MARKET RISK MANAGEMENT IN BANKING

Dr.Parshram Gangadhar Kandekar
Kandekar2000@yahoo.com

Abstract

This paper gives an idea about Market risk management and its implication on banking working. Market risk is the risk that values of assets and liabilities or revenues will be adversely affected by changes in market conditions such as market movements. This risk is inherent in the financial instruments associated with our operations and/or activities including loans, deposits, securities, short-term borrowings, long-term debt, trading account assets and liabilities, and derivatives. Market-sensitive assets and liabilities are generated through loans and deposits associated with our traditional banking business, our customer and proprietary trading operations, our ALM process, credit risk mitigation activities, and mortgage banking activities.

Our traditional banking loan and deposit products are non trading positions and are reported at amortized cost for assets or the amount owed for liabilities (historical cost). While the accounting rules require a historical cost view of traditional banking assets and liabilities, these positions are still subject to changes in economic value based on varying market conditions. Interest rate risk is the effect of changes in the economic value of our loans and deposits, as well as our other interest rate sensitive instruments, and is reflected in the levels of future income and expense produced by these positions versus levels that would be generated by current levels of interest rates. We seek to mitigate interest rate risk as part of the ALM process.

Keywords: Market Risk, Liquidity Risk, Interest Rate risk, Forex Risk, Country risk

Introduction

Market Risk may be defined as the possibility of loss to bank caused by the changes in the market variables. It is the risk that the value of on-/off-balance sheet positions will be adversely affected by movements in equity and interest rate markets, currency exchange rates and commodity prices. Market risk is the risk to the bank's earnings and capital due to changes in the market level of interest rates or prices of securities, foreign exchange and equities, as well as the volatilities, of those prices. Market Risk Management provides a comprehensive and dynamic frame work for measuring, monitoring and managing liquidity, interest rate, foreign exchange andequity as well as commodity price risk of a bank that needsto be closely integrated with the bank's business strategy.Scenario analysis and stress testing is yet another toolused to assess areas of potential problems in a given portfolio.Identification of future changes in economic conditionslike – economic/industry overturns, market riskevents, liquidity conditions etc that could haveunfavorable effect on bank's portfolio is a conditionprecedent for carrying out stress testing. As the underlyingassumption keep changing from time to time, outputof the test should be reviewed periodically as marketrisk management system should be responsive and sensitiveto the happenings in the market.

Liquidity Risk

A bank should establish a robust liquidity risk management framework that is well integrated into the bank-wide risk management process. A primary objective of the liquidity risk management framework should be to ensure with a high degree of confidence that the firm is in a position to both address its daily liquidity obligations and withstand a period of liquidity stress affecting both secured and unsecured funding, the source of which could be bank-specific or market-wide. In addition to maintaining sound liquidity risk governance and management practices, as discussed further below, a bank should hold an adequate liquidity cushion comprised of readily marketable assets to be in a position to survive such periods of liquidity stress. A bank should demonstrate that its liquidity cushion is commensurate with the complexity of its on- and off-balance sheet activities, the liquidity of its assets and liabilities, the extent of its funding mismatches and the diversity of its business mix and funding strategies. A bank should use appropriately conservative assumptions about the marketability of assets and its access to funding, both secured and unsecured, during periods of stress. Moreover, a bank should not allow competitive pressures to compromise the integrity of its liquidity risk management, control functions, limit systems and liquidity cushion.

Key Requirements of a Liquidity Risk Management Policy

The liquidity risk management policy must reflect the daily strategy and long-termliquidity plans, and have as its major components like

- The measurement of liquidity position.
- Monitoring liquidity.
- Contingency planning.

Interest Rate Risk

Interest Rate Risk is the potential negative impact on the Net Interest Income and it refers to the vulnerability of an institution's financial condition to the movement in interest rates. Changes in interest rate affect earnings, value of assets, liability off-balance sheet items and cashflow. Hence, the objective of interest rate risk management is to maintain earnings, improve the capability, ability to absorb potential loss and to ensure the adequacy of the compensation received for the risk taken and affect risk return trade-off. Management of interest raterisk aims at capturing the risks arising from the maturity and re-pricing mismatches and is measured both from the earnings and economic value perspective.

Banks faces four types of interest rate risk:

- **Basis risk**

The risk presented when yields on assets and costs on liabilities are based on different bases, such as the London Interbank Offered Rate (LIBOR) versus the U.S. prime rate. In some circumstances different bases will move at different rates or in different directions, which can cause erratic changes in revenues and expenses.

- **Yield curve risk**

The risk presented by differences between short-term and long-term interest rates. Short-term rates are normally lower than long-term rates, and banks earn profits by borrowing short-term

money (at lower rates) and investing in long-term assets (at higher rates). But the relationship between short-term and long-term rates can shift quickly and dramatically, which can cause erratic changes in revenues and expenses.

- **Re pricing risk**

The risk presented by assets and liabilities that reprice at different times and rates. For instance, a loan with a variable rate will generate more interest income when rates rise and less interest income when rates fall. If the loan is funded with fixed rated deposits, the bank's interest margin will fluctuate.

- **Option risk**

It is presented by optionality that is embedded in some assets and liabilities. For instance, mortgage loans present significant option risk due to prepayment speeds that change dramatically when interest rates rise and fall. Falling interest rates will cause many borrowers to refinance and repay their loans, leaving the bank with uninvested cash when interest rates have declined. Alternately, rising interest rates cause mortgage borrowers to repay slower, leaving the bank with more loans based on prior, lower interest rates. Option risk is difficult to measure and control. Most banks are asset sensitive, meaning interest rate changes impact asset yields more than they impact liability costs. This is because substantial amounts of bank funding are not affected, or are just minimally affected, by changes in interest rates. The average checking account pays no interest, or very little interest, so changes in interest rates do not produce notable changes in interest expense. However, banks have large concentrations of short-term and/or variable rate loans, so changes in interest rates significantly impact interest income. In general, banks earn more money when interest rates are high, and they earn less money when interest rates are low. This relationship often breaks down in very large banks that rely significantly on funding sources other than traditional bank deposits. Large banks are often liability sensitive because they depend on large concentrations of funding that are highly interest rate sensitive. Large banks also tend to maintain large concentrations of fixed rate loans, which further increase liability sensitivity. Therefore, large banks will often earn more net interest income when interest rates are low.

Forex Risk

Foreign exchange risk is the risk that a bank may suffer loss as a result of adverse exchange rate movement during a period in which it has an open position, either spot or forward or both in same foreign currency. Even in case where spot or forward positions in individual currenciesare balanced the maturity pattern of forward transactions may produce mismatches. There is also a settlement risk arising out of default of the counter party and out of time lag in settlement of one currency in one center and the settlement of another currency in anothertime zone. Banks are also exposed to interest rate risk, which arises from the maturity mismatch of foreign currency position. The Value at Risk indicates the risk that the bank is exposed due to uncovered position of mismatch and these gap positions are to be valued ondaily basis at the prevalent forward market rates announced by FEDAI for the remaining maturities. Currency Risk is the possibility that exchange rate changes will alter the expected amount of principal and return of the lending or investment. At times, banks may try to cope with this specific risk on the lending side by shifting the risk associated with exchange rate fluctuations to the borrowers. However the risk does not get extinguished, but only gets converted in to credit risk.

By setting appropriates limits-open position and gaps, stop-loss limits, Day Light as well as overnight limits for each currency, Individual Gap Limits and Aggregate Gap Limits, clear cut and well defined division of responsibilities between front, middle and back office the risk element in foreign exchange risk can be managed/monitored.

Country Risk

This is the risk that arises due to cross border transactions that are growing dramatically in the recent years owing to economic liberalization and globalization. It is the possibility that a country will be unable to service or repay debts to foreign lenders in time. It comprises of Transfer Risk arising on account of possibility of losses due to restrictions on external remittances; Sovereign Risk associated with lending to government of a sovereign nation or taking government guarantees; Political Risk when political environment or legislative process of country leads to government taking over the assets of the financial entity (like nationalization, etc) and preventing discharge of liabilities in a manner that had been agreed to earlier; Cross border risk arising on account of the borrower being a resident of a country other than the country where the cross border asset is booked; Currency Risk, a possibility that exchange rate change, will alter the expected amount of principal and return on the lending or investment. Banks may set country exposure limits in relation to the bank's regulatory capital (Tier I & II) with suitable sub limits, if necessary, for products, branches, maturity etc. Banks were also advised to set country exposure limits and monitor such exposure on weekly basis before eventually switching over to real tie monitoring. Banksshould use variety of internal and external sources as ameans to measure country risk and should not rely solelyon rating agencies or other external sources as their onlytool for monitoring country risk. Banks are expected todisclose the "Country Risk Management" policies intheir Annual Report by way of notes.

Conclusion:

Bank has well-established framework for Market Risk management with the Asset Liability Management Policy and the Treasury Policy forming the fulcrum for procedures, processes and structure. It has a major objective of protecting the bank's net interest income in the short run and market value of the equity in the long run for enhancing shareholders wealth. The important aspect of the Market Risk includes liquidity management, interest rate risk management and the pricing of assets and liabilities. Further, Bank views the Asset Liability Management exercise as the total balance sheet management with regard to its size, quality and risk.

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