CHAPTER 3
HISTORY AND DEVELOPMENT OF
INDIAN BANKING SYSTEM

The Indian Banking sector has undergone phenomenal changes in the light of financial sector reforms which started during the early 1990s. Many banks took innovative approach towards banking with the objective of creating more value for customers. The Reserve bank of India continued its approach towards providing conducive regulatory framework for the sustainable growth and development of banks with development of technological and institutional infrastructure. Continuous and constant efforts were made towards adoption of International standards keeping in view Indian conditions. This chapter focuses on phases of development of banking in India, trends and progress of Indian banking, new trends in Indian banking sector and transformation in the Indian Banking system. The chapter also highlights the concept, evolution and problems of Non Performing Assets in Banks.

3.1. Historical Perspective of Banking System in India

The concept of banking started in Italy. During ancient times, Italians used to sit on bench and conduct commercial transactions under barter system. The word bench is referred as ‘Banco’ in Italian language. Gradually, with the intervention of large number of clients and customers involved in barter system, the word ‘Banco’ got change to ‘Bank’. Over a period of time, it was realised that all the goods shall be valued in terms of some common commodity and gold coins were finally decided as common denominator for valuing all the goods. The merchants collected gold coins against goods provided by them. Since, they had to travel across the world for their business purpose; they needed a safe place to keep their coins. Therefore, in order to ensure safety, they use to keep them with Gold smith in their heavy lockers. The Gold smith started lending them and started paying interest to those who use to deposit their gold coins with them. The interest was also paid in terms of gold. This led to emergence of habit of keeping gold coins in deposits and earning interest on it. The same principle
was applied when banks were formed and instead of gold, one started depositing money with them. Technically, banking system started in Paleolithic age. The world’s first bank was Bank of Saint George in Italy which was formed in 1407.

The concept of banking in India is also quite old. The evidences of presence of banking in India were found in Buddhist, Mauryan and Mughal period. The following references proves the existence of banking in ancient India:

a) Loan deeds called Rnapatra and Rnalekhya were used in vedic age.
b) ArthaShastra mentions banking in Mauryan times.
c) Mauryan era – Adesha meaning bill of exchange.

There are also mention of indigenous bankers in ancient India, with the names:

a) Shroffs
b) Seths
c) Sahukars
d) Mahajans
e) Chettis.

They were involved in unorganised banking activities and use to deal in money lending which is very similar to the one being used in banking services nowadays. In the organised form, the concept of banking started somewhere in 1806 after East India Company made its presence in India. The chronology of events are mentioned below for better understanding:

3.2. Chronology of Developments of Banking Sector in India

British East India Company established up three Presidency towns – Madras (1640), Bombay 1687, and Bengal 1690. Most of the business and trade of East India Company was transacted through these three towns. In order to facilitate the traders and merchants, EIC started three banks at these places, namely

- Bank of Calcutta set up in 1806
- Bank of Bombay set up in 1840
- Bank of Madras set up in 1843
Among the three, none of the bank was designated as central bank. However, most of the business was being transacted in Calcutta therefore Bank of Calcutta became central bank for these banks by default.

- In 1865, Allahabad bank was set up as first joint stock company bank in India which totally controlled by Indians.
- In 1881, Oudh commercial bank was set up in Faizabad as the first bank with limited liability in India.
- In 1895, Punjab National Bank was set up in Lahore as first bank wholly managed and controlled by Indians.
- In 1891, Central bank of India was set up as first Swadeshi Commercial Bank in India.
- In 1921, the three presidency banks – Bank of Madras, Bank of Calcutta and Bank of Bombay merged together to form Imperial Bank of India.
- Reserve Bank of India was established in 1934 and started its operations from 1 April, 1935 with very small capital base of Rs 5 crore. At that time, Government had very minimal stake in the bank. Reserve Bank of India was set up as statutory body. After Independence, Government of India passed Reserve bank (Transfer to Public Ownership) Act, 1948 under which the stake of private individual were taken by the Government and adequate compensation was given to them. Reserve Bank of India was nationalised and started its function in 1949. Finally, Banking Regulation (Amendment) Act, 1965 empowered Reserve Bank of India in 1965.

Subsequent to independence in 1947, the economic model of five-year plans focussed on redesigning and reorganisation of the banking system. During the period 1948-1968, the main focus of banking sector was on security and to lay strong foundation for a sound banking system in the country. The role of the Banking sector was enlarged subsequent to independence of India. During the pre—Independence period, the banks were mainly meeting the requirement of the government, rich individuals and traders; but later the emphasis of banking sector was increased and focused on the development of the entire productive sector of the economy.
It was realized that despite the existence of banking sector, the objective of equitable and inclusive growth of the country could not be met. Therefore, the step towards nationalization of bank was taken in the year 1969. Before Nationalization, the major Banks in India were either directly or indirectly owned or controlled by big business houses, which were channelizing the deposits of the banks for their own business needs. As a result of this, the role of Banks was limited to extending credit only to big corporate and industrial houses. The credit needs of the common people in essential areas such as agriculture, small scale industries, etc. were ignored. The common people therefore continued to remain dependent on local money lenders for their various financial needs. This phenomena was observed by the then Government and it was felt that the banking sector has failed to play its role and justify its creation as its benefit are largely enjoyed by only few large business and industrial house and the people living in urban areas. The numbers of bank branches were not enough to cater the needs of large section of population living in rural India. The banking culture also needed to be developed by eluding risk involved in keeping money in bank. With these objectives in the background, the then Prime Minister Indira Gandhi announced the Nationalization of 14 major private Banks in July 1969, by an Ordinance, which was later ratified as an Act by the Parliament.

3.3. Advantages of Nationalisation

The step towards nationalisation of banks was applauded by many academician and experts as it is likely to bring much awaited and desired change in the banking sector in India by removing many deficiencies existing prior to nationalisation of banks. The main advantages perceived from Nationalisation of banks in 1969 are listed below:

3.3.1. Dilution of Economic Power

Earlier, a few leading industrial and business houses had close association with commercial banks. The directors of these banks were the Industrialist who use to set such norms that the bank resources are mainly exploited by them. The new units which required finance for its inception and growth could not avail bank finance because of their role in approving/ sanction of credit requirement. This led to monopolistic creation of certain industries.
3.3.2. Benefits to Social Sector

The banking sector was set up with a view to serve the society, particularly the mass sector and not the class sector. It was felt that nationalisation of banks would assist in serving the society at large through extension of services in rural sector as well.

3.3.3. Availability of Finance for Desired Sectors

The deposits made by general public were meant to be employed towards regulated and desired sector of economy. It was observed that the banks were not following the principle in true spirit as a result of which the policies laid down by the government under its Five Year Plans would not succeed unless the channelization of funds from the banking sector was made free from the control of corporate and industrialists lobby.

3.3.4. Increase in Bank Deposits

It was felt that banks would expand their business in rural areas ignoring the economic viability of functioning of their branch offices. Such role was expected more from public sector banks rather than private sector banks. The move of Nationalisation was expected to provide fillip to such a move, thereby increasing the possibility of mobilisation of savings from rural sector.

3.3.5. Help to Agriculture

Agriculture sector in India has always been in focus due to large dependence of rural population of India on this sector. The Government has taken several steps from time to time to improve the state of this sector. The Nationalisation of banks was expected to help in the growth of agriculture sector by providing loan to farmers.

3.3.6. Balanced Regional Development

After Independence, one of the main theme which the Government adopted was balanced regional development so that the benefit of growth shall be enjoyed by all sectors and categories of people. Private Banks normally confined their resources in the sectors which were productive and were financially viable. Keeping in view this fact, the role of public sector banks where allocation of funds was done not with the sole objective of profitability, but other qualitative factors such as development of backward
areas, upliftment of people below poverty line, and other related factors became important. Nationalisation of bank was considered as important need for providing momentum to this function of public sector banks.

3.3.7. Greater Control by the Reserve Bank

In a developing country such as India, having large population, the provision of banking facility to general public was considered very essential for the growth of economy. The confidence of people depositing their money in the bank also required to be maintained for sustained growth of banking sector. In such a scenario, the regulation of banks became an important issue. It was felt that the nationalisation of banks would assist the Reserve Bank of India in discharging its function of regulating banking operations and controlling money supply, more effectively and efficiently.

3.3.8. Small Stake of Shareholders

The private shareholders possesses very small portion of shareholding in the bank, as compared to the size of the total deposits available with the banks. Therefore, it was not justified to allow them to have control on the bank on the basis of their contribution in the bank.

3.3.9. Greater Stability of Banking Structure

Another important aspect which was taken into consideration at the time of Nationalisation of banks was to infuse sense of confidence among the customers for the money kept by them in the bank. It was realized that once banks were nationalised, it would help in infusing sense of confidence among the general public who intended to keep their money in banks in the form of public deposits.

3.3.10. Orientation towards Socialism

The efforts of any Government are oriented towards socialism. In this light, there is necessary requirement that financial institutions shall function under government's control Nationalisation was considered as appropriate mechanism to achieve this objective effectively.
3.3.11. Better Service Conditions to Staff

Nationalisation of banks besides infusing greater confidence among general public at large was also expected to be a boon for the staff working in the banks as they are expected to enjoy greater job security and higher emoluments alongwith other benefits as well. Thus, nationalisation of banks was perceived as motivational force for their staff and was expected to increase operational efficiency of banks.

3.3.12. New Schemes

The nationalisation of bank helped in proliferation of various new schemes like village adoption scheme, Lead Bank Scheme besides extending finance facilities to persons like shop keepers, self employed persons, Doctors, Engineers, mechanical workers, etc. Thus, it has helped many entrepreneurs in fulfilling their dreams of setting up their businesses.

The above facts can be observed from the table 3.1 given below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Branches Started</th>
<th>Branches Opened in Rural Sector</th>
<th>Branches Opened in Semi-Urban Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969</td>
<td>8262</td>
<td>1833</td>
<td>3342</td>
</tr>
<tr>
<td>1980</td>
<td>32419</td>
<td>15105</td>
<td>8122</td>
</tr>
<tr>
<td>1991</td>
<td>60220</td>
<td>35206</td>
<td>11344</td>
</tr>
</tbody>
</table>


**Figure 3.1:** Growth of Banking Sector
3.4. Observations from the Above Data

a) The total number of bank branches increased eight times during the period 1969 to 1991.

b) The growth in the number of rural banks appears to be more prominent. Proportion of increase was more skewed towards rural branches.

3.5. Co-operative Banks

In the Indian Banking System, apart from Commercial banks, Cooperative banks were also in existence which played a supplementary role in providing need-based finance. The main focus of financing for these banks was agriculture sector and agriculture-based operations; like cattle farming, milk distribution, hatchery, etc. besides other small scale industries and the activities in which self-employed persons are engaged. Co-operative banks are governed and controlled by the respective co-operative acts of state governments. These banks are also regulated by the RBI after amendment to the Banking Regulation Act 1949. The licensing of Cooperative banks and opening up of their branches are governed by the Reserve bank of India. The co-operative banks are basically small-sized units which cater to the demand of both urban as well as non-urban centers.

a) Primary Cooperative Credit Society

b) Central Cooperative Banks

c) State Cooperative Banks

d) Land Development Banks

e) Urban Cooperative Banks

The main features of these different types of cooperative banks have been briefly discussed below:

a) Primary Cooperative Credit Society

Under this form of structure, Co-operative bank is an association of borrowers and non-borrowers residing in a particular area or region/locality. The capital base of the society is constituted by the share capital, deposits of member and loans from Central
cooperative banks. The extent of borrowing which the member as well as the society can avail is fixed by the society. The purposes for which loans are given to the members include purchase of cattle and fodder, agricultural products such as fertilizers, pesticides, etc.

b) Central Cooperative Banks

Under this type of structure, federations of primary credit societies in a district constitute the cooperative bank. The federation can be constituted using membership of primary societies only or having both memberships of societies as well as individuals. The fund of the bank comprises of share capital, deposits from state cooperative banks, loans and overdrafts from state cooperative banks and also joint stocks. These banks also conduct business of a joint stock bank. The beneficiary of these banks include member societies which qualify the limits of borrowing capacity of societies.

c) State Cooperative Banks

These are formed through the federation of Central Co-operative banks. The funds in these banks are contributed through the share capital, deposits, loans and overdrafts from the Reserve Bank of India. The money deposited in these banks is lent to Central Co-operative banks and primary societies. They do not lend money directly to farmers.

3.6. Basel Norms: Meaning and Impact on Banking Sector in India

The concept and relevance of Basel norms can be understood from the fact that loans (referred to as Assets) given by banks are subject to uncertainty so far their recovery is concerned, whereas the liabilities of the banks which are in the form of deposits, are certain. In other words, the deposits made by customers need to be refunded and repaid at the time desired by the depositor, but the money lent by the banks are subject to different risk ranging from the feasibility of the project and profitability of the business, along with the willingness/character of the party who sought financing from the bank. It is also possible that full amount of recovery may not be done or timely recovery of payment is not done. In all such situations, the banks are required to strengthen so that they meet the requirement of their depositors as and when demanded by them. The crux of the above facts would become clearer from the following example:
Consider a bank having deposits of Rs 100 and all the funds accepted as deposits have been advanced as loan i.e. loans are also Rs 100. Bank is paying 7% per annum to its depositors and charging 12% p.a. from the loans financed by it.

The profit/income of the bank would be \((12\%-7\%) = 5\% \) of Rs 100 = Rs 5. So long there is no default or shrinkage in the value of loan, the banks are safe and would continue to earn the income through the spreads of interest on deposits and loan. But, if the loans of the banks starts turning into non performing, say by Rs 3, the bank would fail to meet the demand of the depositors by so much of amount. Therefore, to prevent itself from such erosion in the value of loan which subject to various kind of risk, the banks are required to keep cushion in form of its capital. If the banks have capital of Rs 5 then they are able to meet erosion upto Rs 5 in their loans. In case the erosion in loan/assets goes beyond the available capital, the bank would become insolvent or bankrupt. Keeping in view this aspect of functioning of bank, Basel norms have specified different type of capitals under its various guidelines from time to time to strengthen the financial health of banks and the entire economic system, namely:

- Tier I capital
- Tier II capital
- Regulatory capital
- Capital conversion buffered.

One of the most important developments which needs to be discussed is the implementation of BASEL norms. BASEL norms are the guidelines issued by a committee of Bank for International Settlement. Since 1988, this committee has issued norms at three occasions and therefore they are termed as BASEL 1, BASEL II and BASEL III norms.

The main focus of these guidelines, with regard to functioning of banks, across the world has been on following aspects:

i. Minimum capital requirement or capital adequacy norms
ii. Supervision techniques for monitoring capital standards norms
iii. Market discipline by strengthening disclosure requirements for banks.
These three norms are also referred to as three pillars of BASEL norms.

In India, the supervisory role is played by Reserve Bank of India, which specifies the norms and issues guidelines regarding minimum capital requirement in the light of BASEL norms of BIS. The first sets of BASEL norms were prepared in 1988 but they became effective in 1992. The gradual integration of economy across the world necessitated the issuance of BASEL guidelines since all the banks irrespective of their country are involved in support business transactions of export and import, their financial soundness was considered utmost important. The justification behind BASEL norms and its uniform applicability all over the world could be understood from the fact that in an integrated economy, all the banks would be available for corporate to raise loan therefore all the banks should set aside same level of capital and comply with same norms. It was felt while framing the guidelines that in case of any serious downturn in any major economy of the world, the spillover risk shall not be borne by banks and they should be strong enough to meet any kind of such shock. The main features of BASEL I norms are summarized below:

3.6.1. Main Features of BASEL I Norms

- To ensure that international banks conduct or increase business volume provided they have enough capital commensurate with the same.
- The credit risk measurement technique was specified for evaluating capital adequacy.
- At least eight percent of minimum capital in relation to risk weighted assets shall be maintained by all banks.
- Specific risk weights for different categories of assets were developed and made applicable to be followed by banks.
- The norms became effective at the end of year 1992.

Under, BASEL I norms, the banks were directed to maintain minimum capital of eight percent of their assets. Since Peter Cooke was the chairman of BASEL committee at that time, this ratio is also called ‘Cooke ratio’ and it is denoted as

\[
\text{Cooke ratio or Capital Adequacy ratio} = \left[ \frac{\text{Minimum Capital}}{\text{Risk Weighted Assets}} \right] \times 100
\]
As we know, the deposits accepted by banks are referred to as ‘Liabilities’ and loans and advances given by bank are called ‘Assets’. However, all the loans and advances sanctioned by banks do not carry same level of risk as envisaged under BASEL norms. Different loans or assets of banks are subject to different level of risk, and therefore; according weights are accordingly assigned to them which are finally used for calculating risk weighted assets. For example, cash held with banks are assigned zero percent risk whereas commercial loans has been assigned risk of 100% and housing loan (upto Rs 30 lakhs) carries risk weight of 50%. The guidelines are designed to prevent or discourage banks in taking excessive risk while financing, and therefore, the banks engaged in financing high risk areas are required to maintain high capital whereas banks holding loan portfolio of lesser risk are be required to have lesser capital requirement as can be observed from the table 3.2

Consider Bank A and Bank B with following loan portfolios:

**Bank A: Loan Portfolio of Rs. 300,00,000**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Asset/Loan Advanced</th>
<th>Amount (in Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cash</td>
<td>5000000</td>
</tr>
<tr>
<td>2</td>
<td>Commercial Loan</td>
<td>3000000</td>
</tr>
<tr>
<td>3</td>
<td>Retail Loan</td>
<td>6000000</td>
</tr>
<tr>
<td>4</td>
<td>Education Loan</td>
<td>2000000</td>
</tr>
<tr>
<td>5</td>
<td>House Loan (upto Rs 30 lakhs)</td>
<td>6000000</td>
</tr>
<tr>
<td>6</td>
<td>Balance with other banks</td>
<td>3000000</td>
</tr>
<tr>
<td>7</td>
<td>Commercial Real estate</td>
<td>4000000</td>
</tr>
<tr>
<td>8</td>
<td>Personal loan/credit card</td>
<td>1000000</td>
</tr>
</tbody>
</table>

The minimum capital requirement under BASEL norms for the bank has been calculated in table 3.3 after assigning risk weights to various loans/assets of the banks.
Table 3.3: Risk Weights to Various Loans/Assets of the Banks

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Asset / Loan Advanced</th>
<th>Amount (in Rs.)</th>
<th>Risk weights</th>
<th>Risk weighed assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cash</td>
<td>5000000</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Commercial Loan</td>
<td>3000000</td>
<td>100%</td>
<td>3000000</td>
</tr>
<tr>
<td>3</td>
<td>Retail Loan</td>
<td>6000000</td>
<td>75%</td>
<td>4500000</td>
</tr>
<tr>
<td>4</td>
<td>Education Loan</td>
<td>2000000</td>
<td>100%</td>
<td>2000000</td>
</tr>
<tr>
<td>5</td>
<td>House Loan (upto Rs 30 lakhs)</td>
<td>6000000</td>
<td>50%</td>
<td>3000000</td>
</tr>
<tr>
<td>6</td>
<td>Balance with other banks</td>
<td>3000000</td>
<td>20%</td>
<td>600000</td>
</tr>
<tr>
<td>7</td>
<td>Commercial Real estate</td>
<td>4000000</td>
<td>150%</td>
<td>6000000</td>
</tr>
<tr>
<td>8</td>
<td>Personal loan/credit card</td>
<td>1000000</td>
<td>125%</td>
<td>1250000</td>
</tr>
</tbody>
</table>

Minimum capital required = 8% of Risk Weighted Assets
Minimum capital required = 8% x Rs 20,35,0000 = Rs 16, 28,000

Bank B: Loan Portfolio of Rs. 300, 00,000

Table 3.4: Loan Portfolio (Bank B)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Assets/ Loan advanced</th>
<th>Amount (in Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cash</td>
<td>5000000</td>
</tr>
<tr>
<td>2</td>
<td>Commercial Loan</td>
<td>2000000</td>
</tr>
<tr>
<td>3</td>
<td>Retail Loan</td>
<td>3000000</td>
</tr>
<tr>
<td>4</td>
<td>Education Loan</td>
<td>2000000</td>
</tr>
<tr>
<td>5</td>
<td>House Loan (upto Rs 30 lakhs)</td>
<td>8000000</td>
</tr>
<tr>
<td>6</td>
<td>Balance with other banks</td>
<td>5000000</td>
</tr>
<tr>
<td>7</td>
<td>Commercial Real estate</td>
<td>2000000</td>
</tr>
<tr>
<td>8</td>
<td>Personal loan/credit card</td>
<td>3000000</td>
</tr>
</tbody>
</table>

The minimum capital requirement under BASEL norms for the bank has been calculated in table 3.5 after assigning risk weights to various loans/assets of the banks.
Table 3.5: Risk Weights to Various Loans/Assets of the Banks

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Assets/ Loan Advanced</th>
<th>Amount (in Rs.)</th>
<th>Risk Weights</th>
<th>Risk Weighed Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cash</td>
<td>5000000</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Commercial Loan</td>
<td>2000000</td>
<td>100%</td>
<td>2000000</td>
</tr>
<tr>
<td>3</td>
<td>Retail Loan</td>
<td>3000000</td>
<td>75%</td>
<td>2250000</td>
</tr>
<tr>
<td>4</td>
<td>Education Loan</td>
<td>2000000</td>
<td>100%</td>
<td>2000000</td>
</tr>
<tr>
<td>5</td>
<td>House Loan (upto Rs 30 lakhs)</td>
<td>8000000</td>
<td>50%</td>
<td>4000000</td>
</tr>
<tr>
<td>6</td>
<td>Balance with other banks</td>
<td>5000000</td>
<td>20%</td>
<td>1000000</td>
</tr>
<tr>
<td>7</td>
<td>Commercial Real estate</td>
<td>2000000</td>
<td>150%</td>
<td>3000000</td>
</tr>
<tr>
<td>8</td>
<td>Personal loan/credit card</td>
<td>3000000</td>
<td>125%</td>
<td>3750000</td>
</tr>
</tbody>
</table>

Minimum capital required = 8% of Risk weighted assets
Minimum capital required = 8% x Rs 18,00,000 = Rs 14,40,000

It can be observed from the above calculations that in both the banks, the total size of loan portfolio is the same i.e. Rs 300,00,000 but the minimum capital requirement as specified under Basel Norms 1 , i.e. capital adequacy for the banks is more in case of Bank A than in Bank B. This is due to the fact that the loans of the bank A are more towards those areas where risk is more and therefore when multiplied with the assigned risk weights, the total size of risk weighted assets has increased. It is owing to this reason that Bank is required to keep higher amount of capital as minimum capital required.

From the above example, one can observe that Basel norms aim to discourage banks from taking excessive risk while extending finance for different purposes. The banks are also required to be safe against any shock in economy and the protection of creditors is also taken into consideration. The banks generate their income through spreads available on the rate of deposits made with the bank by its customers and the rate at
which the banks lend their funds to the customers for various purposes. Since the rate of interest on the funds given for purpose such as retail loan, commercial real estate loan, etc. are higher than other alternatives of financing; the banks are tempted to lend more towards such activities besides the certain specific activities directed by Reserve Bank of India. According to one of the report published in Indian express dated January 3, 2015, the exposure in real estate sector of various commercial banks in India increased by over 90% during the period 2009 to 2014. This report clearly demonstrate the interest of banks towards making higher profits ignoring the concern of rising non performing assets on such accounts. Reserve Bank of India takes cognizance of these facts and issues directives from time to time to curb excessive risk lending by banks. In March, 2015, Reserve Bank of India issued circular stating that the total bank lending in any corporate or individual company shall not exceed 25% of its capital. Earlier, this limit was fixed at 55%. This implies that if any corporate house has total capital of Rs 10 crores, then it can have loan facility to the extent of only 2.5 crores from banks. This has been done in cognizance of the fact that many big corporate houses are overleveraged and are prone to risk. Any financial problem with such corporate houses may turn out the loans granted by banks into non performing assets. In the above example, various risk weights have been used to explain the essence of capital requirement towards more risky loan portfolio. However, in case of Basel I norms following broad categories of risk weights were specified:

i. In case of deposits in the form of cash or government securities – 0%
ii. In case of deposits with other banks – 20%
iii. In case of Loans secured fully by residential properties – 50%
iv. In case of Corporate/retail loans – 100%

Though the BASEL I norms was a good attempt on the part of the Bank for International Settlement to sensitize the entire banking system with regard to minimum capital to be held in proportion to the amount of risk they are undertaking while granting loans in different segment. However, these limitations have been enumerated below:
3.6.2. Major Limitations of BASEL I Norms

- The norms specified under BASEL I does not provide a uniform measure for quantifying credit risk. A bank prone to high risk in Organisation for Economic Cooperation and Development Country requires less regulatory capital in comparison to other less risky banks in other parts.

- The concept of risk measurement on mortgages does not given any differential approach to variety of assets constituted under mortgage asset portfolio. For example, a bank has mortgaged assets worth Rs 10 crores in which only one asset is lying would be required to maintain same level of regulatory capital if other bank has same level of mortgaged loan constituted of variety of assets. This implies that the norm does not recognize or incentivize the banks to diversify their portfolios.

- Under these norms, the banks were not required to maintain any kind of regulatory capital which prevents banks from shocks in the financial system due to unexpected losses.

- The system only focuses on the credit risk of the banks and does not taken into consideration the operating risk and market risk while suggesting capital requirement of banks.

- The disclosure requirements for banks with regard to their transactions in derivative market, securitization of assets, off the balance sheets, etc have not been specified under these norms.

In the light of above shortcomings, Basel committee on Banking supervision came out with new standards in January 2001 which are commonly referred to as Basel norm II. Basel II norms are being viewed as significant improvement over Basel I norms as it aims to focus on the following issues:

3.6.3. Main Focus of BASEL II Norms

- Providing greater flexibility to banks in managing their minimum capital requirements. Banks were accorded discretion to hold minimum capital in reserves based on the risk exposure.
The main focus was on sensitizing the banks towards risk management techniques.

The risk was categorized based on various micro and macro factors relating to the economy, banks and the customer seeking loan facility.

The disclosure and financial reporting requirement for the banks were strengthened so that the market participants can easily assess the functioning and stability of the banks.

To enhance the reliability of banks in the international financial system.

Basel II norms is based on three pillars as shown in figure 3.2

![Figure 3.2: Three Pillars of Basel II Norms](image)

In contrast to BASEL I norms where only credit risk is taken into consideration while assigning risk weights to the assets, BASEL II norms focus on three types of risk, namely:

- Credit risk
- Market risk
- Operational risk
Credit risk refers to the risk of non payment of interest or principle money at stipulated time by the borrower. Besides, disrupting the cash inflows of the bank, it may also add to the collection cost of banks. The credit risk is measured using following methods.

- Standardized approach
- Foundation internal rating based approach
- Advance rating based approach

Banks can either use standardized approach recommended by supervisory authority or it can have its own Internal rating based approach for measurement of credit risk subject to fulfillment of certain specified conditions. Infact, it is noticeable that in 1990s, the use of advance technology enabled banks to develop their own capital model and to assess capital requirement after incorporating risk in their loan portfolio. This model helped the banks in precisely establishing the capital required. In certain issues of loan where banks have probability of getting higher interest rate, but at the same time, the chances of default are more, such cases automatically get excluded. The internal model also enables banks to differentiate risk for different assets in the same category and accordingly estimate the capital requirement, whereas, such provision was absent in the case of BASEL norms. According to one study, all commercial loans under BASEL Norms were placed in 8% category, whereas, according to internal model developed by banks, the risk in this category can be in the range of 1% to 30%. Thus internal model developed by banks gives more precise and accurate estimation of capital as compared to BASEL I norms.

The models considered a variety of factors while valuing the risk and consider tradeoff between risk and profitability for all loans under consideration of banks. Even after implementation of BASEL I norms, the internal models were in use by banks for examining regulatory capital arbitrage. Banks assess required capital charge on loan using internal models and if it is found to be less than 8% as required under BASEL norms, banks enter into regulatory capital arbitrage using the process of securitization, which has been explained later in this chapter.

### Comparative Analysis of Standardized approach and internal rating based approach
In terms of complexity, the standardized approach is rated low, whereas, foundation internal rating based approach and advance rating based approach have been rated as medium and high respectively.

In terms of accuracy, the standardized approach is rated low, whereas, foundation internal rating based approach and advance rating based approach have been rated as medium and high respectively.

In terms of capital charge, the standardized approach is rated high, whereas, foundation internal rating based approach and advance rating based approach have been rated as medium and low respectively.

Under standardized approach, the use of external credit rating agencies are made whereas under internal rating based approach, the assessment is made with reference to – Exposure at Default (EAD), Loss at Default (LAD) and Probability of Default (POD). Their capital allocation is given below in table 3.6.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Particular</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Exposure at Default (EAD)</td>
<td>Amount of allocated capital if the borrower is on the verge of default</td>
</tr>
<tr>
<td>2</td>
<td>Loss at Default (LAD)</td>
<td>Estimates the exposure of bank if the borrower default</td>
</tr>
<tr>
<td>3</td>
<td>Probability of Default (PAD)</td>
<td>Estimates the amount of capital loss for different probabilities of default.</td>
</tr>
</tbody>
</table>

From the above points, one can observe that the approaches are clear indicator of trade off between liquidity and profitability. In order to protect itself from any immediate capital requirement, if the bank intends to preserve more capital i.e. high capital charge then it needs to follow the standardized approach advocated under Basel I norms. In case the bank intends to be slightly aggressive in its lending approach, then it can follow internal rating based approaches, but in that case, bank needs to comply with the following requirements:
Banks are required to seek prior approval of the supervisory authority i.e. Reserve Bank of India in India before applying technique of measuring credit risk using Internal rating based approach.

Banks must be equipped with proper hardware facility for maintaining database of its clients and products.

Bank must be in possession of at least five years of database of its clients.

The increase in labour cost due to adoption of IRB approach shall be assessed against the expected savings from the higher capital charge.

**Market risk** arises due to various changes in government policy, macro economic factors, such as beginning of recessionary trend in the economy, etc. It is measured using following methods.

- Standardized approach
- Internal models approach

Most of the banks makes use Value at Risk (VAR) method and/or Monto Carlo Simulation method for quantification of market risk. These methods have been briefly discussed below:

**Value at Risk Method**

Under this method, a bank can estimate the probable loss in its assets portfolio on occurrence of certain events at a certain level of confidence. This method is based on the assumption that historical data can be used for measuring future volatility in any variable. The data pertains to long period of time and it is assumed that the returns offered by any asset are normally distributed.

In order to make use of this method, banks need the following inputs:

- Evaluation of market interest rate and portfolio return on daily basis.
- Impact of currency risk on portfolio on regular basis.
- Historical data for atleast one year period.
Correlation between the asset value and various economic variables such as interest rate, currency fluctuation and other related variables.

VAR Limits

Level of Confidence for which VAR is to be observed.

Once the bank has record of mean returns and the standard deviation of the return using historical data, the bank can assess the possible erosion in the value of the asset due to the risk caused by any variable. In fact, the same technique is used for conducting stress test of banks in various developed countries. In case the economy is expected to undergo the recessionary trend, the possible erosion in the value of assets is estimated. The potential or estimated fall in the value of assets enable banks to ascertain shortfall in their minimum capital required as needed under BASEL norms. In case the banks are satisfied with the requirement, it is said to pass the stress test, and, in case the capital is not found to be adequate under such expected situation, the banks are considered as failure. In the recent years, after the financial crisis when such test was conducted on the major banks in U.S., it was found that out of 29 banks; only 19 banks were able to pass the stress test. Thus, Stress test of banks enables the Government in assessing whether the banks can withstand any kind of shocks in the financial system or not. The cases where any shortfall of capital adequacy is observed on account of anticipated downturn in the economy, the banks are issued necessary directions to take corrective actions and prepare themselves for such stress in the economy. For example, a bank has current level of Rs 10,00,000 worth of risk weighted assets a minimum capital of Rs 80,000 (in accordance with Basel capital norms) and Rs 9,20,000 worth of deposits. Now, due to any downturn in economy, if the assets shrink by Rs 1,00,000, the bank would be able to meet requirement of depositors, but if the assets further shrink by Rs 1,00,000, the bank would not be able to meet the requirement of its depositors as its capital coupled with assets add to Rs 8,00,000 + Rs 80,000 = Rs 8,80,000. For this kind of situation, the bank should strengthen itself well in advance by recapitalizing it or reducing any unnecessary expenditure, putting a cap on the remuneration of its employees, etc.
Operating risk is a risk due to inherent problems associated with the company such as labour strike, shortage of material, etc. In case of Basel Norms II, all these risks are taken into consideration for development of risk weight to be assigned to loans granted by banks. It is measured using the following techniques:

- Basic Indicator approach
- Standardized approach
- Advance Measurement approach

The committee while proposing BASEL II norms realized the fact that operating risk measurement techniques widely vary from one area to other and it also varies in different situations. Therefore, it was advised that banks should have Operational risk Management system which should be reviewed timely. It should incorporate present and expected material changes in the environment.

So far as the compliance of Basel norms II in India is concerned, the effective dates are mentioned below:

- **i. Foreign bank having branches in India and those banks of India having branches in foreign countries are required to comply with Basel norms II by March 31, 2008.**
- **ii. In case of other banks, the period specified was March 31, 2009.**

Further, BASEL I norms did not mention anything about the supervision and disclosure requirements for banks. These issues were included in the BASEL II norms. Since BASEL norms mainly focus on capital adequacy requirements of the banks, in case of BASEL II norms, the standards set for capital adequacy is given by following ratio:

\[
\text{Minimum capital requirement} = \frac{\text{Capital}}{\text{Credit Risk} + \text{Market risk} + \text{Operating risk}} \times 100
\]

This ratio has to be **at least eight percent** to comply with BASEL II norms.
It has been observed that most of the banks use capital arbitrage so that high risk weighted assets get into the category of low risk weighted assets and the total minimum capital requirement gets reduced. This is done through the process of securitization of assets. Under the process of securitization of assets, the banks convert their mortgaged assets into securities which are then sold to investors. The securities are backed by mortgaged assets and therefore also called as ‘Asset based securities’ or ‘Collateral debt obligations’. The mechanics of this process could be understood from the following example:

Consider a bank with total available funds of Rs 50 crores for lending purposes. The bank receives loan application /proposal from reputed companies such as:

- Tata Motors Ltd.
- Reliance Industries Ltd.
- Infosys Ltd.
- Sun Pharmaceutical Ltd.

### Table 3.7: Loan Disbursed by Bank

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Company</th>
<th>Amount of Loan disbursed</th>
<th>Tenure of Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tata Motors Ltd.</td>
<td>10 crores</td>
<td>3 years</td>
</tr>
<tr>
<td>2</td>
<td>Reliance Industries Ltd.</td>
<td>12 crores</td>
<td>5 years</td>
</tr>
<tr>
<td>3</td>
<td>Infosys Ltd.</td>
<td>15 crores</td>
<td>8 years</td>
</tr>
<tr>
<td>4</td>
<td>Sun Pharmaceutical Ltd.</td>
<td>13 crores</td>
<td>10 years</td>
</tr>
</tbody>
</table>

In case the bank lends its entire money to all these applicant companies, its entire fund would be used and it will not have any cash for at least next three years lend. The bank would get income /cash inflows only in the form of interest on these loans which will be used for the routine operation of the bank. In such a situation, the bank need to have surplus cash so that in case it gets any opportunity of long term lending, it can do so. The bank would therefore design financial securities backed by these mortgage
assets and sells them to investors in the market. This will enable the bank to have large cash inflow with it against the securities offered to set of investors. The investors would also be assured that the securities are issued against assets on reputed companies therefore the risk of losing money is minimal. The interest would be paid to these investors through the cash inflows received by bank in the form of interest and repayment of principle from these reputed borrowers. Some of the investors may be wary of such securities issued against mortgaged assets because banks may dispose of these assets or may mix these assets with other assets. In order to address such issues, the banks create a separate company in the form of special purpose vehicle (SPV) to whom these mortgaged assets are transferred. The SPV then issues securities and before selling them to the investors, the securities are rated by credit rating agencies.

Once these securities are properly rated by credit rating agencies, the special purpose vehicle may not face significant problems in convincing the investors about the quality of securities and can easily sell them off. This results in removal of assets from the balance sheet of the banks and therefore also reduces the capital adequacy requirement of banks. Thus, most of the banks use this technique to ease their credit problem. Infact, the process is very much similar to factoring services. In case of factoring service, companies improve their liquidity situation by selling their bills to the factors at discounted price. The factors pay discounted value of bills to the companies in form of cash and later recover money from the debtors of the company through their own means. Though, securitization has become a popular method among banks to ease off their NPA problems, but it is a method which worsened the financial crisis when Collateral debt obligations and asset backed securities were sold to investor in U.S. by various Non Banking financing company after obtaining proper credit rating for them. The process of securitization has been diagrammatically shown below:
Realizing the danger to banks through shocks in financial system as witnessed during financial crisis in 2008, third set of Basel norms were introduced in the year 2010. The main focus of Basel norms III was primarily to protect the banks from the spillover effects of downturn in economy and to improve the ability of banks to withstand such type of financial shocks. Under Basel III norms, the concept of capital conversion buffer was advocated. The function of capital conversion buffer can be held at par with bags provided in car which save the driver and passenger in the event of an unforeseen accident. Similarly, capital conversion buffer would be able to save the banks in the event of any unforeseen risk. Banks have been directed to transfer part of their earnings every year as per the specified percentage and to maintain capital conversion buffer of 2.5% of their tier I capital. This capital would be over and above the minimum regulatory capital and this will be created during the period when there is no stress in the system.

The norms for capital adequacy specified by Reserve Bank of India in the light Basel norm III are summarized in table 3.8.
### Table 3.8: Norms for Capital Adequacy Specified by Reserve Bank of India

<table>
<thead>
<tr>
<th>Type of Capital</th>
<th>Percentage of Capital Specified by RBI</th>
<th>Percentage of Capital Specified under Basel Norms III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum capital requirement</td>
<td>5.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Tier I (market risk + credit risk + operating risk)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Conversion buffer</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Sum of Tier I and CCB</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Additional Tier I capital</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Sum of Minimum capital requirement + Additional Tier I capital</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Tier 2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sum of Minimum capital requirement + additional tier I capital + Tier 2</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Minimum total capital ratio + Capital conversion buffer</td>
<td>11.5</td>
<td>10.5</td>
</tr>
</tbody>
</table>

According to Reserve Bank of India, the process of creating capital conversion buffer will start from January, 2016. Banks will be required to create reserve of 0.625% of risk weighted assets in January, 2016. It would be increased by the same proportion every year; therefore, it will become 1.25% in the year 2017 and will reach to a level of 1.875% in 2018 and 2.5% of risk weighted assets in 2019. Further, the main components of Tier I capital or core capital includes Paid up capital, Reserves and surplus and the main components of Tier II capital which is also referred to as supplementary capital includes reserves due to revaluation of assets, certain undisclosed reserves, certain specific reserves created by banks for meeting any contingent liability, etc. The capital conversion buffer will be constituted when there is no stress in the system and the banks are undergoing profitable environment. The main sources of capital for the capital conversion buffer will be:

- Reduction in Dividend payments and transferring of profits towards capital buffer.
- Reduction of bonus to staff.
- Raising funds from private sector after consulting with the supervising authority.
The higher capital of the bank denotes the higher interest of shareholders rather than creditors and reflects the larger interest of shareholders for better and smooth functioning of banks. In the event of stress, if the bank makes use of this buffer capital and it gets depleted, the banks would be required to again build the buffer through abovementioned techniques.

The advancement of technology has considerably helped banks in compliance of BASEL norms. Various mid sized information technology develops data using inputs from the bank and other related sources which helps in following areas:

- Identification of risk
- Quantification of risk
- Diversification/Minimisation of risk

The information technology companies develops softwares according to the specific requirements of the banks which helps the banks in

- Complying with three main requirements of the BASEL II norms.
- Examining and analyzing the client position on real time basis.
- Examining and analyzing the bank position vis-à-vis macro economic environment.