CHAPTER 6

SUMMARY AND POLICY IMPLICATIONS

Since the initiation of Financial Sector Reforms in 1991, emphasis had been laid on Deregulation of Interest Rates. The Scheduled Commercial Banks, even if they got a rate cut from RBI, rarely passed on that rate to their customers and would seldom reduce the Lending Rate. Thus, the Net Interest Spreads or Margins, which depict the profitability and efficiency standards as per Basel Accords, at large, failed to reach the international efficiency benchmark standards.

The purpose of this research was to illucidate the main determinants of the Net Interest Spreads or Margins of the Scheduled Commercial Banks in India during the period 1991 to 2011. Also, an attempt was made to delineate the Risk Hedging Instruments which Banks could adopt due to volatile interest rates, and hence, the impact on Net Interest Spreads.

RBI, in case of variations in the Money Supply parameters, often resorts to an interest rate cut or an increase, depending on the subsequent Inflation Targeting (CPI Inflation Targeting). Accordingly, changes are incurred in the benchmark Interest Rates, and this in turn impacts the Net Interest Spreads of banks, which must be maintained as per the international standards of efficiency and profitability.

In order to meet the requisite NIS target levels, banks can hedge their critical Financial Risks, that is Credit Rate Risk, Liquidity Risk, Interest Rate Risk and Foreign Exchange Risk. Hence, by using a combination of several Risk Management Instruments, banks can hedge the risk pertaining to the volatility of their profitability and efficiency margins as created in the short-run by the frequent changes in the Reserve Bank of India’s Monetary Policy Announcements. Thus, with the identification of the determinants of Net Interest Margins of Scheduled Commercial Banks and the illucidation of the Risk Hedging Mechanisms pertaining to risk, banks can effectively enhance their profitability levels whilst taking into consideration the international efficiency benchmarks.
6.1 Summary

A summary of the Determinants, and other interest rates’ attributes affecting Net Interest Spreads, together with the Risk Hedging Management are summarized as follows:

6.1.1 Other Interest Rates affecting Net Interest Spreads

6.1.2 Determinants of Net Interest Spreads of SCBs

6.1.3 Risk Hedging Instruments for curtailing the volatility in Net Interest Spreads

6.1.1 Other Interest Rates affecting the Net Interest Spreads

- The most significant and far reaching impact of banking liberalization in India has been the deregulation of interest rates gradually, thus imparting more flexibility and encouraging competition in the monetary system. The banks can charge rates according to their cost of operation, and to reflect the creditworthiness of different borrowers, banks can even vary nominal rates offered on deposits in line with changes in inflation to maintain real returns.

- Amongst the different categories of Interest Rates, namely, SLR, CRR, Base Rate, Prime Lending Rate, Repo Rate, Reverse Repo Rate and Marginal Standing Facility, affect the Deposit and Lending Rates in the country.

- Cash Reserve Ratio (CRR) depicts a specific amount of the Total Demand and Time Liabilities of the banks which has to be deposited in the form of Cash with the RBI. CRR was between 4 and 14 percent of the banks net demand and time liabilities (under-section 42(I)) of the RBI Act in the Post-Reform Period (1991 to 2011). To reflect the stance of Monetary Policy, CRR was reduced to 14.50 in 1993-94 and later to 14 percent in 1993-94. However, to mop up excess liquidity and control inflation, CRR was again raised to 14.50 in June 1994. For 1994-96, CRR was marginally adjusted to regulate the disinflationary pressures. From 1996 to 2000, the reduction in CRR (13.50 percent to 8.50 percent) was planned so as to augment the loanable resources of banks. To modulate credit availability, as a part of rationalization of the rate, CRR was reduced sharply from 7.5 to 5 per cent during 2001 to
Over the years 2002 to 2006, with stable growth rates of national income, the CRR rate was at 5 percent as per the stance of monetary policy. However, CRR was raised from 5.25 percent (2006) to 9 percent (2008) to control the inflationary situation in the economy. Again, during 2008-09, in order to deal with the aftermath of the global financial crisis, the rate was sharply reduced at a time from 9 to 6.5 per cent and further to 6 percent in 2010. However, there were frequent variations in the ratio, most often, many times during a single financial year. A reduction in the Cash Reserve Ratio entitles a positive impact on the Net Interest Spreads.

- Statutory Liquidity Ratio signifies the SCBs to deposit a certain portion of their Total Demand and Time Liabilities in the form of gold, cash or other approved securities (Liquid Assets) with the RBI. SLR was between 23 percent to 38.5 percent of Net Demand and Time Liabilities from 1991 to 2011. According to the Banking Regulation Act 1949, since March 16, 1949, every bank had to keep 20 percent of its total net demand and time liabilities (NDTL) as liquid assets. SLR went up to 38.50 percent in 1990. For the next two years, there was no significant change in the value of SLR, but it started to decline in 1993 (38.25 percent). It further came down to 25 percent in 1997 according to Narasimham Committee Recommendation (1991) and remained constant for ten years from 1997 to 2007 (Narasimham Committee Recommendation 1998). Thereafter, it was further reduced by 1 percentage point and was 24 percent in 2008. Statutory Liquidity Ratio was reduced to increase liquidity of the banks due to the Global Financial Crisis (2008). But, it was raised to 25 percent in 2009 in order to combat inflation, but was again reduced to 24 percent in 2010 to create liquidity for banks. A reduction in the Statutory Liquidity Ratio positively impacts the Net Interest Spreads.

- Repo Rate is the rate at which SCB’s borrow short-term money from the RBI against Securities. The Rate was in the range of 4.75 to 9 percent in the Post-Reform Period. A reduction in the rate indicates a positive impact on the Net Interest Spreads. Day-to-day changes were witnessed in the stipulated period from the year 2001 onwards. Repo Rate was between 8 to 9 percent in the year 2001. The Repo Rate started declining 2002 onwards from 8 percent to 7.5
percent in the same year as a part of the Liquidity Adjustment Facility of the Monetary Policy. The Repo Rate was reduced frequently since then to control the economic slowdown. However, in 2004-05, there was no change in the Repo Rate and it was increased to 6.75 and further to 7 per cent in June and July, 2006, just because there was no bid for repo in those months. The Repo Rate continued to vary throughout the years (1991 to 2011) and on July 27, 2010 it was increased to 5.75 per cent as a measure to curtail inflation, thus playing an active role in the LAF corridor along with other monetary tools. The Repo Rate was further raised to 8.50 percent on October 25, 2011 for controlling inflation.

- **Reverse Repo Rate** elucidates the rate at which banks park their surplus funds or excess liquidity with the RBI. Reverse Repo Rate is always lower than the Repo Rate. Banks use this tool when they are stuck with excess funds and are unable to invest anywhere with reasonable returns. Reverse Repo Rate was between 3.25 to 7.25 percent in the Post-Reform Period. The changes in the Reverse Repo Rate were witnessed 2001 onwards. As a part of LAF of monetary policy stance, the Reverse Repo Rate has been changed continuously and frequently, sometimes to deal with liquidity management and sometimes as an aftermath of deceleration in growth and economic slowdown. The Reverse Repo Rate was between 6.75 percent to 5.50 percent in 2001-02. It ranged between 4.75 percent to 6 percent in 2002-06 depending upon the liquidity position in the economy. During the Global Financial Crisis phase (2008), the Reverse Repo Rate was at 5 percent. It reduced to 3.25 percent on April 21, 2009 to deal with the liquidity position and the depleting foreign exchange reserves. It was further raised to 7.50 percent on October 25, 2011 to regulate the liquidity position in the economy and to match the Repo Rate movements. Reverse Repo Rate was linked to Repo Rate and was decided to be 100 bps below the Repo Rate from May 3, 2011. Higher the Reverse-Repo Rate, the greater is the positive impact it has on Net Interest Spread.

- **Bank Rate** depicts the rate at which RBI lends money to Commercial Banks for short-term purposes. The Bank Rate was between 6 percent to 12 percent
during 1991 to 2011. Bank Rate was 12 percent over the years 1992-97. It was reduced on April 16, 1997 to 11 percent and by October 22, it came down to 9 percent. In the next year, i.e., in 1998, it was raised sharply to 11 percent to control Broad Money Expansion (7,520.28 billion rupees in 1997 to 9012.94 billion rupees in 1998). Bank Rate was raised to reflect the stance of monetary policy, being a signal rate. From 1998 onwards, the Bank Rate was steadily brought down except in the year 2000. This was mainly to reduce liquidity support to banks. In 2000, it was slightly increased by one per cent, but again decreased after six months. This was to align the Bank Rate and coordinate it with international developments. Since April 29, 2003, it was kept constant at 6 per cent. A reduction in the rate has a positive impact on the Net Interest Spreads.

- Marginal Standing Facility Rate enables the commercial banks to borrow from the central bank against their securities in the event of complete erosion of their liquidity position. Banks can even borrow from the RBI against their securities on a lower rate (Repo Rate, labeled under Liquidity Adjustment Facility). The difference between the two rates is based upon the liquidity situation, which a bank faces at any given time. The Marginal Standing Facility Rate was between 8.25 to 9.50 percent in the Post-Reform Period (1991 to 2011). Higher the Marginal Standing Facility Rate, lower are the Net Interest Spreads for the banks.

- Base Rate, w.e.f. July 2010, is the minimum rate as quoted by Scheduled Commercial Banks (SCBs) to RBI below which they cannot lend. Base Rate is revised once every quarter by the banks. Different banks have different Base Rates.

- Call Money Market depicts the rate at which interbank borrowing and lending happens on an overnight basis; Notice Money Market is interbank borrowing and lending for 2 days to 14 days; Term Money market is interbank borrowing and lending for 15 days to one year. Higher the Call Money Market Rate, lower are the Net Interest Spreads for the Banks.
In summation, Cash Reserve Ratio and Statutory Liquidity Ratio of the banks declined during the period 1991 to 2011. There were more funds at banks’ disposal to lend out to investors. Overall, it may be said that it was mostly an Expansionary Monetary Policy that was existent during the Post-Reform Period. The lending rates declined gradually during 1991 to 2011. The savings rate on deposits were in the range of 3.5 to 6 percent in the aforesaid period. The Repo Rate and the Reverse Repo Rate moved in tandem with each other. The Bank Rate or the rate on short term funds of the banks initially fell down (1991 to 2003) and then were constant at 6 percent 2003 onwards. The Net Interest Margins of the banks moved in tandem with the Inflation Rate (Considering Average CPI Inflation Rates). The more the inflation, the less deposits bank have and they have to encourage CASA deposits. So, more bank schemes were launched for higher NIMs. The average NIM for all the Scheduled Commercial banks for the Post- Reform Period was 2.92 percent. Broad Money Supply (M3) also increased during the years 1991 to 2011. Monetary Deepening (as measured by the ratio of average M3 to GDP) registered a rise from 42.6 per cent in 1990-91 to 78.4 per cent in 2010-11. The interest rates (Lending-Deposit Rates Gap) representing NIMs were observed to decline during 1991 to 2011 thus emphasizing an Expansionary Monetary Policy. Average Lending Rate, varied between 10.375 to 19 percent during the Post-Reform Period. The rates were as high as 19 percent in 1991-92 as the liberalization process in banking was just initiated. Further, the rates were reduced marginally due to the banking sector reforms but were comparatively still high (15 percent in 1994-95). However, the deceleration (8.87 percent) in Average Lending Rates was prominent in 2010-11, and this was the result of an Expansionary Monetary Policy stance. As the banks move closer to reach the targets of Basel Accord III, a limit-based NIM range and effective diversification policies are imperative for an efficient banking system.

6.1.2 Determinants of Net Interest Spreads of SCBs

Based on the NIM taken for 49 banks which included 25 Public Sector Banks, 12 Private Sector Banks and 12 Foreign Banks, a balanced panel was formed for the period 1991 to 2011. The banks represented 90 percent of the banking for the period 1991-2011. The following pattern of Determinants, upon the application of Panel Data using Fixed Effects, was observed from 1991 to 2011.
• Regarding Bank Size, larger banks can operate with lower margins through scale efficiencies achieved. Larger the Bank Size, lower the Net Interest Spread and vice-versa.

• High Non Performing Assets put pressure on the banks to increase the Net Interest Margins.

• Greater the diversification banks achieve through fee-based activities, the more the banks can tolerate lower Net Interest Spread.

• The shortfall of lending to Priority Sector is parked in Rural Infrastructure Fund of NABARD and with this particular scheme of lending, Priority Sector Advances can positively affect Net Interest Spreads. This is possible as Subsidy or Caps on Priority Sector Advances which have been majorly reduced.

• Higher Growth Rates increase the Loan Demand and subsequently lead to higher Lending Rates and increased Margins.

• Increased level of Capital Stability increases depositors’ confidence and also the availability of Low Cost Deposits for the bank.

• With increased Inflation (CPI-based), banks face a difficulty in deposit accumulation, and thus raise their deposit rate which eventually leads to lower Net Interest Margins.

• The above results are calculated based on individual bankwise data for 49 SCBs. The result trends can also be seen with groupwise data for SCBs. It was found that NIM was high in groupwise aggregate for SCBs for the years 1992(3.37%), 1995(3.26%), 1996(3.39%), 1997(3.4%), 2001(3.06%), 2004(3.08%), 2005(3.08%) and 2006 (3.04%). On comparison with this, the aggregate trend was seen for NPA, CRAR, Growth Rates in National Income, Inflation, Non Interest Income and Priority Sector Advances. The Net NPA to Total Assets Ratio reduced in the years 2001(2.3%), 2004(0.9%), 2005(0.7%) and 2006(0.6%), while NIM was high in these years. Also, CRAR was high in the
years 1996 (10.4%), 1997 (11.5%), 2001 (12%), 2004 (12.8%), 2005 (12.3%) and 2006 (12.4%), the same years when the NIM was also high. The Growth Rates in National Income were high in the same years when NIMs were high. The Growth Rates of National Income were 1992 (5.4%), 95 (7.3%), 96 (8%), 2004 (7.1%), 2005 (9.5%) and 2006 (9.6%) (the years when NIMs were above 3 percent). Inflation (Consumer Price–based Inflation) reduced in the year 1996 (8.949%) and 2004 (3.891%), 2005 (3.97%) and 2006 (6.268%). The NIMs of all SCBs (above 3 percent) were high in those years. Similarly, Priority Sector Advances to Total Assets were high in the years 1997 (30.05%), 2004 (32.03%), 2005 (32.2%) and 2006 (33.81%) for the aggregate Banks when the NIMs were also high. Non Interest Income were low in the years 1995 (1.37%), 1996 (1.6%), 2005 (1.59%), 2006 (1.38%) when the NIMs were high. Thus, Scheduled Commercial Banks observed higher Net Interest Spreads during the aforesaid years. If banks earn through diversification, they can tolerate lower NIMs and vice-versa.

To conclude, the various determinants of NIS viz., Non Performing Assets, Non Interest Income (Fee- based diversification) and Bank Size during the period 1991 to 2011, impacted it negatively. High Non Performing Assets put pressure on the banks to increase Net Interest Spreads. Also, the more the banks diversified through fee-based activities (Non Interest Income), the more the banks could tolerate lower spreads. Besides, larger banks could tolerate lower Net Interest Spreads through scale-efficiencies achieved. Moreover, high Inflation (CPI Price-based Inflation) also reduced the Net Interest Spreads as banks then had to raise the deposit rate to channelize deposit mobilization which reduced margins. While, the other determinants like more Priority Sector Advances, National Income Growth Rates and high Capital to Risk Weighted Assets Ratio, impacted NIS positively as per the actual statistics of the 49 Scheduled Commercial Banks during 1991 to 2011. As the subsidy or caps on Priority Sector Advances were reduced, it was profitable for the banks to lend to the Priority Sector. Also, with higher Growth Rates of
National Income, the increased Loan Demand created thereby increased the Net Interest Margins. Subsequently, high Capital to Risk Weighted Assets Ratio depicted increased Capital Stability and envisaged increased depositors’ confidence and availability of low cost deposits for the banks. Thus, the volatility in NIS due to uncertain economic conditions can be taken care of by way of its determinants.

6.1.3 Risk Hedging and Risk Management of Scheduled Commercial Banks

An attempt was made to analyse the Risk Management Strategies of the Scheduled Commercial Banks in terms of their Asset and Liability Sensitivities to changes in interest rates. Risk is defined as uncertainty of returns. There are two types of risks, Business Risks and Financial Risks. Business Risks include Strategic Risks, Technical Innovation Risks and Competition Risks. The study focuses on critical Financial Risk that can also be hedged which encompasses Interest Rate Risk, Credit Risk, Liquidity Risk and Foreign Exchange Risk primarily.

- Derivatives are products whose value is derived from an underlying asset. The underlying could be Currency, Equity, Debt (Treasury Bills etc) or even the NIFTY index. The Derivatives could be traded on the stock exchange or over-the-counter(OTC) i.e., directly between the parties. Derivatives help in mitigating price risk which arises due to uncertainty in the prices of assets.

- Various Risk Hedging Instruments and Strategies discussed consist of Forwards, Futures, Swaps, Over-the-counter Options etc.(I) Forwards are promises or guarantees to deliver an asset at a pre-determined date in the future at a predetermined price. Forwards are mainly popular in the case of currencies and interest rates.(II) A Futures contract is an agreement or an accord between two parties to buy or sell an asset at a certain time in future at a certain specific price. These are basically exchange traded contracts.(III) Options give the buyer (or holder) a right but not an obligation to purchase or sell an asset in the future. Options are of two types- Calls and Puts. (IV)Swaps
are private agreements or settlements between two parties to exchange cash flows in the future according to a prearranged specific formula. They mainly consist of Interest Rate Swaps and Currency Swaps.

- Interest Rate Cap allows the seller to pay the buyer the excess of the prevailing market index over a ‘Cap’ rate based on the agreed notional principal amount. A Floor is the exact opposite of a Cap. In this case, the Floor seller is instigated to pay the buyer an excess of the agreed minimum rate.

- If a bank is Asset-Sensitive and interest rates are predicted to fall, banks can increase the maturity structure of its Assets and lower the maturity structure of its liabilities. Similarly, if a Bank is Liability-Sensitive and interest rates are about to rise, banks can lengthen the maturity structure of its Liabilities and shorten the maturity structure of its Assets.

- Regarding the strategy using Yield Curve, The Normal Yield Curve is represented by a positively sloping curve where short-term securities have lower yields than long-term securities. Since, short-term rates are lower than long-term rates, banks can borrow short and lend long. But, this strategy eventually decreases Banks’ liquidity. The Inverse Yield Curve is represented by downward sloping curve where the return from short-term securities is higher than long-term securities. Banks then borrow long and lend short. When the interest rate structure in the economy is transitioning from an upward sloping curve to a downward sloping curve or vice-versa, then the yield curve becomes flat. There is thus no point for a bank to restructure its interest rate pattern of Assets and Liabilities and focus on profitability at this time, as the short-term rates and the long-term rates are at the same level.

- The quality and marketability of Assets and Liabilities depends on a bank’s ability to meet its obligations of payment to its customers and others after it is able to disburse loans and create assets. The inability to meet these obligations creates Liability Risk. The Assets and Liabilities are categorized into different time-buckets. The aim of Liquidity Management is to track cash-flow...
mismatches by the use of a Maturity Ladder and calculation of a cumulative deficit or surplus availability of funds. For each bucket, mismatches of Cash Inflows and Outflows is tracked. Though, mismatches of one year are relevant, but immediate attention is paid to mismatches of 1-14 days and 15-28 days.

- **Through Securitization**, a bank can hedge both, Liquidity Risk and Credit Risk. A bank can bundle or pool these illiquid assets together into a special purpose vehicle (SPV, e.g., a trust), divide them into standardized amounts and sell the claims of interest and principal payments as securities.

- **Credit Default Swaps (CDS)** act as a sort of insurance against a probable loss on an asset. Banks can hedge their risks by paying a premium to the seller of CDS and hedge itself against a probable credit loss on the Asset (Loan provided) by availing recovery of the loan from the seller of CDS in case of default by the corporate. If a probable loss on the asset (underlying, Listed Corporate Bond) is expected by the buyer of the CDS, the CDS seller will make payment for the same.

- **Collateralised Debt Obligations (CDOs)** are instruments where Scheduled Commercial Banks sell the loans e.g., loans on Automobiles, Credit Cards or Mortgages to Investment Banks. These Investment Banks repackage the Debt Obligations into different Tranches/Groups of Risk-Levels with respective Yield or Return with each Tranche depending upon the risk associated with each group of loan and further sell it to investors. The investors are usually large Pension Funds or Hedge Funds. The investors get the principal and interest on the Loans subsequently as and when they will be paid. The investors take the Mortgage, Automobiles, etc. as collateral. Therefore, these instruments are called Collateralised Debt Obligations.

- Based on the average Net Interest Spread taken for all Scheduled Commercial Banks, the **Confidence Interval** was calculated which was between the range of 2.76 to 3.08. If banks have Net Interest Margins exceeding 3.08 percent, then greater is their profitability. The banks have to be not only profitable, but
also efficient in their operations. The Citibank and the UTI Bank, for example, were observed to have decelerating NIMs in some specific years of the Post-Reform Period. Citibank, on the onset of the Global Financial Crisis (2007-08) and the UTI bank, just before it was rechristened as Axis bank (2006-07), suffered decreasing NIMs. However, many other banks at large, did not witness the same. Both the aforesaid banks recovered later due to effective hedging mechanisms henceforth.

- The Net Interest Spreads for an Asset-Sensitive Bank increased with the increase in short-term rates. Also, the Net Interest Spreads reduced when the interest rates increased for a Liability- Sensitive bank, versus when the rates were status quo.

- Spread decrease (the gap between the cost of liabilities and yield on assets) always reduced the Net Interest Spread whether for an Asset-Sensitive Bank or a Liability-Sensitive Bank. With the Proportionate doubling in size of all assets and liabilities, the Net Interest Spreads increased comparatively but not more than the status-quo position.

To conclude, the Financial Risks of Scheduled Commercial were controlled through effective hedging mechanisms. The banks mainly engaged in Interest Rate Derivatives, Equity Derivatives and other suitable Strategies depending whether they were Asset-Sensitive or Liability-Sensitive. They often increased the duration of the Assets or Liabilities if the interest rate movements were not in tandem with their risk exposure. The Private Sector Banks and the Foreign Banks were mainly engaged in active risk hedging. Through the above mentioned strategies, the unanticipated movements in the Net Interest Spreads in banks can thus be controlled/mitigated.

### 6.2 Policy Implications

Banks hedge their risks on the basis of them being Asset-Sensitive or Liability-Sensitive. The Asset-Liability Management Committee considers alternate strategies for adequate Risk Hedging. Based on them, decisions are further taken to hedge
Credit Risk by using Credit Default Swaps or Collaterised Debt Obligations, or Liquidity Risk and Credit Risk simultaneously using Securitization and Foreign Exchange Risk using Swaps, Forwards etc. The critical Financial Risks are subsequently all hedged.

- If a bank is Liability-Sensitive, i.e., when liabilities reprice faster than assets, in such a situation banks gain when interest rates fall. Liability-Sensitive Banks can save the Net Interest Income in a situation when interest rates rise in order to level out the Net Interest Income and hedge against interest rate risk by investing in Assets.

- If a bank is Asset-Sensitive, i.e., when assets reprice faster than liabilities, in such a situation banks gain when interest rates rise. Asset-Sensitive banks can save the Net Interest Income in a situation when interest rates fall in order to smoothen out the Net Interest Income and hedge against interest rate risk by investing in Liabilities.

- By incurring changes in interest rates and spreads, banks can modulate profits and losses by being either Asset-Sensitive or Liability-Sensitive. Banks can thus invest in Forwards, Futures, Swaps, and Collars subsequently to gain profitability.

- If a bank is Asset-Sensitive, and interest rates are falling, then it can lengthen the duration of its assets on its balance-sheet and shorten the duration of its liabilities. Also, in this case, banks can buy forwards or sell forwards depending upon the expectations regarding changes in interest rates (an increase or decrease) in the future as the situation warrants. The difference between a payer and receiver of the forward is that the payer gets a fixed rate of interest which he gets by paying premium and is thus called a Forward Rate Payer, while the Forward Rate Receiver banks on the benchmark rate after two to three months which can rise or fall more than the Fixed Rate Payer’s rate of interest. The difference between the two rates is earned subsequently by either of the two parties. If a bank expects the benchmark rate to fall further in the next three months, then the bank can be a receiver of
a forward. If bank expects the benchmark rate to rise in the next three months, banks can be a payer of a forward i.e., get a fixed rate of interest and cap on the difference with the other bank. Similarly, the Asset-Sensitive Bank can invest in Futures also. If the interest rates are falling and bank is an Asset-Sensitive Bank, then banks know that price value of Futures are going to rise. Banks can buy the Future. The bank can also swap its risk-sensitive assets for a fixed rate on assets by engaging in a Swap with another bank. Also, the Asset-Sensitive Bank can buy a floor interest rate and sell a cap interest rate and by this collar made, the bank can decide the maximum and minimum on its borrowings and thus hedge its risks accordingly.

- If a bank is Liability-Sensitive and it knows that interest rates are about to rise, then banks can lengthen the duration of its Liabilities and shorten the duration of its Assets on their balance-sheets. Moreover, the Liability-Sensitive bank can also invest in Interest Rate Forwards, Futures, Swaps and Collars.

- If the Liability-Sensitive Bank expects the interest rates to rise in the next three months, then the Liability-Sensitive bank can be a payer of an interest rate forward by buying an interest rate forward at a fixed rate and gaining on the difference amount from the other party. Also, the bank can sell a future because with rising interest rates, the bank expects the price of future value to fall. The bank can gain on the difference mark – to market on the future. The Liability-Sensitive Bank can also convert its risk-sensitive or floating rate liabilities into fixed rate liabilities by Plain-Vanilla Swap with another bank. The Liability-Sensitive Bank can also hedge in the case of rising interest rates by buying a Cap and selling a Floor on its borrowings. The bank can get a maximum and a minimum rate fixed on its borrowings.

In summation, although Net Interest Spreads of SCBs observed a positive trend during the years 1991 to 2011, the factors detrimental to NISs were high NPAs, lower Capital Stability, high inflation and ineffective hedging. Hence, interpretation of the expected trend in NIS through the changes in its
determinants, and by ascertaining whether a bank is Asset-Sensitive or Liability-Sensitive, banks can effectively hedge risk by using appropriate Hedging Strategies viz., Interest Rate Forwards, Futures, OTC Options, Collars etc. for Interest Rate Risk; Collaterised Debt Obligations, Credit Default Swaps for Credit Risk; Securitisation for Liquidity Risk and Credit Risk; and likewise use of derivatives for Foreign Exchange Risks, etc. Either, the bank can control the movements in the determinants of NIS, or adopt a suitable risk hedging strategy and the subsequent mitigating mechanism for the same. Hence, a policy comprising an interlinked approach pertaining to NIS determinants and Risk Hedging can go a long way in the Indian Commercial Banking System to achieve international benchmarks of efficiency and profitability.

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