interest spreads, and lower fee income due to slowdown in retail lending. Profit levels were also likely to be impacted by mark-to-market provisions on investment portfolios and considerably lower profit on sale of investments, as compared with previous years. Moreover, those Indian banks considering accessing the capital markets for shoring up capital adequacy might be forced to curtail growth plans, if capital markets remain depressed. While these challenges played over the medium term, CRISIL expected the majority of Indian banks' ratings to remain unaffected, as they continued to maintain healthy capitalization, enjoy strong system support and benefits of government ownership in the case of public sector banks."

Public sector Banks and Recession!

There has been considerable divergence in the performance of the various banking institutions in the country as also among the public, private and foreign banks operating in India. Going by the performance for the calendar year 2008, Indian public sector banks have not only been able to weather the storm of global recession but have been able to moderate its impact on the Indian economy as well, compared to its peers among the foreign and private banks. Figures put out by the Reserve Bank of India suggests that banking activity in the country continued unabated during the first phase of recession, thanks to the better than expected performance of public sector banks. This was while the assets and liabilities of both foreign and private sector banks dipped during the corresponding period last year. But public sector banks seem to have more than made up for the shortfall from foreign and private sector banks and the growth inflow of bank resources to the diverse sectors of the Indian economy has continued unabated.

Public Sector Banks Recruits during Recession!

While thousands of people worldwide have been handed over pink slips as a part and partial of the global slowdown, Indian public sector banks still had many jobs. Indian public sector banks like State Bank of India, Union Bank of India, Syndicate Bank, Central Bank, Andhra Bank, Corporation Bank, Punjab National Bank and NABARD. It was reported that Union Bank was planning to hire more than 4000 officers and 1000 clerks that year. State Bank of India had bigger plans. By year end it planned to recruit 20,000 clerical staffs and around 5000 officers. Although recession had hit many other sectors, manpower was still a necessity in the public banking sector. The requirements of extending credit to primary sectors, and expansion plans of many banks into the rural market made this an essential move. According to industry estimates around 40, 000 people were already hired in that fiscal year as opposed to 15,000 last year. Ironically, job seekers who earlier sought private and foreign banks for its lucrative salary packages, now has been writing tests to get through the public sector banks. Job security seems to the priority of the hour.

Non-food bank credit!

Contradicting the general trends of the economy, the extension of non-food bank credit has grown faster in calendar year 2008 against the previous year. The same has been the case with regard to the flow of resources to the commercial sector, which includes nonfood bank credit, investment on shares/bonds/debentures and commercial paper issued by public/private sector companies. Despite this visible growth in credit extension by banks, there was a perception of decelerating credit growth to the Indian economy as a whole during 2008. This slowdown in credit extension could be primarily attributed to reduced flow of funds from non-bank sources such as financial institutions, NBFCs and resources mobilized from the capital markets and by way of external commercial borrowings — ADR, GDR, FCCB, foreign direct investments — and other forms of short-term credit. In fact, resource flow from these sources had dipped by over 30% during 2008, while flow from the banking sector had increased by close to 30%. The review of the Monetary Policy by the RBI for the third quarter of 2008-09 said: "There has been a noticeable variation in credit expansion across bank groups. Expansion of credit by public sector banks was much higher this year than in the previous year, while credit expansion by foreign and private sector banks was significantly lower."

This credit expansion by the banking sector was also reflected in the deep divergence in the pace of growth in deposits among the banks. It was only the public sector banks which could maintain the pace of growth in deposit accretion at 24.2 per cent. Deposit accretion in foreign banks fell sharply from 34 to 12 per cent and for private sector banks from 27 to 13 per cent. Backed by the steady pace of growth in deposits, the growth in public sector banks disbursal also grew quite significantly. Meanwhile, there was a deceleration in credit extension by foreign and private sector banks during 2008.

Table 6.1 Deposit accretion : Growth in deposit, credit (In percentage)

	Deposit		**Credit**	
	2007	**2008**	**2007**	**2008**
Public sector banks	24.2	24.2	19.8	28.6
Foreign banks	34.1	12.1	30.7	16.9
Private sector banks	26.9	13.4	24.2	11.8

Annual percentage growth as on January 4, 2008, and January 2, 2009

Table 6.2 Annual variations in banking indicators (In percentage)

Discription	**2007**	**2008**
Aggregate deposit	25.1	21.2
Bank credit	21.4	24.0
Non-food bank credit	22.0	23.9
Flow to commercial sector	21.7	23.4

Annual variation as on January 4, 2008, and January 2, 2009

Banks Profit, Even in This Recession!

The banks are doing so well in this time of recession**.** The 5 reasons that big banks are able to beat the recession and rake in the profits are:

1. Underwriting increases provide investment banks with more income as businesses go to investment banks. Banks that do the underwriting collect fees, and if they actually make the loans, they also collect the interest.

2. Trading revenue is also up as investors try to play the market, getting in when prices are low and trading to take profits on the rallies. Many of the big banks (like Goldman) do over the counter trades, so they get commissions as well.
3. Less competition is the result of failed banks and takeovers. This means a bigger piece of the pie for those banks that are left.
4. Toxic assets have been working their way through the system. Additionally, some banks (like Goldman) had limited exposure to toxic assets to begin with.
5. Retail banking has been providing a boost. People still need a place to keep their money. With a lower Fed funds rate, they can pay less in interest to their savings customers, while still charging between 5% and 10% interest (more for credit cards) on loans they make. That difference is resulting in profitability.

How Are Indian Banks?

In spite of the sinking ships and crashing boats in the stormy ocean of international business particularly the banking sector some countries have managed to hold on and sail through the troubled waters. Indian and Chinese banking houses are a fine example. Though Indian share markets have plunged to more than half of their value in one year the banking sector has managed to post profits in the third quarter of 2008. The State Bank of India declared a quarterly profit rise of 40% over the last quarter. State Bank of India is India's first non-Oil based sector to feature in fortune 500 prestigious lists of companies. It has upheld the trust of Indian investors and FDIs with this good news. This achievement could be a reason of its direct backing by Government of India. Probably peoples trust in the largest Indian banking firm was buoyed by the decision of other governments worldwide to sanction bailout packages to save the leading business houses. US have done it with billions of dollars of bailout packages. Indian government had also announced similar steps. Governments have come out in full colors to put the economy on a high growth track. Colors are not showing as soon as they were expected to come but the signs are positive and the wounds will heal with time. There has been a big downfall in hiring of fresh executives for banking sector now. But the requirement for experienced candidates is on the rise. Manpower and staffing consultants for banking and broking sector are making the most of this opportunity.

Conclusion!

The prudential norms adopted by the Indian banking system and the better regulatory framework in the country have helped the banking system remain stronger even during the global slowdown. There is an apprehension among the customers and the people in the country about the strength of the banking system. The banking system today has Rs 36 lakh crore of deposits and Rs 26 lakh crore of advances. The money of the people is safe in Indian banks, unlike the western banks. The Indian banking system has the rule of dharma, which has taught the sector not to have greed. In the end, the banking industry is likely to be just fine. While some individual banks went down, and continue to struggle, the financial sector as a whole is doing okay, and is likely to recover from this recession without too much trouble. Hopefully, these profits mean that the banks will be more willing to help other companies that need access to credit.

Banking: On growth path!

Banking industry is the best proxy to the real economy and same has been witnessed during the period of economic expansion of FY04 to FY08 as the total bank credit grew at a CAGR of 28%. Due to the global slowdown from FY09, the growth in credit moderated to 17.1% YoY during FY10. Though the business growth moderated during economic slowdown and the banking system world-over crumbled, the Indian banking industry came out with a strong performance and continued to display the underlying strength in the real economy. Most of the public sector banks (PSB) contained their NPA levels due to the restructuring option provided by the Reserve Bank of India (RBI). Due to the risk of higher incremental slippages and resultant increase in the credit cost, PSU banks were trading at the lower band of valuation. After the strong performance shown by the banks in Q1FY11 and diminishing asset quality concerns along with comparable return ratio, with the private sector banks, the PSB valuation have rallied recently. In our view, valuations (price to book value multiples) are yet to reflect the strong growth sustainability of the PSBs. The pace of development for the Indian banking industry has been tremendous over the past decade. As the world reels from the global financial meltdown, India's banking sector has been one of the very few to actually maintain resilience while continuing to provide growth opportunities, a feat unlikely to be matched by other developed markets around the world. FICCI conducted a survey on the Indian Banking Industry to assess the competitive advantage offered by the banking sector, as well as the policies and structures required to further stimulate the pace of growth. The following were the outcomes of the survey:

1. A majority of the respondents, almost 69% of them, felt that the Indian banking Industry was in a very good to excellent shape, with a further 25%

2. Feeling it was in good shape and only 6.25% of the respondents feeling that the performance of the industry was just average.
3. This optimism is reflected in the fact that 53.33% of respondents were confident in a growth rate of 15-20% for the banking industry in 2009-10 and a greater than 20% growth rate for 2014-15.
4. Some of the major strengths of the Indian banking industry, which makes it resilient in the current economic climate as highlighted by our survey were regulatory system (93.75%), economic growth (75%), and relative insulation from external market (68.75%).
   a. On being asked to rate India on certain essential banking parameters (Regulatory Systems, Risk Assessment Systems, Technological System and Credit Quality) in comparison with other countries i.e. China, Japan, Brazil, Russia, Hong Kong, Singapore, UK and USA the following results emerged:
   b. Regulatory systems of Indian banks were rated better than China, Brazil, Russia, UK at par with Japan, Singapore and Hong Kong whereas all our respondents feel that we are above par or at par with USA.
   c. Respondents rated India's Risk management systems more advanced than China, Brazil and Russia; 75% of the respondents feel that we are above or at par with Japan, 55.55 % with Hong Kong, Singapore & UK and 62.5% with USA.
   d. Credit quality of banks has been rated above par than China, Brazil, Russia, UK and USA but at par with Hong Kong and Singapore and 85.72% of the respondents feel that we are at least at par with Japan.
   e. Technology systems of Indian banks have been rated more advanced than Brazil and Russia but below par with China, Japan, Hong Kong, Singapore, UK and USA.
5. Respondents perceived ever rising customer expectations and risk management as the greatest challenge for the industry in the current climate.
6. 93.75% of our respondents saw expansion of operations as important in the future, with branch expansion and strategic alliances the most important organic and inorganic means for global expansion respectively.
7. An overwhelming 80% of respondents admitted that the primary strength of NBFCs over banks lies in their ability to provide reach to the last mile and were also were unanimous in the need to strengthen NBFCs further.
8. Further, 81.25% also felt that there was further scope for new entrants in the market, as there continue to remain opportunities in unbanked areas. However, 57.14% felt that NBFCs may be allowed to be established as banking institutions but only if adequate capitalization levels, a tiered license that enables new entrants to enter into specific areas of the business only after satisfactorily achieving set milestones for the prior stages, cap on promoter's holdings and other regulatory limitations are ensured.
9. 73.33% of our respondents are 100% compliant with core banking solution requirements, with the remainder, comprising mostly of our public sector respondents, lagging behind in implementation in rural areas.
10. Public Sector Banks, Private Sector Banks as well as Foreign Banks view difficulty in hiring highly qualified youngsters as the major threat to their HR practices ahead of high staff cost overheads, poaching of skilled quality staff and high attrition rates.
11. Due to long-term maturity, the trend for prime lending rates seems to be changing now. However, there are other factors which have led to the stickiness of lending rates such as wariness of corporate credit risk (33.33%), competition from government small savings schemes (26.67%).
12. With regards to loan disbursement, while industry shows preference for a joint appraisal system, banks are happy with the current system and in fact 71.43% of our respondents felt that there was no need for standardized credit appraisal across the industry.
13. Over 92% of the participants agree with recent stress test results that Indian banks have the capacity to absorb twice the amount of their current NPA levels.
14. Almost 80% of the banks see personal loans as having the greatest potential for default, followed by corporate loans and credit cards.
15. 87.5% of the respondents consider credit information bureaus vital for the measurement of asset quality. Nevertheless, at the same time, over 60% of respondents felt the need for regulation capping FDI at 49% and voting rights to 10% in Credit Information bureaus
16. 93% of participants still find rural markets to be to be a profitable avenue, with 53% of respondents finding it lucrative in spite of it being a difficult market.

17. More than 81.25%of all respondents have a strategy in place to tap rural markets, with the remainder as yet undecided on their plan of action.
18. All banks in our survey weigh Cost effective credit delivery mechanisms (100%) as most important to the promotion of financial inclusion, followed by factors such as identifying needs and developing relevant financial products (75%), demographic knowledge and strong local relations (62.5%) and ensuring productive use and adequate returns on credit employed (43.75%).
19. Almost 62% of the respondents see consolidation as an inevitable process for their banks in the future, while the remainder does not consider it an essential factor for their future progress. 77.78% of public sector respondents were of the opinion that foreign banks should not be allowed to play a greater role in the consolidation process.

Recent time has witnessed the world economy develop serious difficulties in terms of lapse of banking & financial institutions and plunging demand. Prospects became very uncertain causing recession in major economies. However, amidst all this chaos India's banking sector has been amongst the few to maintain resilience. A progressively growing balance sheet, higher pace of credit expansion, expanding Profitability and productivity akin to banks in developed markets, lower incidence of nonperforming assets and focus on financial inclusion have contributed to making Indian banking vibrant and strong. Indian banks have begun to revise their growth approach and re-evaluate the prospects on hand to keep the economy rolling. The way forward for the Indian banks is to innovate to take advantage of the new business opportunities and at the same time ensure continuous assessment of risks.

A rigorous evaluation of the health of commercial banks, recently undertaken by the Committee on Financial Sector Assessment (CFSA) also shows that the commercial banks are robust and versatile. The single-factor stress tests undertaken by the CFSA divulge that the banking system can endure considerable shocks arising from large possible changes in credit quality, interest rate and liquidity conditions. These stress tests for credit, market and liquidity risk show that Indian banks are by and large resilient. Thus, it has become far more imperative to contemplate the role of the Banking Industry in fostering the long term growth of the economy. With the purview of economic stability and growth, greater attention is required on both political and regulatory commitment to long term development programme. FICCI conducted a survey on the Indian Banking Industry to assess the competitive advantage offered by the banking sector, as well as the policies and structures that are required to further the pace of growth. The results of our survey are given in the following sections.

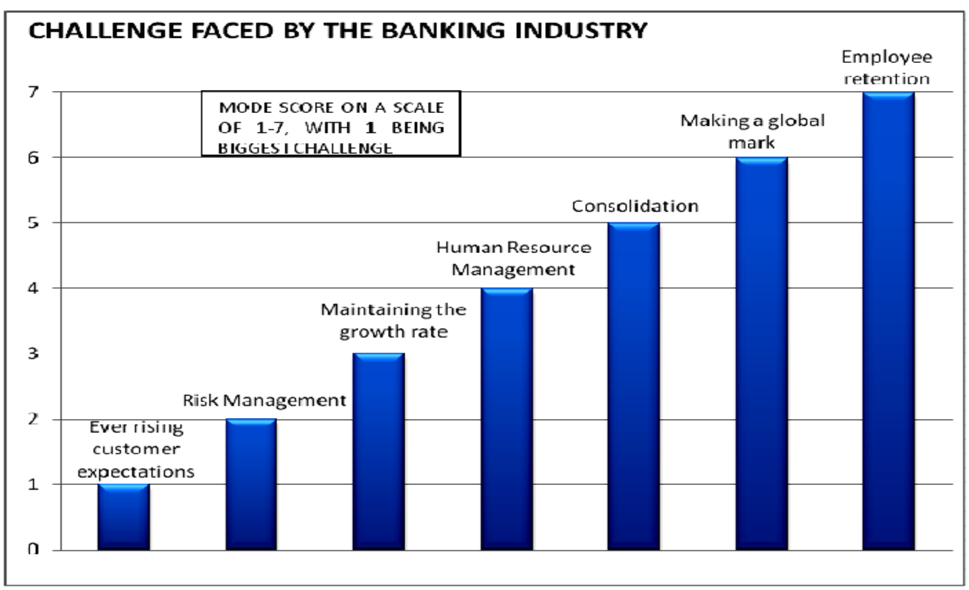


Figure 6.1 Challenges faced by the banking industry

General banking scenario!

The predicament of the banks in the developed countries owing to excessive leverage and lax regulatory system has time and again been compared with somewhat unscathed Indian Banking Sector. An attempt has been made to understand the general sentiment with regards to the performance, the challenges and the opportunities ahead for the Indian Banking Sector. A majority of the respondents, almost 69% of them, felt that the Indian banking Industry was in a very good to excellent shape, with a further 25% feeling it was in good shape and only 6% of the respondents feeling that the performance of the industry was just average. In fact, an overwhelming majority (93.33%) of the respondents felt that the banking industry compared with the best of the sectors of the economy, including pharmaceuticals, infrastructure, etc. Most of the respondents were positive with regard to the growth rate attainable by the Indian banking industry for the year 2009-10 and 2014-15, with 53.33% of the view that growth would be between 15-20% for the year 2009-10 and greater than 20% for 2014-15. On being asked what is the major strength of the Indian banking industry, which makes it resilient in the current economic climate; 93.75% respondents feel the regulatory system to be the major strength, 75% economic growth, 68.75% relative insulation from external market, 56.25% credit quality, 25% technological advancement and 43.75% our risk assessment systems. Change is the only constant feature in this dynamic world and banking is not an exception. The changes staring in the face of bankers relates to the fundamental way of banking-which is going through rapid transformation in the world of today. Adjust, adapt and change should be the key mantra. The major challenge faced by banks today is the ever rising customer expectation as well as risk management and maintaining growth rate. Following are the results of the biggest challenge faced by the banking industry as declared by our respondents (on a mode scale of 1 to 7 with 1 being the biggest challenge): I have rated India on certain essential banking parameters (Regulatory Systems, Risk Assessment Systems, Technological System and Credit Quality) in comparison with other countries i.e. China, Japan, Brazil, Russia, Hong Kong, Singapore, UK and USA.

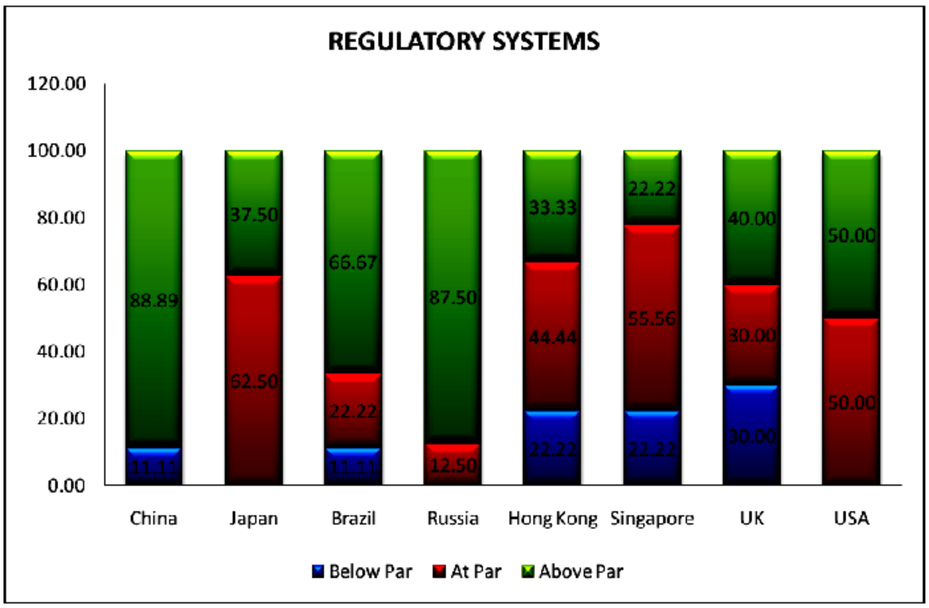


Figure 6.2 Comparison across Regulatory systems

The recent financial crisis has drawn attention to under-regulation of banks (mainly Investment banks) in the US. Though, the Indian story is quite different. Regulatory systems of Indian banks were rated better than China, Brazil, Russia, and UK; at par with Japan, Singapore and Hong Kong where as it was felt that we are above par or at par with USA. On comparing the results with our previous survey where the respondents had rated Indian Regulatory system below par the US and UK system, it seems that post the financial crisis Indian Banks are more confident on the Indian Regulatory Framework. Risk management framework is a key strength for sustainable growth of banks. How Indian Banking System has performed in this area? It is rated India's Risk management systems more advanced than China, Brazil and Russia; 75% of the respondents feel that either it is above or at par with Japan, 55.55 % with Hong Kong, Singapore & UK and 62.5% with USA. The perception of India's Risk management systems being below par than Singapore, US and UK as had been highlighted from our previous surveys no longer exists.

The global meltdown started as a banking crisis triggered by the credit quality. Indian banks seem to have paced up in terms of Credit Quality. Credit quality of banks has been rated above par than China, Brazil, Russia, UK and USA but at par with Hong Kong and Singapore and 85.72% of the respondents feel that it is at least at par with Japan. Thus, it shows that the resilience the Indian Banks showed at the time of financial crisis has led to an attitudinal shift of our respondents with the past survey indicating Credit quality of Indian banks being below par than that of US and UK. As technology ingrains itself in all aspects of a bank's functioning, the challenge lies in exploiting the potential for profiting from investments made in technology. A lot needs to be done on the technological front to keep in pace with the global economies, as is evident from the survey results. Technology systems of Indian banks have been rated more advanced than Brazil and Russia but below par with China, Japan, Hong Kong, Singapore, UK and USA. There is no change on introspection of its past surveys which also highlighted the need for Indian banks to pace up in adoption of advanced technology. The Reserve Bank of India (RBI) cautioned Indian banks about rising non-performing loans, increased capital requirements because of stricter Basel III norms and greater pressure on domestic liquidity as European banks may reduce their exposure to the country if the crisis there persists.

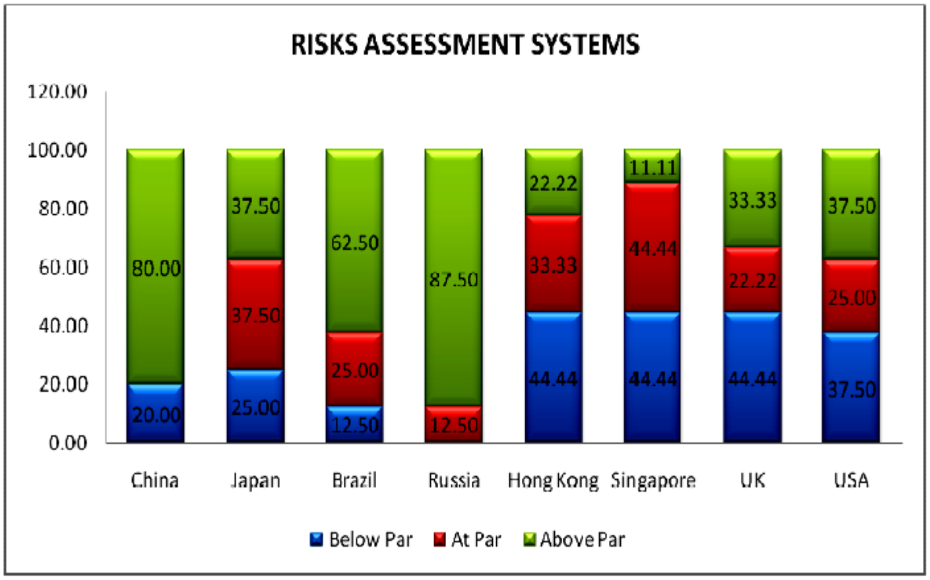


Figure 6.3 Comparison across Risk Assessment systems

After declining continuously between fiscal years 1995-96 and 2007-08, the total stock of bad loans at banks has raised sharply, RBI deputy governor Anand Sinha said in his keynote address at the fifth Mint Annual Banking Conclave in Mumbai on Tuesday. "The situation is under control, but there is an underlying reality that it is not very comfortable," he said. "From 15% in 1995, NPAs (non-performing assets) came down till 2008, but they have risen sharply by 91% or Rs.46,670 crore between 2005-06 and 2010-11." Slowing economic activity and liberal lending by banks in the boom years have led to bad loans rising.

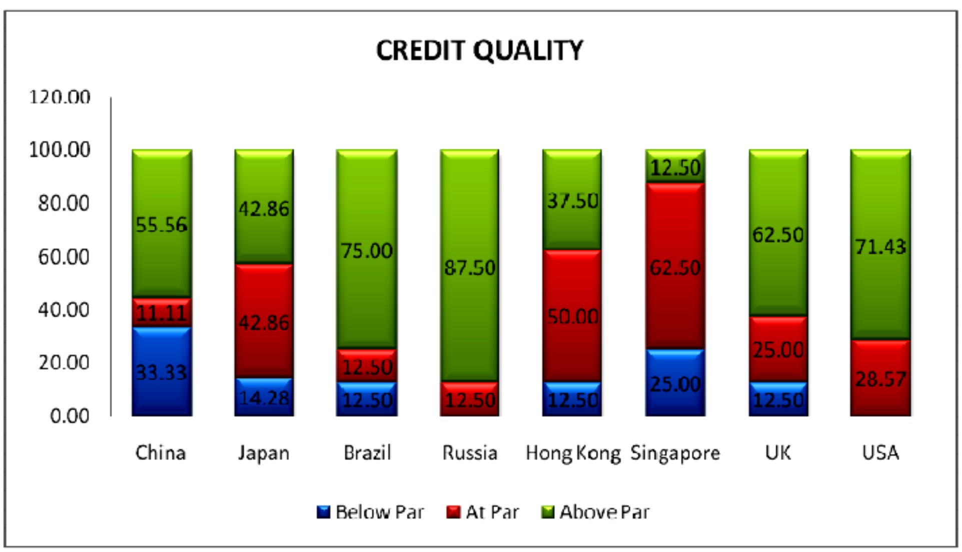


Figure 6.4 Comparison of Credit Quality

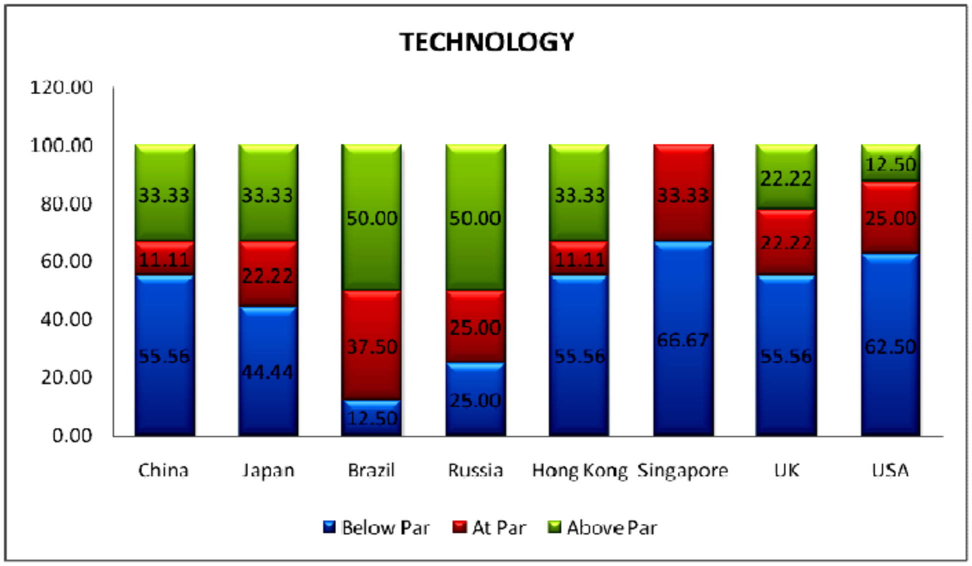


Figure 6.5 Comparison across Technological systems

"As we see it, the NPA problem has arisen because in the pre-crisis boom period there was an aggressive lending stance by the banks that was coupled with laxity in monitoring and proper due diligence. The NPAs have also risen because of the system-generated NPAs," Sinha added, referring to public sector banks moving from manually entered records of NPAs to an automatic computerized system that identifies a bad loan as soon as a borrower delays payment beyond 90 days. State Bank of India (SBI), the nation's largest bank, said on Monday that bad loans rose to a record Rs.40,098.43 crore in the October-December quarter. In percentage terms, these constituted 4.61% of SBI's total advances, the highest since September 2005. The RBI deputy governor said gross NPAs are rising despite write-offs. The ratio of actual recoveries to total creation of NPAs was 40.74% in 2008, and is constantly declining. In 2010, the ratio was only 28.74%, he said.

Sinha, however, said that the situation was not alarming !

"Even if 20% of the restructured advances slip into NPAs, such a situation will not be a cause for concern as the Financial Stability Report has shown that even with 40% of restructured advances turning NPAs, the banking system will not collapse," he said. Sinha said banks will have to be prepared to set aside more capital under Basel III norms even as the demand for loans increases, as the credit to gross domestic product ratio improves and more loans are disbursed to the capital-intensive manufacturing sector versus most of it going to the services sector currently. "Though banks are well capitalized and poised for a smooth transition, going ahead it will be difficult because the capital requirement will be very substantial. Raising of capital will be a huge challenge," Sinha told the bankers in the audience, which included SBI chairman Pratip Chaudhuri, ICICI Bank Ltd managing director and chief executive officer Chanda Kochhar, HDFC Bank Ltd managing director Aditya Puri, Citibank India CEO Pramit Jhaveri, Bank of Baroda chairman and managing director M.D. Mallya, and HSBC Asia CEO Stuart Davis. Sinha said it will be more challenging for banks to find equity investors after the stricter capital norms kick in because the return on equity will become depressed. "Hopefully, investors will understand that to lower risk they have to sacrifice some returns," he said. The European sovereign debt crisis is likely to create a foreign exchange issue for Indian banks, Sinha said, because European banks may reduce their exposure to emerging markets such as India. "Problems in foreign exchange borrowing will put pressure on rupee borrowing," he said, adding that it could increase pressure on the local currency due to capital outflows as was between August and December last year since India is running a current account deficit. The rupee weakened more than 16% against the dollar between July and December mainly because the euro zone crisis forced investors to withdraw investments from India and invest in safe havens such as US treasuries and dollars. It weakened beyond Rs.54 per dollar for the first time ever in December and at one time was 20% down from its peak. However, Sinha said that the positive factor in the recent turmoil in foreign exchange rates was that foreign direct investment was not significantly altered. "The biggest change in the regulatory framework to come now relates to the macro-prudential aspects. How to deal with systemic risks? Euro area will adversely affect us through trade, confidence channels, which will adversely impact our banks here," Sinha said.

Control of Inflation: Time to look beyond Monetary Measures !

Inflation is the supply of excess money and credit relative to the goods and services produced, resulting in increased prices. As layman understands, it, inflation results in the increase in the price of some set of goods and services in a given economy over a period of time. It is measured as the percentage rate of change of a price index. Inflation in India is also a grave issue of concern, given the vast disparity between the rich and the poor on the one hand or the Rural and the Urban on the other. Skyrocketing inflation robs the poor, and hurts others, though much less grievously. The fruits of the much-talked about economic growth have not reached large sections, especially in the rural areas. Under extant conditions, the benefit of high prices paid by consumers does not flow back to primary producers, but is siphoned away by middlemen and speculators who enjoy a free run in an economy of shortages. If attention to agriculture has been limited to rendering lip service, inefficiencies in the physical market remain unattended. With production trailing demand in recent years, shortages of essential commodities have widened. Imports have become expensive because of high global market prices. It may be instructive to remember that inflation is not an overnight phenomenon. It is benign to the extent that it allows you time to cover yourself. In India, the onus to control and take control of the situation of inflation is upon the Reserve Bank of India (RBI).

The Reserve Bank of India (Amendment) Act, 2006 gives discretion to the Reserve Bank to decide the percentage of scheduled banks' demand and time liabilities to be maintained as Cash Reserve Ratio (CRR) without any ceiling or floor. Consequent to the amendment, no interest will be paid on CRR balances so as to enhance the efficacy of the CRR, as payment of interest attenuates its effectiveness as an instrument of monetary policy. The Reserve Bank of India (RBI) follows a multiple indicator approach to arrive at its goals of growth, price stability and financial stability, rather than targeting inflation alone. This, of course, leads to criticism from mainstream economists. In its effort to balance many objectives, which often conflict with each other, RBI looks confused, ineffective and in many cases a cause of the problems it seeks to address. The RBI has certain weapons which it wields every time and in all situations to counter any form of inflationary situation in the economy. These weapons are generally the mechanisms and the policies through which the Central Bank seeks to control the amount of credit flowing in the market. It is interesting to note that the Reserve Bank of India Governor. Dr Y. V. Reddy started his stint with the aim of cutting down the Cash Reserve Ratio to 3 per cent (from the then 4.5 per cent) but rising commodities inflation has forced him to raise it now to 6.5 per cent. But even this 6.5 per cent is way below what would truly contain inflation and it is almost certain that he will be chasing the inflation curve for the next few years or so.

Steps Generally Taken By the RBI to Tackle Inflation!

According to the Annual Statement on Monetary Policy for the Year 2007- 08, a careful assessment of the manner in which inflation is evolving in India reveals that primary food articles have contributed significantly to inflation during 2006-07. At the same time, prices of manufactured products account for well above 50 per cent of headline inflation. The recent hardening of international crude prices has heightened the uncertainty surrounding the inflation outlook. The steps generally taken by the RBI to tackle inflation include a rise in repo rates (the rates at which banks borrow from the RBI), a rise in Cash Reserve Ratio and a reduction in rate of interest on cash deposited by banks with RBI. The signals are intended to spur banks to raise lending rates and to reduce the amount of credit disbursed. The RBI's measures are expected to suck out a substantial sum from the banks. In effect, while the economy is booming and the credit needs grow, the central bank is tightening the availability of credit. The RBI also buys dollars from banks and exporters, partly to prevent the dollars from flooding the market and depressing the dollar — indirectly raising the rupee. In other words, the central bank's interactions have a desirable objective — to keep the rupee devalued — which will make India's exports more competitive, but they increase liquidity. To combat this, the RBI does what it calls "sterilization" — it sucks out the rupees it pays out for dollars through sale of sterilization bonds. It then sells these bonds to banks. Economists point out that there has not been much success in such sterilization attempts in India. The central bank's attempt to offload Government bonds on banks has not been too successful inasmuch as the banks sell the bonds and get rupees instead. Economists also contrast this with the successful experience of China, where the state-owned banks strictly abide by the central bank's dictates and absorb the sterilization bonds. That discipline is lacking in India. The net effect is that the RBI has to resort to indirect methods of sterilization, such as raising interest rates and raising CRR to contract liquidity. This makes India more attractive for foreign capital flows that seek better returns and a vicious cycle follows. RBI has to buy more foreign currency and sterilize. The cycle becomes worse.

Consequences of RBI Policy!

The economy was growing at a stupendous 9 per cent, second only to China worldwide, however the brakes have been firmly pressed by the RBI due to their anti – inflationary policy. If the CRR and REPO rate are hiked frequently, the economy may take a U - turn, as most commercial banks religiously increase their lending rates, without actually studying the impact.

The last time that the RBI had imposed its policy, the markets had signaled their resounding reaction by a sharp fall in the Sensex by nearly 500 points. The impact on economic growth is also likely to be sharp, judging by effects of similar therapy applied with disastrous effect in the mid-1990s. This would reduce the level of investment activity in the economy, particularly in the infrastructure sector. Big corporate may ask for, and get, access to external commercial borrowing, but not so favored are the bulk of small and medium entrepreneurs (SME). Housing activity will suffer an impact because most loanees are on floating rates and will face increased equated installments. These measures generally taken by the RBI do not effectively tackle inflation but on the other hand effectively stunts the growth pattern of the economy. The RBI seems to believe that by merely reducing the credit flow and money flow in the economy, inflation can be curtailed. Inflation is a consequence of increasing demand viz–a–viz the supply in the economy. The demand must be effectively curtailed or pushed down, which the present CRR policy is not managing to do effectively. The RBI, in an ideal world, would have also looked towards a mechanism to bolster the supply forces to meet the requirements of the consumers and thereby combat inflation. Economists admit that while RBI's efforts to contain inflation will reduce borrowings, prices would continue to rise. Inflation, according to Bimal Jalan, a former governor of the central bank himself and now a member of India's upper house of parliament, is yet to peak. "Inflation is a function of rising expectations and going by that, we have some amount of inflationary steam left in the economy," he said in an interview with Mint. While the central bank's efforts may have achieved part of their objective, of slowing down credit growth, it clearly may not have done enough to curb inflation. Chetan Ahya, an economist at Morgan Stanley, estimates that growth in bank credit will slow to between 20% and 22% by the end of 2007 from the earlier level of 30%. That may not be enough.

Two major drawbacks in the CRR – REPO policy adopted by the RBI to combat inflation!

Firstly, monetary tools have proved more effective in economies with greater financial inclusion. They are less effective in economies such as India's, where the majority of the population still has no access to banks, and those with access barely have the resources to open bank accounts. The increasing cost of funds and rising interest rates are of little consequence in the economic life of a financially excluded population. The impact will be critical on smaller segments and will take a while to yield results for the economy. Much more remains to be achieved on the financial inclusion front. To cite Mr V. Leeladhar, Deputy Governor of the RBI, from a recent speech: "Compared to the developed world, the coverage of our financial services is quite low. As per a recent survey commissioned by the British Bankers' Association, 92-94 per cent of the population of the UK has either a current or a savings bank account." This contrasts poorly with India, where the ratio of deposit accounts to total adult population is only 59 %. But even this figure is suspect, as the average urban middle-class income-earner often has more than one bank account. This is bound to reduce further the percentage of people with bank accounts. Most account holders are urban-centric, leaving large segments of the rural population with no access to banks or the means to save or borrow. Their huge numbers are attested to by the RBI figures, which reveal that the 85 commercial banks, with a predominant presence in urban India, account for 78 per cent of the country's financial assets. The 3,000 cooperative banks and Regional Rural Banks, with greater presence in semi-urban and rural pockets, contribute a meager nine per cent and three per cent respectively. Secondly, in spite of its being an indirect weapon of credit control, CRR does impact the level of money supply in the economy and plays some role in the fight against inflation. But the impact of the CRR hike will not distinguish as between productive credit and credit meant for consumption. This will hurt growth and the creation of assets in the economy.

Farmers today keep several acres of land uncultivated as the financial returns are not commensurate with the expenses incurred for cultivation. Irrespective of the increasing cost of funds, large segments of the borrowing public, especially the small, medium and large farmers, have no option but to approach the commercial and cooperative banks, or the multitude of unregulated moneylenders at the beginning of every crop cycle. As a result, lendable resources of the system will be reduced to that extent and bank credit will be dearer. This hike will result in increase of the lending rates, whether for production or consumption. The RBI can address only the demand side through such an approach. The need of the hour is to curb only consumption credit and not production. On the other hand there is urgent need to increase supplies of food products and manufactured goods, for which credit flow to the farm sector and industry must increase. The combined effect of the CRR hike and the REPO rate hike will tell upon expansion of productive credit as well and this is not desirable at this stage. The monetary measures are meant to increase the cost of funds for banks, make loans dearer and temper the demand for credit. While there is a greater possibility of banks passing on the increased costs to the consumer, it is debatable whether this will choke the demand for funds in some specific inflation-impacting sectors.

The RBI paradox – Impact on prospects of growth of economy!

Today, the prime lending rate (PLR) of the banks varies between 12.75% and 13.25%. That means no SME can get working capital loan at less than 15%. Compare that with the rest of Asia. China has a negative real interest of 2.64 % (interest rate on three-month loans at 3.86% minus inflation at 6.5%). South Korea's real interest rate is 3%. Thailand's is 1.45%. Malaysia's is 1.72%. Taiwan's is at a negative 0.5%. Even neighboring Pakistan has a real interest rate of 3.28%. In fact, it is well understood that real interest rates in excess of 3.5% universally hurt competitiveness and growth. Our high interest rates are not only hurting business, but have become a magnet for foreign portfolio funds. Which, in turn is rapidly appreciating the domestic currency, and giving foreign institutional investors (FIIs) and their P-note beneficiaries a double bonus: first through returns on their investment and then on the appreciating exchange rate. Between 2 January and mid-October, 2007 the rupee has appreciated 12.5% over the US dollar. Only the Thai baht has raised more at 13.2%. As a result, we are creating a bizarre situation where portfolio investors have been enjoying the fruits of an equity-led bull run, while those who work their backs off to produce goods and services are getting badly hammered by high interest rates.

Today, there is more than anecdotal evidence to suggest that 7,000 to 8,000 workers have been laid-off in Tiruppur. Garment and leather exporters are getting crippled. Brassware industry is also deep in the loss making zone. Those who can are switching to the domestic market. And pity the poor entrepreneurs who, seeing the large export demand growth in 2005 and 2006, invested in ramping up their manufacturing capacities. They are lambs to the slaughter. If this hard interest rate regime were to continue it will surely break the back of industry and with it, economic growth.

Global expansion of Indian banking!

The idea of creating bigger banks to take on competition sounds attractive but it must be realized that even the biggest among Indian banks are small by global standards. The lack of global scale for Indian banks came into sharp focus during the recent financial crisis which saw several international banks reneging on their funding commitments to Indian companies, but local banks could not step into the breach because of balance sheet limitations. In this light, 93.75% of all respondents are considering expanding their operations in the future. On the methods consider suitable to meet their expansion needs. It can be divided into organic means of growth that comes out of an increase in the bank's own business activity, and inorganic means that includes mergers or takeovers.

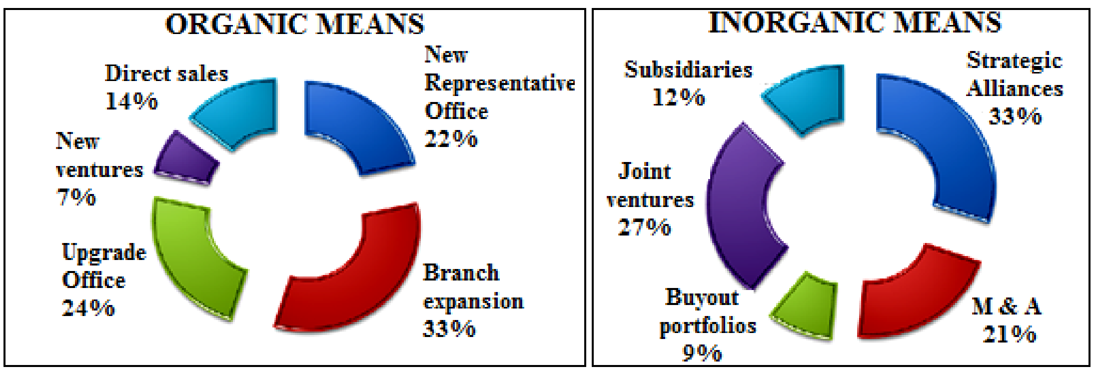


Figure 6.6 Organic Vs. Inorganic Means of Growth

We see from the above graph that amongst organic means of expansion, branch expansion finds favor with banks while strategic alliances is the most popular inorganic method for banks considering scaling up their operations. On the other hand, new ventures and buyout portfolios are the least popular methods for bank expansion.

Scope for new entrants!

81.25% also felt that there was further scope for new entrants in the market, in spite of capital management and human resource constraints, as there continue to remain opportunities in unbanked areas. With only 30-35% of the population financially included, and the Indian banking industry unsaturated with CAGR of well above 20%, participants in our survey felt that the market definitely has scope to accommodate new players. While there has been prior debate, we questioned banks on NBFCs and Industrial houses being established as banking institutions and find opinion to be marginally against the notion, with 35.71% in favor while 42.86% were against them being established as banks. However, on further questioning, 57.14% of respondents feel that the above may be allowed but only if it is along with specific regulatory limitations. Banks felt that limitations regarding track record, ensuring adequate capitalization levels, a tiered license that enables new entrants to enter into specific areas of the business only after satisfactorily achieving set milestones for the prior stages, cap on promoter's holdings and wider public holding in addition to a common banking regulator on a level playing field are essential before they may set themselves up as banks.

Banking activities!

Over the last three decades, there has been a remarkable increase in the size, spread and scope of activities of banks in India. The business profile of banks has transformed dramatically to include non-traditional activities like merchant banking, mutual funds, new financial services and products and the human resource development. Our survey finds that within retail operations, banks rate product development and differentiation; innovation and customization; cost reduction; cross selling and technological up gradation as equally important to the growth of their retail operations. Additionally a few respondents also find pro-active financial inclusion, credit discipline and income growth of individuals and customer orientation to be significant factors for their retail growth. There is, at the same time, an urgent need for Indian banks to move beyond retail banking, and further grow and expand their fee- based operations, which has globally remained one of the key drivers of growth and profitability. In fact, over 80% of banks in our survey have only up to 15% of their total incomes constituted by fee- based income; and barely 13% have 20-30% of their total income constituted by fee-based income.

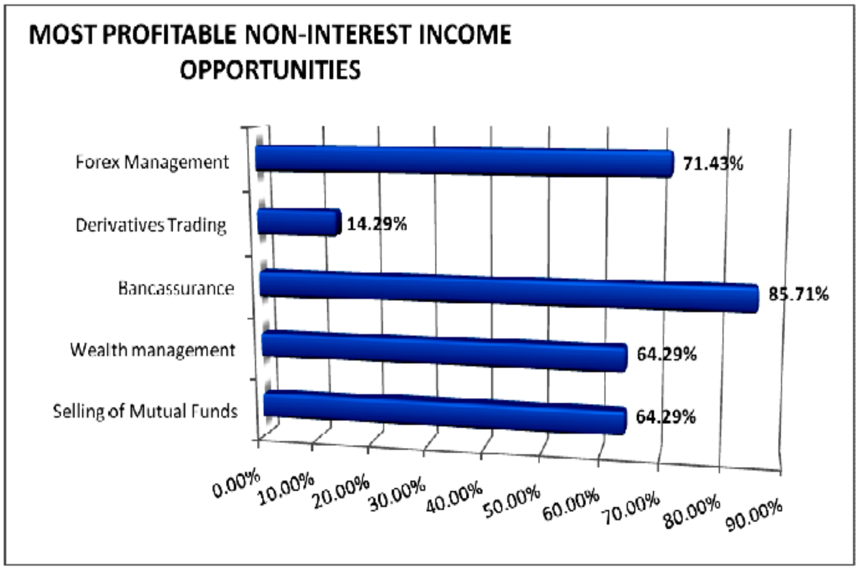


Figure 6.7 Most profitable non-interest income opportunities

Out of avenues for non-interest income, we see that Bancassurance (85.71%) and FOREX Management (71.43%) remain most profitable for banks. Derivatives, understandably, remains the least profitable business opportunity for banks as the market for derivatives is still in its nascent stage in India. There is nevertheless a visibly increased focus on fee based sources of income. 71% of banks in our survey saw an increase in their fee based income as a percentage of their total income for the FY 2008-09 as compared to FY 2007-08. Indian banks are fast realizing that fee-based sources of income have to be actively looked at as a basis for future growth, if the industry is to become a global force to reckon with.

Core banking solutions!

Unlike their western counterparts, Indian banks had the opportunity to leapfrog through technological innovations as they started off with a comparatively clean slate. CBS enables banks to consolidate their technology platforms across functions and geographies leveraging cost and at the same time acquiring flexibility and scalability to adapt to a fast changing and competitive environment. The shift to IFRS standards by 2011 with valuation of assets on the basis of current rather than historical cost would be one of the major driving forces for the implementation of Core Banking Solutions. 73.33% of our respondents are 100% compliant with core banking solution requirements, with the remainder, mostly public sector banks, lagging behind in implementation within rural areas. Integrating CBS with common inter-bank payment systems can benefit banks and financial institutions in terms of facilities such as CRM, customer profiling and differentiation for improved customer service. Amongst those respondents that have not yet implemented Core banking solutions, 75% expect complete implementation of CBS within 0-1 years, with the rest expecting implementation within the next 2 years at the maximum.

The future would require banks to have increased business agility and operational efficiency, which makes the implementation of Core Banking Systems (CBS) by banks increasingly important. Our respondents found effective control and monitoring by the top management, lower business operation costs and instant availability of accurate data to be some of the valuable by products of Core banking Solutions. However, our survey participants do not find any significant reduction in manual labor and errors from the implementation of Core Banking Solutions. As seen from the above graph CBS has not been smooth sailing for banks. A majority of the respondents (84.62%) found that the proper & timely management of changes was their biggest test in the implementation of Core Banking Solutions, closely followed by the large number of transactions and branches involved (76.92%), and Business Process re-engineering (76.92%). Availability of financing (23.08%), on the other hand, was not considered to be a serious deterrent to implementation of CBS processes.

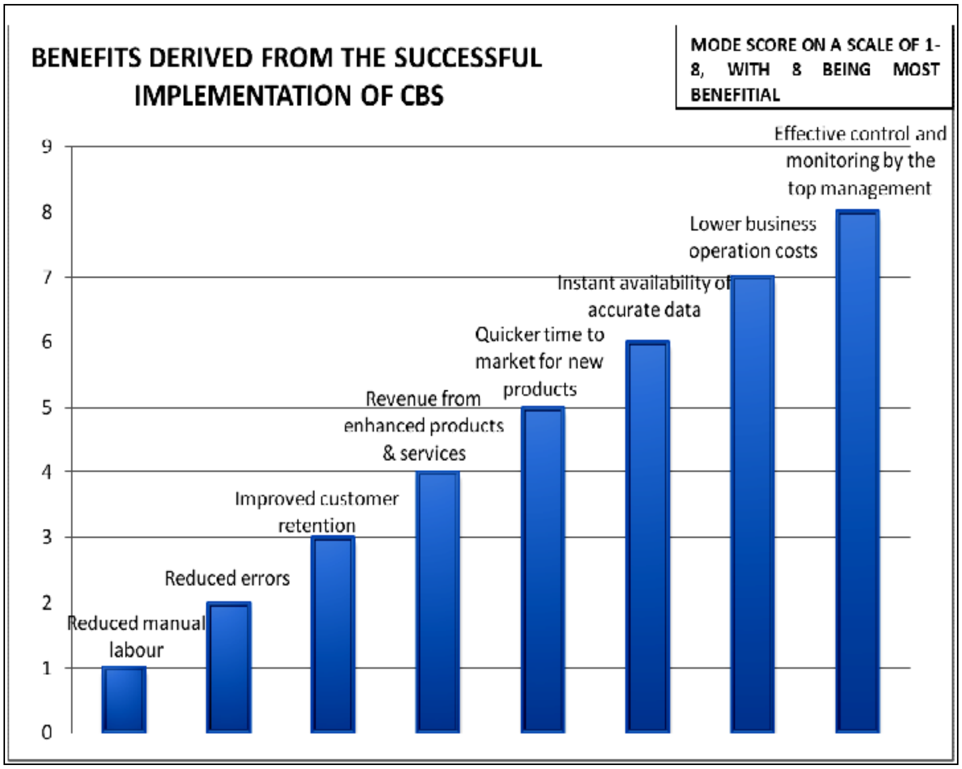


Figure 6.8 Benefits of Core Banking Solutions

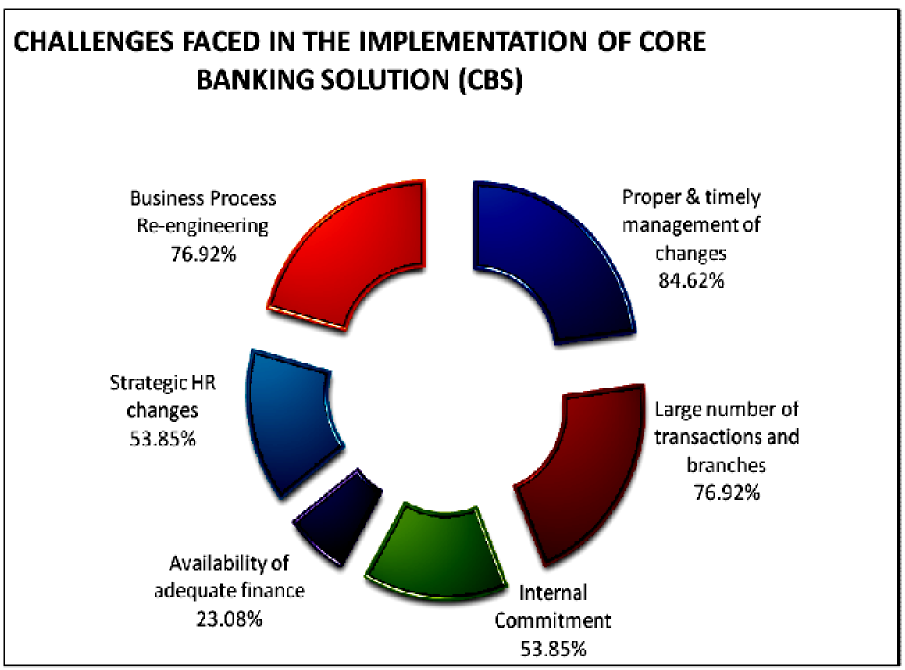


Figure 6.9 Challenges in implementation of CBS

Human Resources!

Hitherto, PSU banks which are a dominating force in the Indian banking system have lacked a proactive HR environment. However, much has changed with the opening of other sectors and increased competition from newer banks in the system. Banks are increasingly beginning to recognize Human resources as a possible area of core competence, and seek to pursue and retain the best talent in the industry. There is a realization that skill development is extremely important for staff retention as well as the quality of manpower, and all respondents to our survey had in place a system of continuous professional learning. A few respondents were in the process of revamping their training processes and emphasis is being laid on hard as well as soft skills. Banks are keen to tie up with external training agencies for in-house training. Some have even roped in top universities and business schools to help them in their initiative, while others have their own staff colleges for training employees. Our survey shows that 81.25% feel that the current economic situation is in fact advantageous for them, as it provides them with access to quality manpower. 2.50% of banks in our survey also feel that they have sufficient autonomy to offer attractive incentive packages to employees to ensure their commitment levels.

We also asked participants to rank major HR threats faced by their organization on a scale of 1-4 (with 1 being the greatest threat). The results of our survey are presented in the following graph:

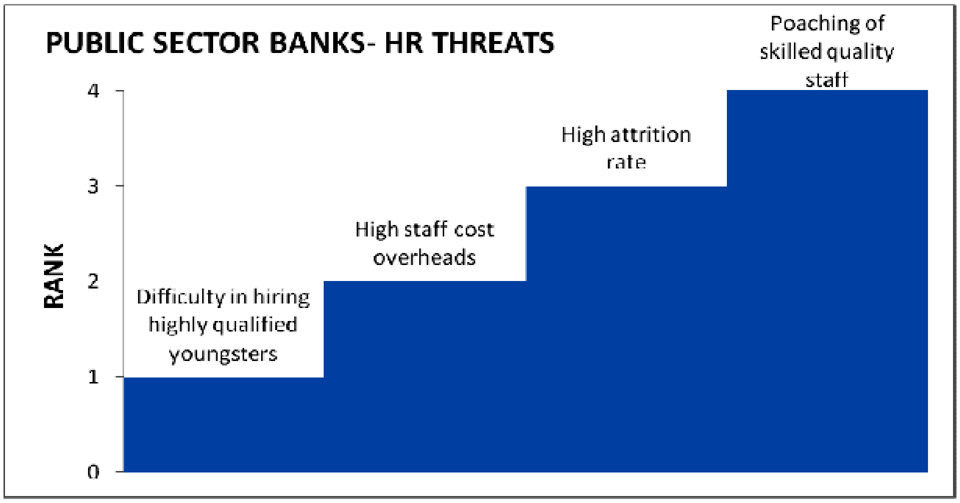


Figure 6.10a HR Threats for Banks

Thus, on the whole, we see that Public Sector Banks, Private Sector Banks as well as Foreign Banks view difficulty in hiring highly qualified youngsters as their biggest HR threat ahead of high staff cost overheads, poaching of skilled quality staff and high attrition rates.

Credit flow and industry!

India Inc is completely dependent on the Banking System for meeting its funding requirement. One of the major complaints from the industry has in fact been high lending rates in spite of massive cuts in policy rates by the RBI. We asked the banks what they felt were major factors responsible for rigid prime lending rates. None of the banks in our survey considered the cap on bank deposit rates to be one of the causes of inflexible lending rates. Due to long-term maturity, the trend seems to be changing. However, there are other factors which have led to the stickiness of lending rates such as wariness of corporate credit risk (33.33%), competition from government small savings schemes (26.67%). Benchmarking of SME and export loans against PLR (20.00%) on the other hand, do not seem to have as significant an influence over lending rates according to banks.

The great Indian industrial engine has nevertheless continued to hum its way through most of the yearlong crisis. We asked banks about the sectors that they consider being most profitable in the coming years. All respondents were confident in the infrastructure sector leading the profitability for the industry, followed by retail loans (73.33%) and others.

Loan disbursement and lending practices!

We further went on to question prevalent lending practices in the industry. Around 60% of respondents felt that there is an umbrella effect for credit disbursements for individual companies, wherein companies are graded on the basis of the overall performance of the group as a whole, and further 60% of the opinion that there a need to revise the group exposure limits imposed by the regulator. When quizzed on farm lending practices, 87.50% of our respondents disagreed with the notion that banks view lending to SMEs and farm sector as an avenue for forced lending rather than a profitable avenue. However, 75% of them agreed that a lack of sufficient support systems to farmers such as inputs, irrigation, marketing facilities, etc is a hindering factor for the farm sector lending, followed by 50% stressing on the cost of reaching End User as a deterrent. A poor legal system for recovery was another barrier to farm sector lending. With regards to loan disbursement, 71.43% felt that there was no need for standardized credit appraisal across the industry. But at the same time, 73.33% of respondents felt that there is scope for a further reduction in turnaround times for loan sanctioning. Steps undertaken by participant banks to this effect include effectively implementing the concept of single level appraisal and mechanizing the entire loans sanction process, Establishing Central Processing Units for Retail and SMEs, as well as increased discretionary powers across all levels.

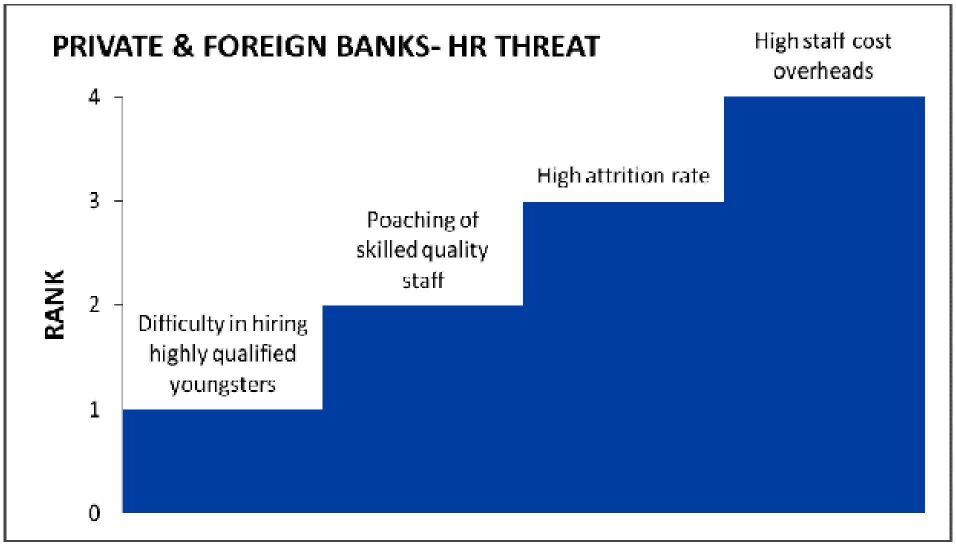


Figure 6.10b HR Threats for Banks

SMEs, Cement, and the IT and Telecom sector were viewed as equally profitable in the near future by banks. Not surprisingly, the Real estate and housing sector were ranked the lowest in terms of future profitability.

Credit quality!

The global financial meltdown which has its origins in the sub-prime mortgage crisis originating in the United States has led banks to be more conservative in their lending practices, and consequently a rise in capital costs for corporate. The Reserve Bank of India has however played a key role is assisting the banking sector in managing its liquidity and despite recent events, the medium-to-long-term India growth story remains intact. Capital adequacy is seen as important to the stability of the banking system. The minimum Capital to Risk-weighted Asset Ratio (CRAR) in India as required by the RBI is placed at 9%, one percentage point above the Basel II requirement. Public sector banks are further required to maintain a CRAR of 12% by the Government of India. In fact, over 92% of the participants firmly concur with recent stress test results that Indian banks have the ability to absorb twice the amount of their current NPA levels. However, the current crisis has exposed certain vulnerabilities and weaknesses within the system that banks continue to remain wary of.

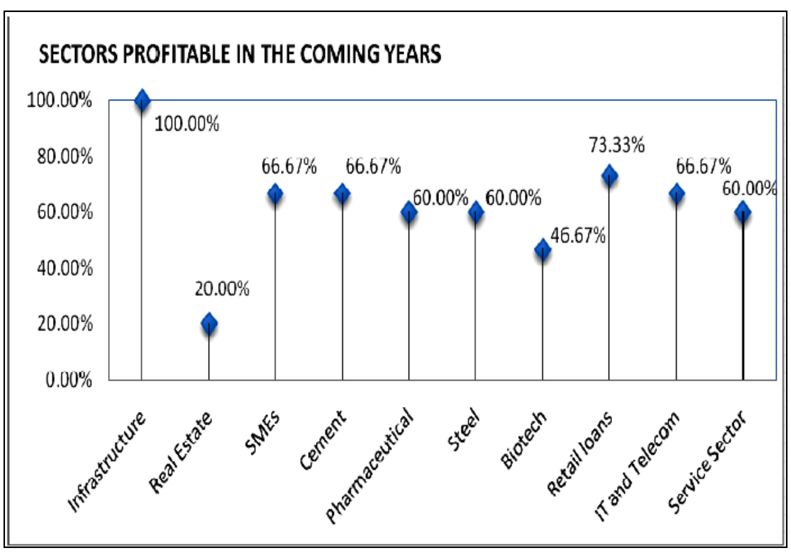


Figure 6.11 Sectors profitable in the coming years

Need for credit information bureaus!

This apprehension about potential non-performing assets is reflected in the fact that 87.5% of the respondents consider credit information bureaus as very important for the measurement of asset quality. At the same time, over 60% of respondents felt the need for regulation capping FDI at 49% and voting rights to 10% in Credit Information bureaus. All our participants additionally maintain their own internal database on quality of loans, using financial parameters such as Operational History, Delinquency Ratios, score bands, MOB (Month on Book wise) delinquency analysis, fraud indicators as well as profitability position, conduct of the loan account, managerial capability and capacity of the company. Other means employed by banks include a special watch on accounts statements on a fortnightly basis, performance by segments, repayment capacity, value of securities & other related risk factors. Almost 80% of the banks see personal loans as having the greatest potential for default, followed by corporate loans and credit cards. Many banks additionally perceived a level of riskiness in the SME and farm loan sector.

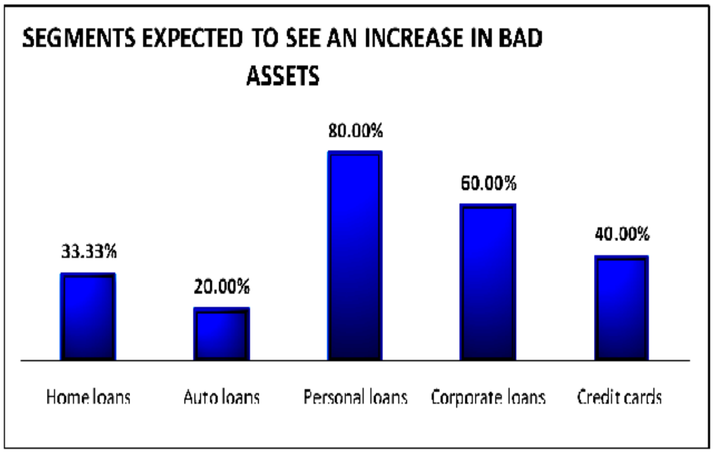


Figure 6.12 Segments expected to show increase in NPAs

Financial inclusion and expansion of banking services!

Transition from class banking to mass banking and increased customer focus is drastically changing the landscape of Indian banking. Expansion of retail banking has a lot of potential as retail assets are just 22% of the total banking assets and contribution of retail loans to GDP stands merely at 6% in India vis-à-vis 15% in China and 24% in Thailand. All banks in our survey weigh Cost effective credit delivery mechanisms (100%) as most important to the promotion of financial inclusion. This was followed by factors such as identifying needs and developing relevant financial products (75%), demographic knowledge and strong local relations (62.5%) and ensuring productive use and adequate returns on credit employed (43.75%) in decreasing levels of importance.

In fact, India has an expanding middle class of 250 to 300 million people in need of varied banking services. While 60% of our population has access to banks, only 15% of them have loan accounts and an overwhelming 70% of farmers have no access to formal sources of credit, reflective of immense potential for the banking system. This is mirrored in the fact that while our survey finds no discernible shift in the lending pattern of banks across Tier 1, Tier 2 and Tier 3 cities over the last two years, 93% of participants still find rural markets to be to be a profitable avenue, with 53% of respondents finding it lucrative in spite of it being a difficult market. Cost of accessing markets has been the only sour note in the overall experience of our respondents in rural markets. At the same time, more than 81.25% of our respondents have a strategy in place to tap rural markets, with the remainder as yet undecided on their plan of action. Tie ups with micro finance institutions (MFIs)/SHG and introduction of innovative and customized products are considered most important to approaching rural markets according to respondents, more so as compared to internet kiosks, post offices and supply chain management techniques. Additionally, 81.25% of respondents found branchless banking to be an effective and secure way of reaching out to rural markets, with mobile, biometric and handheld devices, equally popular amongst banks. Some respondents also found the Business Correspondents model to be an untapped model for financial inclusion.

As Indian financial markets mature over time, there is also a need for innovative instruments to deepen the market further. Suggestions ranged from micro saving and micro insurance initiatives, Cash deposit machines, warehouse receipts, to prepaid cash cards, derivatives, interest rate futures and credit default swaps as a means to further the financial inclusion and expansionary process.

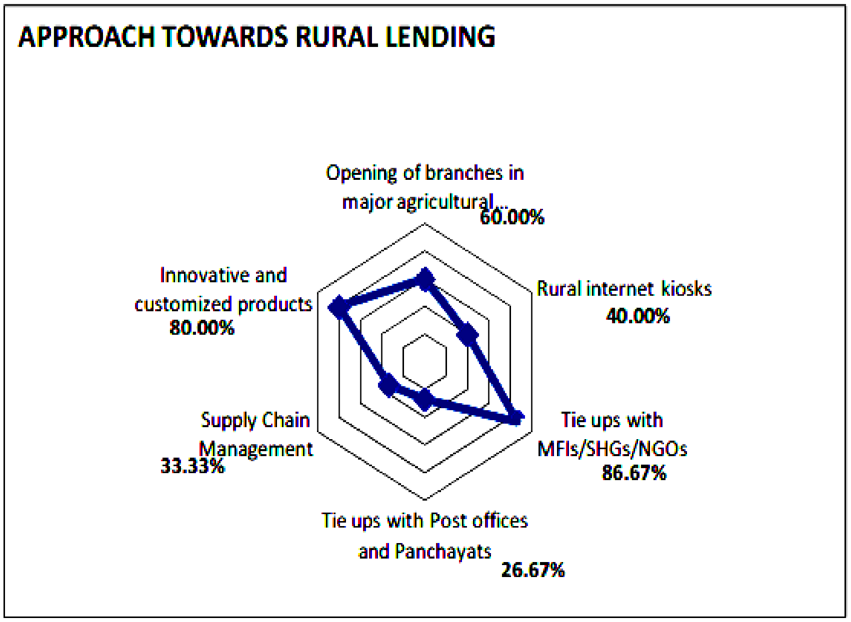


Figure 6.13 Approach toward rural lending

NBFCs, non-banking financial companies are fast emerging as an important segment of Indian financial system. Gradually, they are being recognized as complementary to the banking sector due to their customer-oriented services; simplified procedures; attractive rates of return on deposits; flexibility and timeliness in meeting the credit needs of specified sectors; etc. Nevertheless, opinion of our respondents was strictly divided over whether NBFCs have led the way for banks into unchartered territory.Nevertheless, an overwhelming 80% of respondents admitted that the primary strength of NBFCs over banks lies in their ability to provide reach to the last mile. Some also felt that NBFCs were stronger at product innovation and enjoyed lower operating costs in comparison to banks and were also less regulated than banks, as there is no stipulation of mandatory lending. In spite of their perceived advantages over banks, all the respondents were unanimous in the need to strengthen NBFCs further. One of their suggestions was to ensure that prudential Risk Management Practices, as well as provisions of the Debt Recovery Tribunal Act and the SARFAESI Act which are applicable for Banks must be made applicable for NBFCs as well. At the same time, regulation of NBFCs also needs to ensure safety of depositors' funds and channelize credit to sectors which have been identified as priority for the overall growth of the economy.

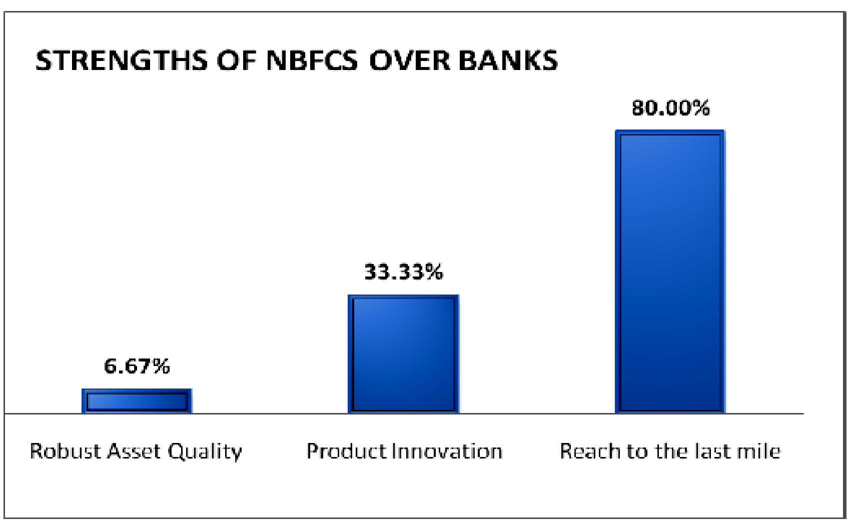


Figure 6.14 Strengths of NBFCs over Banks

Need for consolidation!

Consolidation of operations continues to remain an important factor for banks as they seek to improve their level of efficiency and correspondingly profitability. Consolidation in the banking industry has remained crucial to ensuring technological progress, excess retention capacity, emerging opportunities and deregulation of various functional and product restrictions. Almost 62% of the respondents see consolidation as an inevitable process for their banks in the future, while the remainders do not consider it an essential factor for their future progress. At the same time, while 77.78% of public sector respondents were of the opinion that foreign banks should not be allowed to play a greater role in the consolidation process, private and foreign banks taken together were unsure on the role to be played by foreign banks in the consolidation process. Consolidation is unavoidable if Indian banks are to become a force to reckon with in the near future. One must keep in mind that the largest bank of China is five times the size of the five largest banks of India. This view is reflected in our survey as majority of respondents in fact rated global competition as the greatest driver of consolidation in Indian banking, followed by the need for increased size of Indian banks. The consolidation process also has it fair share of challenges. Banks were unanimous in their assertion that HRD (Human Resource Development) was one of the major issues faced by them. A few banks also felt that customers were the ultimate losers after consolidation, and variations in technology platforms must also be accounted for. However, dilution of management control (25%) and regulatory issues (42%) do not seem to be major deterrents to the consolidation process.

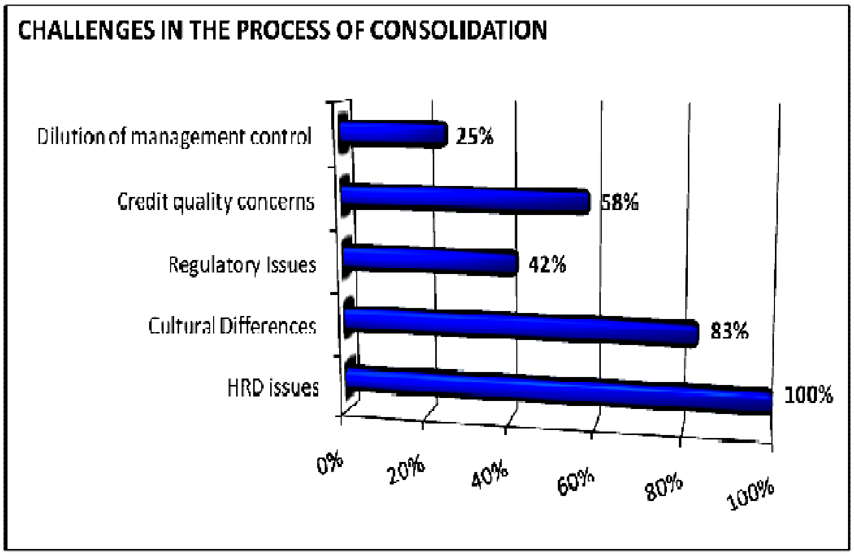


Figure 6.15 Challenges in the process of Consolidation

When asked to define a win-win strategy for consolidation, banks felt that there should be broad norms at the regulatory level to guide the consolidation process. Banks, in addition, need to keep in mind potential gains to be made in terms of geographical spread, leading to economies of scale of Technology & Culture. Respondents also stressed on the importance of the management being in tune with the aspiration and expectation of the workforce. New concepts like performance linked incentives, variable pay etc. need to be introduced to make the consolidation process effective and acceptable. However, at the very core, as one respondent put it, consolidation will only work if the synergistic values between the consolidating organizations are greater than the sum of parts. A merger of Big Bank with a Small Bank helps the Small Bank in having better capital adequacy, better technology & better risk management practices. The Big Banks benefit in terms of wider market reach & lower spending on branch expansion, improved access to trained manpower & geographic diversification of risks

SUGGESTIONS

RBI is inflating the Indian Economy. The recession in US and prevailed uncertainty in petroleum nations had provided an opportunity for India to pull capital resources from US and Gulf countries, but the practical approach of RBI has converted the opportunities into challenges as the liquidity and inflation is certainly not under control of the RBI who is attempting to freeze the liquidity by increasing the interest rate and cost of credits. FICCI and the corporate sector have already criticized RBI recent announcement to increase the rate of interest.

With trend of increased capital inflow to India, the aggregate deposits by Scheduled Commercial Banks (SCBs) has increased from 80.7% in 2005-06 (Rs. 21,09,049 crores) to 102% (Rs. 31,96,939 crores) of GDP at factor cost by 2007-08. With increased deposits, the bank credits has also increased from Rs. 15,07,077 crores in 2005-06 to Rs. 23,61,914 crores by 2007-08 reflecting 75.6% of GDP at factor cost in 2007-08 as credit against 57.7% in 2005-06. This indeed is a situation; where our economists and financial sector regulators need to review the policy and practices adopted by RBI as we hardly evaluate the multi level impact of interest in our economic process.

The theory of J. M. Keynes is failed to guide us optimizing the growth opportunities with abundance of FDI. The practical approach of RBI to curb the rate of inflation by increasing the rate of Repo Rate and CRR for last 24 months (since July 2006) is not controlling inflation instead leading towards stagflation as the prices are continue to increase, but the expenditure, investment and net GDP growth rate is falling.

By increasing the Repo rate and CRR, liquidity might be freeze for shorter period, but it will increase cost of credit and output which inflates the GDP value. Since July 2006 RBI is increasing the Repo Rate and CRR, but inflation is also increasing. Interestingly the interest income to SCBs was Rs. 1,85,384.9 crores in 2005-06 which increased to Rs. 2,37,271.14 crores by 2006-07. It means by 2006-07 total interest income to SCBs was 7.1% of GDP at factor cost. It simply means that the interest income to SCBs has inflated the value of GDP at factor cost by 7.1%.

With increase in rate of interest, the aggregate deposits might increase and SCBs may need to pays more interest over increased deposits. Total Interest expended by SCBs over deposits was Rs. 89,742 crores in 2005-06 which increased to Rs. 1,20,261.08 crores by 2006-07 showing a net annual increase of 34%. This growth is inflationary as it increases the buying capacity of the depositors. By 2006-07, the interest expended over deposits was around 4.20% of GDP at factor cost.

If we add the interest income of SCBs to interest expended over deposits, it stands for around 12.5% of GDP at factor cost and 8.6% of GDP at market prices in 2006-07. Considering the impact of interest on inflation, we may need to add interest income of SCBs through investments / commercial credits with interest expended by SCBs over deposits. This amounts to approximately 9% of GDP at factor cost and 5% of GDP at market prices in the year 2006-07 while annual rate of inflation was 6.7%. It reflects that basically inflation is a result of interest charged on credits expanded by SCBs and interest expended over deposits. The interest charged by SCBs increases the cost of GDP and the price levels, while the interest paid by SCBs over deposits increases the purchasing power of the depositors. Both ways the interest is increasing the price level and causing inflation. Since RBI regulates the banking business in India, by increasing rate of interest it is increasing the inflation and decreasing the real term growth rates.

Further to note that RBI is increasing the rate of interest for over one year to control the inflation which ultimately increasing the cost of GDP showing higher GDP value and increasing inflation instead of controlling it. Our total final consumption expenditure as % of GDP at market prices is already declining from 67.8% in 2005-06 to 65.5% by 2007-08. This decline along with inflation cannot be controlled by increase in interest rate. This economic tendency may leads to stagflation which is more dangerous for economic stability and growth. RBI should review its policies and practices to monitor liquidity, credit and inflation, if we have to combat inflation and attain desirable growth rate.

Often it is argued that inflation devaluates the money and interest over deposits compensates its money value, but this argument is missing to note the cruel problem of inflation which arises due to interest and could worse off with more interest over deposits. Islamic economic ethics suggests mechanisms for stable and anti-inflationary monetary system which should be adopted by RBI to make our monetary system more stable and anti-inflationary. Hope the RBI will consider these ethics as measure to combat inflation and stagflation. Islamic Banking principles and practices will not only increase the equity deposits and finances but also promote capitalization and investments. It will help increase employment and business opportunities which are must for inclusive and foster growth of India at a time when world is eying upon Indian economy for making more investments. Otherwise consistent approach of RBI to control inflation through interest rate may let the UPA government face cruel failures in capitalizing the investment and growth opportunities with worst off inflation and stagflation.

Indian Economy and Financial Sector Regulators. Indian economy is blooming financially but loosing economic growth prospects due to tight credit policy, inflation and fiscal uncertainties. Top from our Prime Minister to RBI Governor all who are involved in managing the economic crisis are financial experts. They have been taught to control liquidity through interest. While during time of Keynes, the foreign capital inflow was not matter of concern. Indian money market liquidity problem has been due to unplanned policies for foreign funds and by increasing rate of interest RBI is in fact inflating the economy further more.

Since July 2006 we have been seeing that with every increase in CRR and Repo rate, the rate of inflation has increased. Does 24 months period is not enough for RBI to experiment the monetary suppressing? It is affecting the output negatively and with every increase in credit cost, the output prices are bound to increase. But this could have better understood by any economist, not by persons of finance background who have not learnt anything except interest tool handling.

Time has gone worldwide to control the economy through interest rate. Now investors think beyond interest rate and seek higher profitability. RBI should develop policies in coordination with SEBI so that stock market could become active source for capital formation. Investment in equities will not only help economy grow, but control inflation as well. Liquidity should not be dealt by RBI alone because it could be well transformed into capital if SEBI plays active role. It is only possible through better homework by our economists, financial regulators and politicians as well. Otherwise, columnists will keep on writing, politicians will keep on speaking and economy will keep on loosing.

Need to create a suggestion market-driven banking sector with adequate focus on social development. The term "policy makers" as mentioned earlier, refers to the Ministry of Finance and the RBI and includes the other relevant government and regulatory entities for the banking sector. It is believed a co-ordinate effort between the various entities is required to enable positive action. This will spur on the performance of the sector. The policy makers need to make co-ordinate efforts on six fronts:

- Help shape a superior industry structure in a phased manner through "managed consolidation" and by enabling capital availability. This would create 3-4 global sized banks controlling 35-45 per cent of the market in India; 6-8 national banks controlling 20-25 per cent of the market; 4-6 foreign banks with 15-20 per cent share in the market, and the rest being specialist players (geographical or product/ segment focused).
- Focus strongly on "social development" by moving away from universal directed norms to an explicit incentive-driven framework by introducing credit guarantees and market subsidies to encourage leading public sector, private and foreign players to leverage technology to innovate and profitably provide banking services to lower income and rural markets.
- Create a unified regulator, distinct from the central bank of the country, in a phased manner to overcome supervisory difficulties and reduce compliance costs.
- Improve corporate governance primarily by increasing board independence and accountability.
- Accelerate the creation of world class supporting infrastructure (e.g., payments, asset reconstruction companies (ARCs), credit bureaus, back-office utilities) to help the banking sector focus on core activities.
- Enable labor reforms, focusing on enriching human capital, to help public sector and old private banks become competitive.

Need for decisive action by bank managements. Management imperatives will differ by bank. However, there will be common themes across classes of banks:

- PSBs need to fundamentally strengthen institutional skill levels especially in sales and marketing, service operations, risk management and the overall organizational performance ethic. The last, i.e., strengthening human capital will be the single biggest challenge.
- Old private sector banks also have the need to fundamentally strengthen skill levels. However, even more imperative is their need to examine their participation in the Indian banking sector and their ability to remain independent in the light of the discontinuities in the sector.
- New private banks could reach the next level of their growth in the Indian banking sector by continuing to innovate and develop differentiated business models to profitably serve segments like the rural/low income and affluent/ HNI segments; actively adopting acquisitions as a means to grow and reaching the next level of performance in their service platforms. Attracting, developing and retaining more leadership capacity would be key to achieving this and would pose the biggest challenge.
- Foreign banks committed to making a play in India will need to adopt alternative approaches to win the "race for the customer" and build a value-creating customer franchise in advance of regulations potentially opening up post 2009. At the same time, they should stay in the game for potential acquisition opportunities as and when they appear in the near term. Maintaining a fundamentally long-term value-creation mindset will be their greatest challenge.

The extent to which Indian policy makers and bank managements develop and execute such a clear and complementary agenda to tackle emerging discontinuities will lay the foundations for a high-performing sector in 2010.

REFERENCES

1. Aaron Sakolski, The Great American Land Bubble: The Amazing Story of Land- Grabbing, Speculations, and Booms from Colonial Days to the Present Time (New York: Harper and Brothers, 1932).
2. Administrator of National Banks (1997). Asset securitization. Comptroller's Handbook November 1997. Retrieved on March 23,
3. Akerlof, G.A (1970)."The market for lemons: Quality uncertainty and the Market Mechanism".
4. Alan Greenspan, "We Will Never Have a Perfect Model of Risk," Financial Times, March 17, 2008.
5. Alan Greenspan, The Age of Turbulence: Adventures in a New World (New York: Penguin, 2007).
6. Alles, L. (2001). "Asset securitization and structured financing: Future prospects and challenges for emerging market countries". IMF Working Paper. No. 1/147
7. Apgar Jr., W.C. and Herbert, C.E. (2006). Subprime lenders and alternative service providers: A literature review and Empirical Analyses. U.S. Department of Housing and Urban
8. Aschcraft, A.B. and Schermann, T. (2007). "Understanding the securitization of the subprime mortgage credit". Federal Reserve Bank of _ew York Working Paper Series. No. 318
9. Bank for International Settlements (2003). "Credit risk transfer". Committee on the Global Financial System Publications. CGFS Publication no. 2 January 2003
10. Bank for International Settlements (2007). "Overview: credit retrenchment triggers liquidity squeeze".BIS Quarterly Review. September, pp. 1-16
11. Bank of Japan (2008). Securitized-Product Investments: Risk management perspectives. Financial Systems and Bank Examination Department
12. Banking Sector Performance: 2006-07: Buoyant loan book drives profits and core profitability, Karthik Srinivasan Co-Head – Financial Sector Ratings Vibha Batra, Co-Head – Financial Sector Ratings
13. Bansal, S. (2004), Impact of Liberalization on the Productivity and Profitability of Public Sector Banks in India, A Doctorate Thesis submitted to UBS, Panjab University, Chandigarh.
14. Basel Committee of Banking Supervision (2008). Liquidity Risk: Management and Supervisory Challenges. Bank for International Settlements
15. BBC (2007). The US sub-prime crisis in graphics. Retrieved on May 16,
16. Ben Dolven, Section Research Manager
17. Ben S. Bernanke, "Reducing Preventable Mortgage Foreclosures," speech at the Independent Community Bankers of America Annual Convention, Orlando, Florida, March 4, 2008,
18. Ben S. Bernanke, "The Economic Outlook," October 20, 2005.
19. Benjamin M. Friedman, The Moral Consequences of Economic Growth (New York: Knopf, 2005),
20. Berenson, M.L., Levine, D.M., and Krehbiel, T.C. (2004). Basic Business Statistics ninth edition.
21. Bianco,K.M., and J.M.Pachkowski (2008), The Economic Bailout: An Analysis of the Economic Emergency Stabilization Act,
22. Blommestein, H.J. (2008). A primer on the ongoing credit crisis. Retrieved on March 20,
23. Borio, C. (2008)."The Financial Turmoil of 2007 -?: a preliminary assessment and some policy considerations". BIS Working Papers. No. 251, march 2008
24. Brown, S. and Warner, J. (1985). "Using daily stock returns: The case of event studies". Journal of Financial Economics. Vol. 14, No. 1, pp. 3-31
25. Cass Sunstein, Republic.com (Princeton, N.J.: Princeton University Press, 2001), A more extensive earlier development of these ideas for new markets is presented in
26. Center for Audit Quality (2007). The Measurement of Fair Value in Illiquid (or less liquid) Markets.Retrieved on January 11, available at
27. Center for Responsible Lending (2006). Losing Ground: Foreclosures in the Subprime market and their costs to homeowners. Retrieved on May 24,
28. Chakraborty, Rajesh (2006), The Financial Sector in India: Emerging Issues, Oxford University Press. CRISIL Study, (2002), "Profitability of Banks", A Study conducted by CRISIL. ICFAI (2004), Indian Banking System: The Changing Scene, ICFAI University Press, Hyderabad, 2004, pp. 3-19.
29. Charles E. Schumer, "Opening Statement," Joint Economic Committee Hearing, "Evolution of an Economic Crisis? The Subprime Lending Disaster and the Threat to the Broader Economy,"

September 19, 2007.

30. Chavez, G., and Silva, A.C. (2006). "Improved corporate governance: market reaction and liquidity implications". Instituto de Empresa Business School Working Paper Series. No. WP06-08

31. Cho, M. (2008). "Subprime Mortgage Market: Rise, Fall and lessons for Korea". KDI School Working Paper Series. Working Paper May 08-08

32. Chomsisengphet, S. and Pennington-Cross, A. (2006). "The evolution of the Subprime mortgage market".

33.

34. Collins, M., Belsky, E., and Case, K.E. (2004). "Exploring the Welfare Effects of Risk-based Pricing in the Subprime Mortgage Market". Joint Center of Housing Studies. Working Paper Series BABC 04-8

35. Conrad, J., Cornell, B., and Landsman, W.R. (2002). "When is bad news really bad news?". The Journal of Finance. Vol. 57, No. 6, pp. 2507-2532

36. Cooper, D.R., and Schindler, P.S. (2006). Business Research Methods ninth edition. McGraw-Hill/ Irwin, New York

37. Crouhy, M. and Turnbull, S.M. (2008). "The Subprime Credit Crisis of 07". Retrieved on April 3,

38. Cutts, A.M. and van Order, R.A. (2005). "On the economics of subprime lending". Journal of Real Estate Finance and Economics. Vol. 30, No. 2, pp. 167-196

39. Dannis, M. A. and Pennington-Cross, A. (2005). "The delinquency of Subprime Mortgages".

40. David A. Moss, When All Else Fails: Government as the Ultimate Risk Manager(Cambridge, Mass.: Harvard University Press, 2002).

41. Development, Washington D.C.

42. DiMartino, D. and Duca, J.V. (2007)." The rise and fall of subprime mortgages". Federal Reserve Bank of Dallas Economic Letter. Vol. 2, No. 11

43. DiMartino, D., Duco, J.V., and Rosenblum, H. (2007). "From Complacency to Crisis: Financial risk

44. Doms, M., Furlong, F., and Krainer, J. (2007). "Subprime Mortgage Delinquency Rates".

45. Doms,M., F.Furlong, and J.Krainer (2007), Subprime Mortgage Delinquency Rates,

46. Dwight Asset Management Company (2005). Fixed Income Primer: Asset-Backed Securities. Dwight Asset Management Company 2005

47. Dyckman, T., Philbrick, D., and Stephan, J. (1984). "Comparison of event study methodologies using daily stock returns: A Simulation Approach". Journal of Accounting Research. Vol. 22, pp. 1- 33

48. Fabozzi, F.J. (1995).The handbook of Mortgage-Backed Securities, fourth edition. Probus Publishing, Chicago

49. Fabozzi, F.J. and Modigliani, F. (1992). Mortgage and Mortgage-Backed Securities Markets. Harvard Business School Press, Boston

50. Fan, G., Ong, S.E., and Sing, T.F. (2006). "Moral Hazard, Effort Sensitivity and Compensation in Asset-Backed Securitization". The Journal of Real Estate Finance and Economics. Vol. 32,No. 3, pp. 229-251

51. Federal Reserve Bank of San Francisco Working Paper Series. Working paper 2007-33

52. Federal Reserve Bank of St. Louis Review. Vol. 88, No. 1, pp. 31-56

53. Federal Reserve Bank of St. Louis Working Paper Series. Working paper 2005-022A

54. Financial Stability Forum (2008). Report of the Financial Stability Forum on Enhancing Market and Institutional Resilience. Retrieved on June 8,

55. Frederick Lewis Allen, Only Yesterday: An Informal History of the 1920s (New York: Harper and Brothers), 1931

56. Friedman,T.L. (2008), If Larry and Sergy Asked for a Loan, Deccan Chronicle, October27, 2008.

57. George W. Bush, "President's Radio Address," August 6, 2005.

58. Getter, D.E., Jickling, M., Labonte, M., and Murphy, E.V. (2007). Financial Crisis? The Liquidity Crunch of August 2007. CRS Report for Congress, Washington D.C.

59. Global Public Policy Committee (2007). Determining Fair Value of Financial Instruments under IFRS in current market conditions. Retrieved on January 11,

60. GROWTH AND PERFORMANCE OF INDIAN BANKING SECTOR PRE AND POST WTO PERIOD, Dr. Monika Aggarwal Asstt. Professor in Commerce, Government College Sector 1, Panchkula.

61. Guiso, L., Sapienza, P., and Zingales, L. (2005). "Trusting the Stock Market". _ational Bureau of

Economic Research Working Papers Series. Working Paper 11648, September 2005
62. Henry B. Steagall Tells How New Body Will Aid Business, New York Times, January 24, 1932
63. Hill, C.A. (1997)."Securitization: A low-cost sweetener for lemons". The journal of Applied Corporate Finance. Vol. 10, No. 1, pp. 64-71
64. Hull,J., M.Predescu, and A.White (2004), The Relationship between Credit Default Swap Spreads, Bond Yields, and Credit Rating Announcements, Journal of Banking and Finance, 28, 2789-2811.
65. IMF (2008). Global Financial Stability Report: Market Developments and Issues. International Monetary Fund, Washington D.C.
66. Institute of International Finance (2008), Final Report of the IIF Committee on market Best Practices: Principles of Conduct and Best Practice Recommendations,
67. Institute of International Finance (2008). Final Report of the IIF Committee on Market Best Practices: Principles of Conduct and Best Practices Recommendations. Retrieved on August 4,
68. International Accounting Standards Board (2007). International Financial Reporting Standards 2007.IASCF Publications Department, London
69. J. F. Hornbeck, Specialist in International Trade and Finance
70. J. Michael Donnelly, Information Research Specialist
71. James K. Jackson, Specialist in International Trade and Finance
72. Jobst, A.A. (2006). "Asset securitization as a risk management and funding tool: What small firms need to know". Managerial Finance. Vol. 32, no. 9, pp. 731-760
73. Jobst, A.A. (2007a). "A primer on structured finance". Journal of Derivatives and Hedge Funds. Vol. 13, No. 3, pp. 199-213
74. Jobst, A.A. (2007b). "Asset securitization as a risk management and funding tool: What small firms need to know". Managerial Finance. Vol. 32, No. 9, pp. 731-760
75. John B. Taylor and John C. Williams, "A Black Swan in the Money Market," Federal Reserve Bank of San Francisco, April 2008
76. John Maynard Keynes, The Economic Consequences of the Peace (London: Macmillan, 1919).
77. Joint Economic Committee (2007). The Subprime Lending Crisis: The Economic Impact on Wealth, Property Values and Tax Revenues, and how we got there. Retrieved on February 14,
78. Kalita, Basanta (2004), "Post-1991 Banking Sector Reforms in India: Policies and Impact"
79. Kane, George D. (1997). The problem of how to account for asset securitization transactions". Journal of Accounting Education. Vol. 25, No. 1, pp. 39-51
80. Kiff, J. and Mills, P. (2007)."Money for nothing and checks for free: Recent developments in U.S.subprime mortgage markets". IFM Working Paper. No. 188
81. Kirk, E.J. (2007)." The subprime mortgage crisis: An overview of the crisis and potential exposures".RLI's Executive Products Group newsletter. September 2007
82. Kohli, Renu (2005), Liberalizing Capital Flows: India's Experience and Policy Issues, Oxford University Press, New Delhi.
83.
84. Kregel, J. (2008). "Minsky's Cushions of Safety: Systemic risk and the Crisis in the U.S. Subprime Mortgage Market". The Levy Economics Institute of Bard College Public Policy Brief. No.93, 2008
85. Krinsman, A.N. (2007). "Subprime Mortgage Meltdown: How did it happen and how will it end?.The Journal of Structured Finance. Vol. 13, No. 2
86. Lamdin, D.J. (2001). "Implementing and Interpreting event studies of regulatory changes". Journal of Economics and Business. Vol. 53, No. 2-3, pp. 171-183
87. Landau,J.P. (2007), Some Thoughts on Securitization and Financial Turbulence, Financial Forum in NewYork, October 22, 2007.
88. Li, H., Pincus, M., and Rego, S.O. (2004).
89. MacKinley, A.C. (1997). "Event studies in Economics and Finance". Journal of Economic Literature.Vol. 35, No. 1, pp. 13-39
90. Mark Jickling, Specialist in Financial Economics
91. Market Reaction to Events surrounding the Sarbanes-Oxley Act of 2002". Journal of Law and Economics, Vol. 51, February 2008
92. Martin A. Weiss, Specialist in International Trade and Finance
93. McDonald, D.J. and Thornton, D.L. (2008). "A Primer on the Mortgage Market and Mortgage

Finance". Federal Reserve Bank of St. Louis Review. Working Paper 2008, No. 90 (1), pp. 31-45

94. Mohan, R. (2004), "Financial Sector Reforms in India: Policies and Performance Analysis", RBI Monthly Bulletin, October, pp.851-865.

95. Mohan, R. (2006), "Reforms, Productivity and Efficiency in Banking: The Indian Experience", RBI Monthly Bulletin, March, pp.279-293.

96.

97. Noyer, C. (2008). Possible ways of improving the process of rating. Retrieved on April 13,

98. Office of the Comptrollers of the Currency (1997). Asset Securitization. The Comptroller's Handbook for National Bank Examiners

99. Pearson Education International, Upper Saddle River, New Jersey

100. Peterson, C.L. (2007). Subprime mortgage market turmoil: Examining the role of securitization. Retrieved on January 31,

101. Peterson, P.P. (1989). "Event studies: A review of Issues and Methodology". Quarterly Journal of Business and Economics. Vol. 28, No. 3, pp. 36-67

102. Poole,W. (2008), Market Bailouts and the "Fed Put", Federal Reserve Bank of St.Louis Review, 90, March/April 2008, 65-73.

103. Quarterly Journal of Economics. Vol.84, No.3, pp. 488-500

104. Rajput, B. (2008), "Post-Liberalization Trend in Banking", National Level Seminar on Service Sector: Opportunities and Challenges, on March 26, 2008, Organised by Punjabi University, Patiala.

105. Rao,T.V.S.R. (2008), Foreign Institutional Investors, Risk Sharing, and Regulatory Diligence, to be presented at the Third National Conference on Indian Capital Market: Emerging Issues, Gurgaon, March 2009.

106. RBI, Statistical Tables relating to Banks in India, Various issues (1997-98 to 2007-08).

107. RECESSION IN INDIAN BANKING SECTOR Mrs. K. Vidyakala, Assistant Professor & HOD,Ms. S. Madhuvanthi, Lecturer, Adithya Institute of Technology.Dr.S.Poornima, Department of Management, P. S. G. R. Krishnammal College for Women.

108. Report on Trend and Progress of Banking in India, various issues (1997-98 to 2007-08).

109. Reserve Bank of India –Report of the Committee Financial System (Narasimham Committee), 1991.

110. Reserve Bank of India, IBA Bulletin (Various issues)

111. Reserve Bank of India, RBI Bulletin (Various issues)

112. Robert J. Shiller, Irrational Exuberance, 2nd Edition (Princeton, N.J.: Princeton University Press), 2005.

113. Robert J. Shiller, Macro Markets: Creating Institutions for Managing Society's Largest Economic Risks (Oxford: Oxford University Press, 1993).

114. Roever, W.A. and Fabozzi, F.J. (2003)."A primer on securitization". Journal of Structured and Project Finance. Vol. 9, No. 2, pp. 5-19

115. Rosen, R.J. (2007). "The role of securitization in mortgage lending". Chicago Fed Letter. No. 244

116. Sabarwal, T. (2006). "Common Structures of Asset-Backed Securities and their risks". Corporate Ownership and Control. Vol. 2, No. 4

117. Sabry, F. and Schopflocher,T. (2007).The subprime meltdown: A primer. NERA Insights Series Part I

118. Schwert, G.W. (1981). "Measuring the effects of Regulation: Evidence from the Capital Markets". Journal of Law and Economics. Vol. 25, pp. 121-145

119. Scott, W. (2006). Financial Accounting Theory. Pearson Education Canada Inc., Toronto, Ontario Senior Supervisors Group (2008). Observations on Risk Management Practices during the Recent Market Turmoil. Retrieved on June 8,

120. Sekhar, D. S. (2007), "Trends in Growth and Development: Nationalised Banks in India", The Indian Banker, Vol.11, No.10, pp.28-32.

121. Sen, Kunal; and Vaidya (1997), The Process of Financial Liberalization in India, Oxford University Press, New Delhi.

122. Subprime Crisis and Efficient Bailouts T.V.S.Ramamohan Rao, Indian Institute of Technology, Kanpur

123. Swarcz, S.L. (1994). The Alchemy of Asset Securitization". Stanford Journal of Law, Business &Finance. Vol. 1, pp. 133-154

124. Taking in the Early 21st Century". Federal Reserve Bank of Dallas Economic Letter. Vol. 2,No. 12

125. Telpner, J. (2003). "A securitization primer for first time issuers". Global Securitization and Structured Finance 2003
126. The Global Financial Crisis: Analysis and Policy Implications Dick K. Nanto, Coordinator, Specialist in Industry and Trade
127. The Southern Boom, Los Angeles Times, December 26, 1887
128. Thomas, H. (2001). "Effects of Assets Securitization on Seller Claimants". Journal of Financial Intermediation. Vol. 10, No. 3-4, pp. 306-330
129. United States Code, Chapter 11, Title 11
130. Utt, R. D. (2008). "The Subprime Mortgage Market Collapse: A primer on the Causes and possible Solutions". The Heritage Foundation Backgrounder. Backgrounder no. 2127
131. Veronesi, P. (1999). "Stock market overreaction to bad news in good times: A rational expectations equilibrium model". Review of Financial Studies. Vol. 12, No. 5, pp. 975-1007
132. Vigdor, J.L. (2007). What should government do about the subprime mortgage market?: A taxpayer's guide. National Taxpayers Union Vink, D. and Thibeault, A. (2007). "ABS, MBS and CDO pricing comparisons: an empirical analysis". Journal of Structured Finance, forthcoming
133. W. Beran Wolfe, "Psychoanalyzing the Depression," Forum and Century 87(4): 209–15, 1932
134. Wayne M. Morrison, Specialist in Asian Trade and Finance
135. William H. Cooper, Specialist in International Trade and Finance
136. Zywicki, T.J. and Adamson, J.D. (2008). "The Law & Economics of Subprime Lending". George Mason University Law and Economics Research Paper Series, No. 08-17

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