equaliFi ACADEMY

CTM

CERTIFICATE IN INTEGRATED TREASURY MANAGEMENT

Session 13- Market Risk Management for Banks

Contents to be studied:

What is risk?

- What do we mean by risk management?
- Risk management in Indian banking sector.
- Process of risk management
- How many types of risk to the banks?
- Capital allocation for operational risk.
- CRAR
- BASEL norms
- How to mitigate all these risk?
- Sources of risk

What are bank risks?

- Bank risks can be broadly divided into two categories. One is macro level, or systemic, risk, which happens when the entire banking system faces trouble. A perfect example would be the 2008 financial crisis.

- Systemic risks could arise from the occurrence of some expected or unexpected events in the economy or the financial markets.

What is Risk management in banks?

Risk management in **banking** is theoretically defined as “the logical development and execution of a plan to deal with potential losses”. Usually, the focus of the **risk management** practices in **the banking** industry is to manage an institution's exposure to losses or **risk** and to protect the value of its assets.

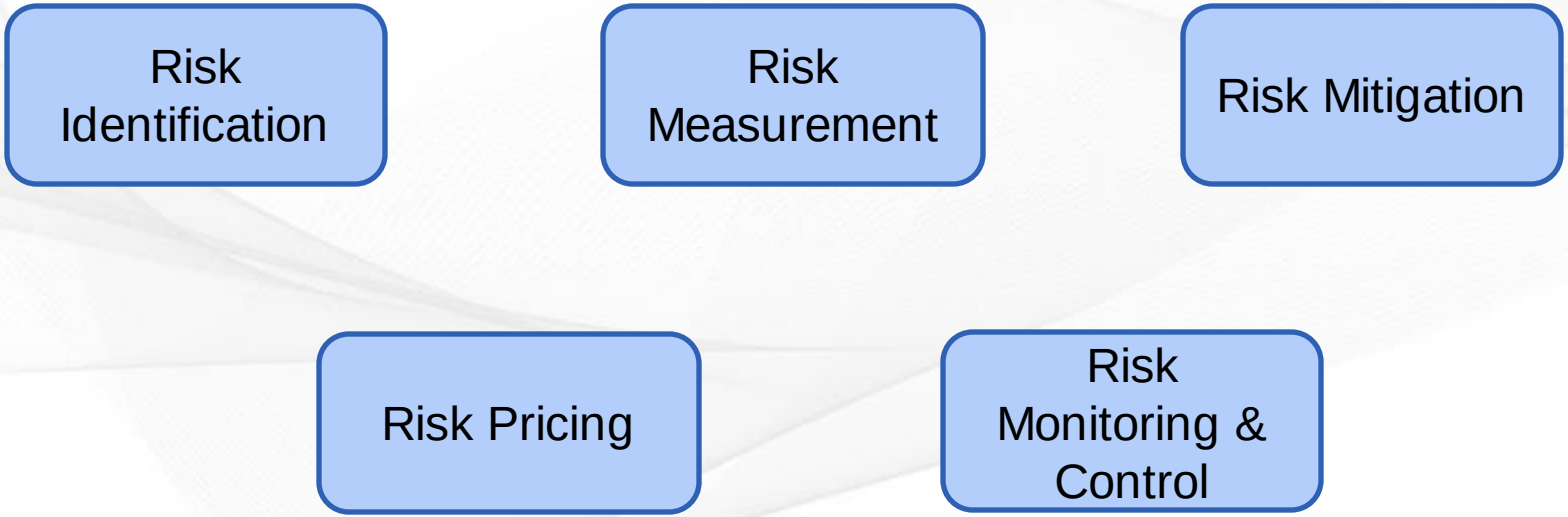
Risk Management in Indian Banking Sector

- Practice of Risk Management in Banks is due to the **growing competition**, **increased volatility** and **fluctuations of markets** the risk management model **has gained importance**. Due to the practice of risk management, it has resulted in the **increased efficiency** in governing Indian banks and has also **increased the practice of corporate governance**.
- The essential feature of risk management model is to **minimize or reduce the risks of the products and services** which are offered by the banks therefore, in order to **mitigate the internal & external risks** there is a need of efficient risk management framework.
- Indian banks have to prepare risk management models or **framework due** to the increasing **global competition by foreign banks**, **introduction of innovative financial products instruments** and **increasing deregulation's**.

Why Do the Risks for Banks Matter?

- Due to the large size of some banks, over exposure to risk can cause bank failure and impact millions of people. By understanding the risks posed to banks, governments can set better regulations to encourage prudent management and decision-making. The ability of a bank to manage risk also affects investors' decisions. Even if a bank can generate large revenues, lack of risk management can lower profits due to losses on loans. Value investors are more likely to invest in a bank that is able to provide profits and is not at an excessive risk of losing money.

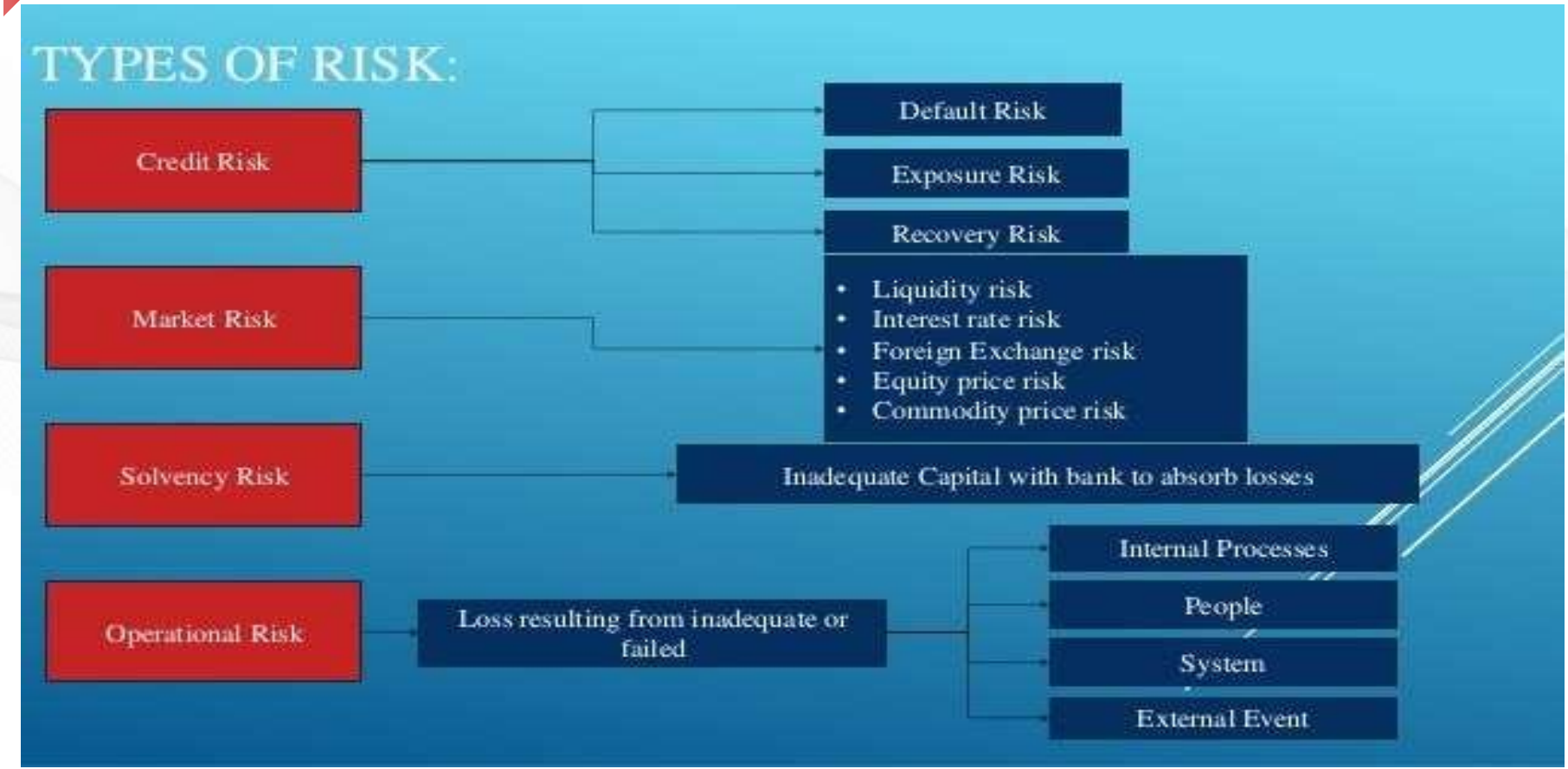
Risk management process



Types of risk in Banks:

- Banks in the process of financial are confronted with various kinds of financial and non-financial risks.

- These risks are interdependent and events that affect one area of risk can have ramifications for a range of other risk categories


TYPES OF RISK:
Credit Risk
Default Risk
Exposure Risk
Recovery Risk
Market Risk
Liquidity risk
Interest rate risk
Foreign Exchange risk
Equity price risk
Commodity price risk
Solvency Risk
Inadequate Capital with bank to absorb losses
Operational Risk
Loss resulting from inadequate or failed
Internal Processes
People
System
External Event

Credit Risk

A potential that a bank borrower will fail to meet its obligations in accordance with agreed terms. Credit risk is the possibility of losses associated with diminished situation in the credit quality of borrowers. It involves inability or unwillingness of a customer to meet commitments in relation to leading, trading, heading, settlement and other financial transactions.

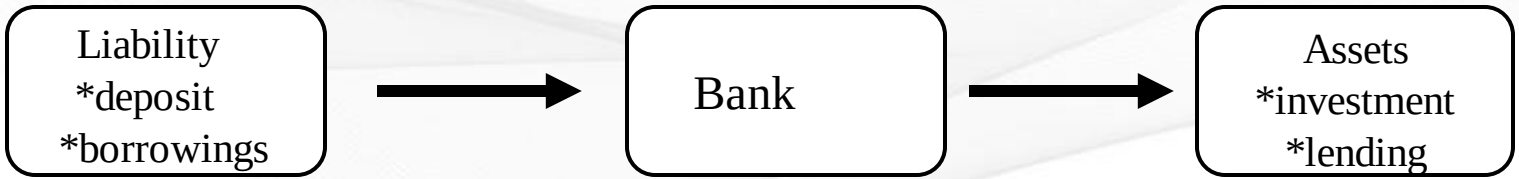
Alternatively, losses result from reduction in portfolio value, arising from actual or perceived deterioration in credit quality. Credit risk emanates from a bank's dealing with an individual, corporate, bank, financial institution or state.

Credit risk may take the following forms:

- Principal and/or interest may not be paid.
- Non- availability of funds , after crystallization of liability under guarantees /letters of credit.
- In treasury operations, the payments or series of payment due from the counterparties may be forthcoming.
- In securities trading settlement may not be effected.
- In cross-bordered exposure the availability of foreign currency may either cease or restrictions may be exposed by the sovereign country.

Types of credit risk:

- Borrower risk
- Industry risk
- Portfolio risk

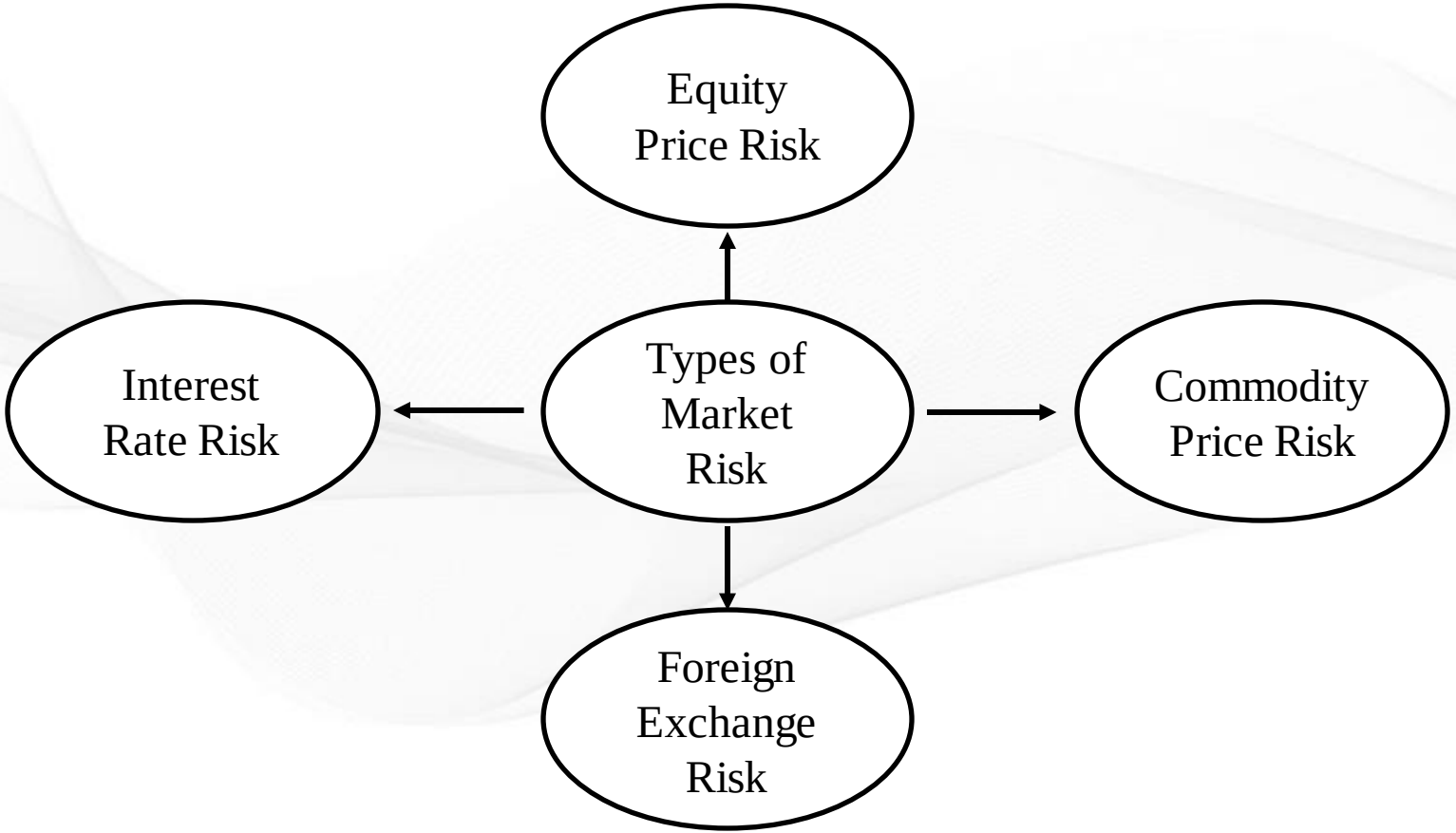


Market Risk

- Risk arising from adverse changes in the market variables such as interest rate foreign exchange rate, equity price and the commodity price.

- Change in market variable causes substantial changes in the income and economic value of the banks.

Types of Market Risk:



Interest Rate Risk

- Interest Rate Risk arises when the Net Interest Margin or the Market Value of Equity (MVE)of an institution is affected due to changes in the interest rates. In other words, the risk of an adverse impact on Net Interest Income (NII) due to variations of interest rate may be called Interest Rate Risk(Sharma, 2003).

- It is the exposure of a Bank's financial condition to adverse movements in interest rates.

Foreign Exchange Risk:

- It is the risk of loss generated by changes in the exchanges in exchange rates between the domestic and foreign currencies.

- The forex risk is the risk that a bank may suffer losses as a result of adverse exchange rates movement during the period in which it has an open option, either spot or forward, or a combination of both, in an individual foreign currency.

Commodity price and equity price risk:

- It also plays an important role in the market risk management by bank and are measured through var(value at risk-the expected loss from an adverse market movement with a specified probability over a period of time.) techniques for which banks are required to adopt proper measuring and monitoring policies.

Liquidity risk:

- It arises from funding of long-term asset by short-term liabilities, thereby making the liabilities subject to roll over. It basically comprises of:
  Funding risk: due to unwanted withdrawals.

- These can be measured by two methods static or ratio analysis and dynamic liability analysis.

Operational risk:

Operational Risk Basel Committee for Banking Supervision has defined operational risk as ‘the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events’. Thus, operational loss has mainly three exposure classes namely people, processes and systems. Managing operational risk has become important for banks due to the following reasons –

1.Higher level of automation in rendering banking and financial services.

2.Increase in global financial inter-linkages.

Solvency risk:

- Solvency risk is the risk of being unable to absorb losses, generated by all types of risks, with the available capital. It differs from bankruptcy risk resulting from defaulting on debt obligations, and inability to raise funds for meeting such obligations. Solvency relates to the net worth of a bank and its capital base.
- The basic principle of "capital adequacy," promoted by regulators, is to define the minimum capital that allows a bank to sustain the potential losses arising from all risks and complying with an acceptable solvency level. When using economic measures of potential losses, the capital buffer sets the default probability of the bank, or the probability that potential losses exceed the capital base.
- Solvency risk is impaired by incurred losses and resulted in major capital injections by governments in the financial crisis.

Capital allocation for operational risk:

How to measure risk?

- Standardized approach comes under capital adequacy rule of basel II

1. Corporate Finance
2. Trading & Sales
3. Retail Banking
4. Commercial Banking
5. Asset management
6. Retail Brokerage
7. Agency Service
8. Payment Settlement

calculate average of the gross income in last three years

β (Beta)

Business Line	Beta Factor
Corporate finance	18%
Trading and sales	18%
Retail banking	12%
Commercial banking	15%
Payment and settlement	18%
Agency services	15%
Asset Management	12%
Retail Brokerage	12%

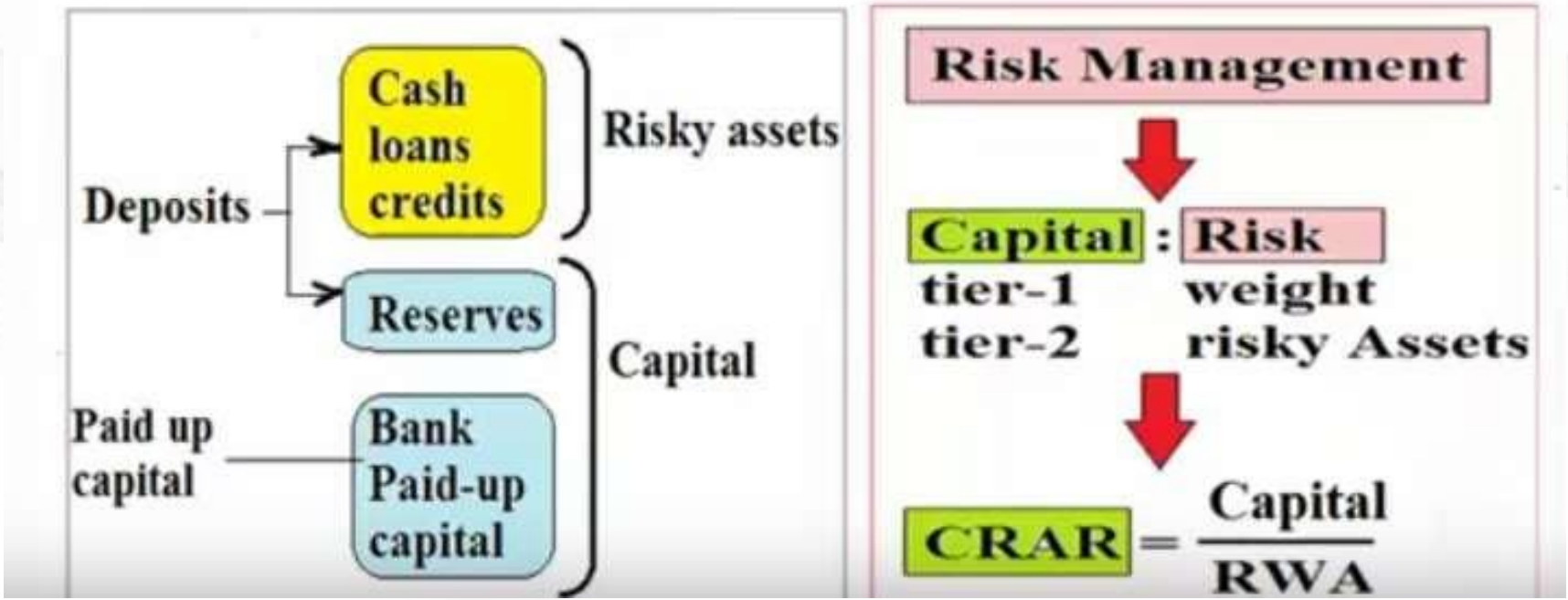
Basic indicator approach

much easier than the other two approaches

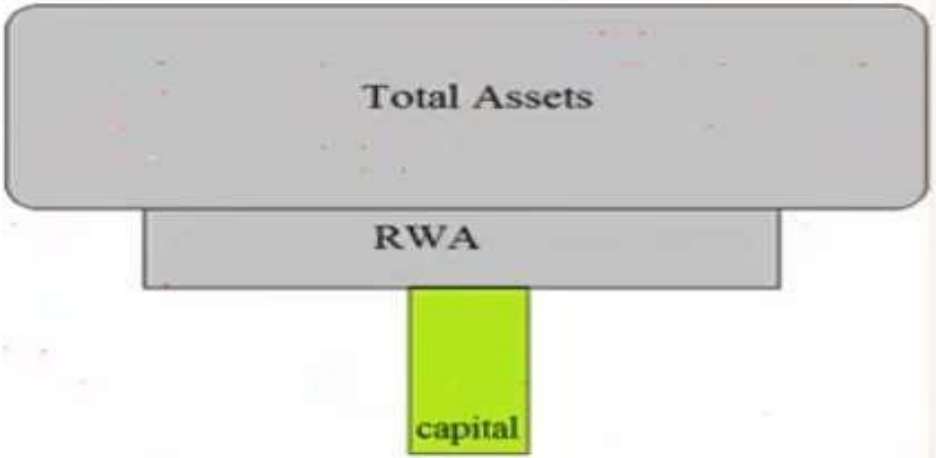
calculate average of gross income of last three years x 15%

don't consider negative gross income while calculating avg

How to manage risk?



1. Risk weighted assets



1. capital

capital includes Tier 1 (core) capital and Tier 2 (additional or supporting) capital. Tier 1 capital is more stable and risk absorbing

Tier-I Capital- Paid up capital - SLR-Disclosed free reserves

Tier-II Capital--Undisclosed Reserves and Cumulative Perpetual Preference Shares

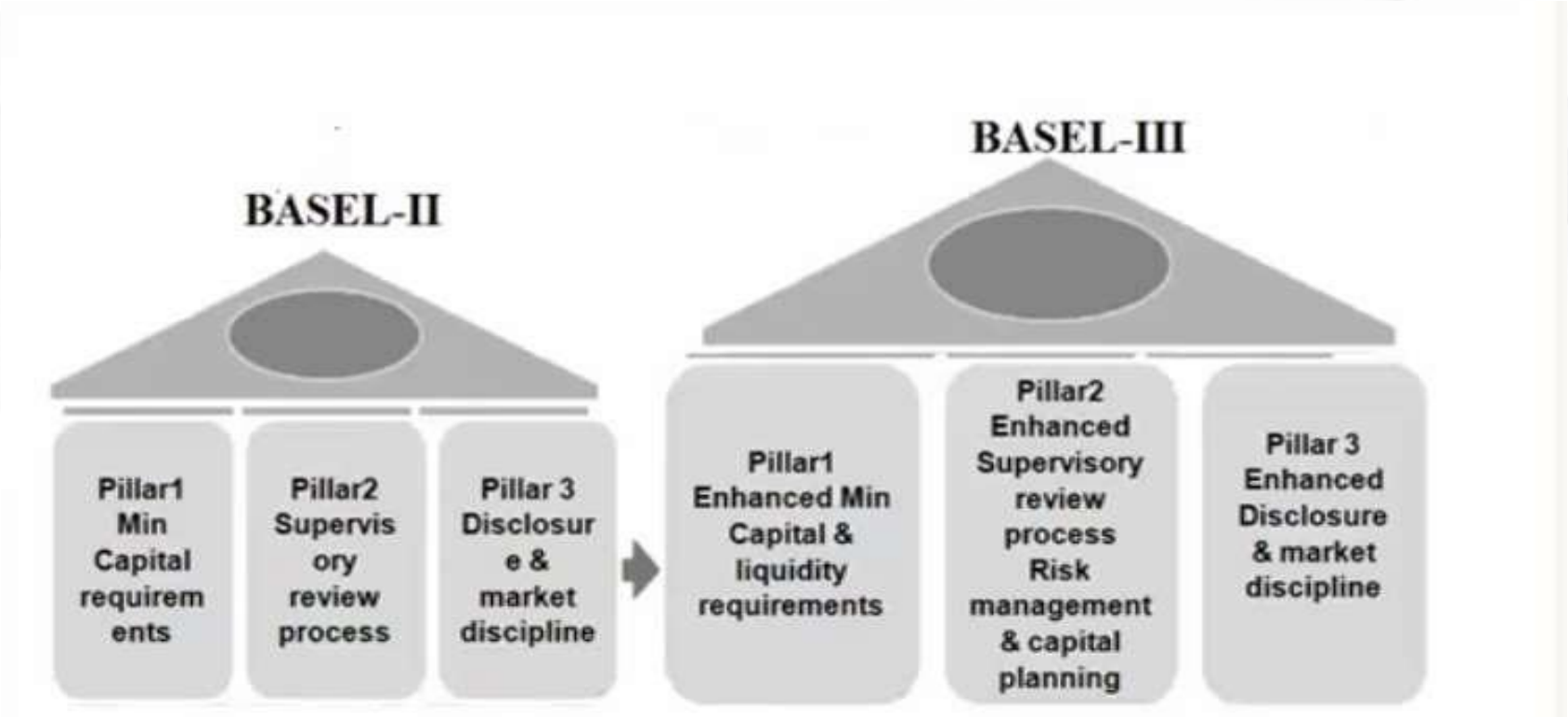
CRAR =capital/ RWA

BASEL NORMS

Basel Committee on Banking Supervision reforms

	Basel 1	Basel 2	Basel 3
Major focus - risk covered	Credit Risk Market Risk	Credit Risk, Market Risk Operational Risk	Credit Risk Market Risk Operational Risk Liquidity Risk Counter Cycle Risk
Introduce	**1988**	**2004**	**2010**
Main tools	(CRAR)	1.CRAR 2.Supervisory Review 3.Market Discipline	1.CRAR 2.Supervisory Review 3.Market Discipline 4.Liquidity Coverage Ratio 5.Counter cycle Buffer 6.Capital Consrvtion Buffer 7.Leverage Ratio

Difference between BASEL-II and BASEL-III pillars



Treasury Management of Bank

- The treasury department of a bank is responsible for balancing and managing the daily cash flow and liquidity of funds within the bank.
- The department also handles the bank's investments in securities, foreign exchange, asset/liability management and cash instruments.

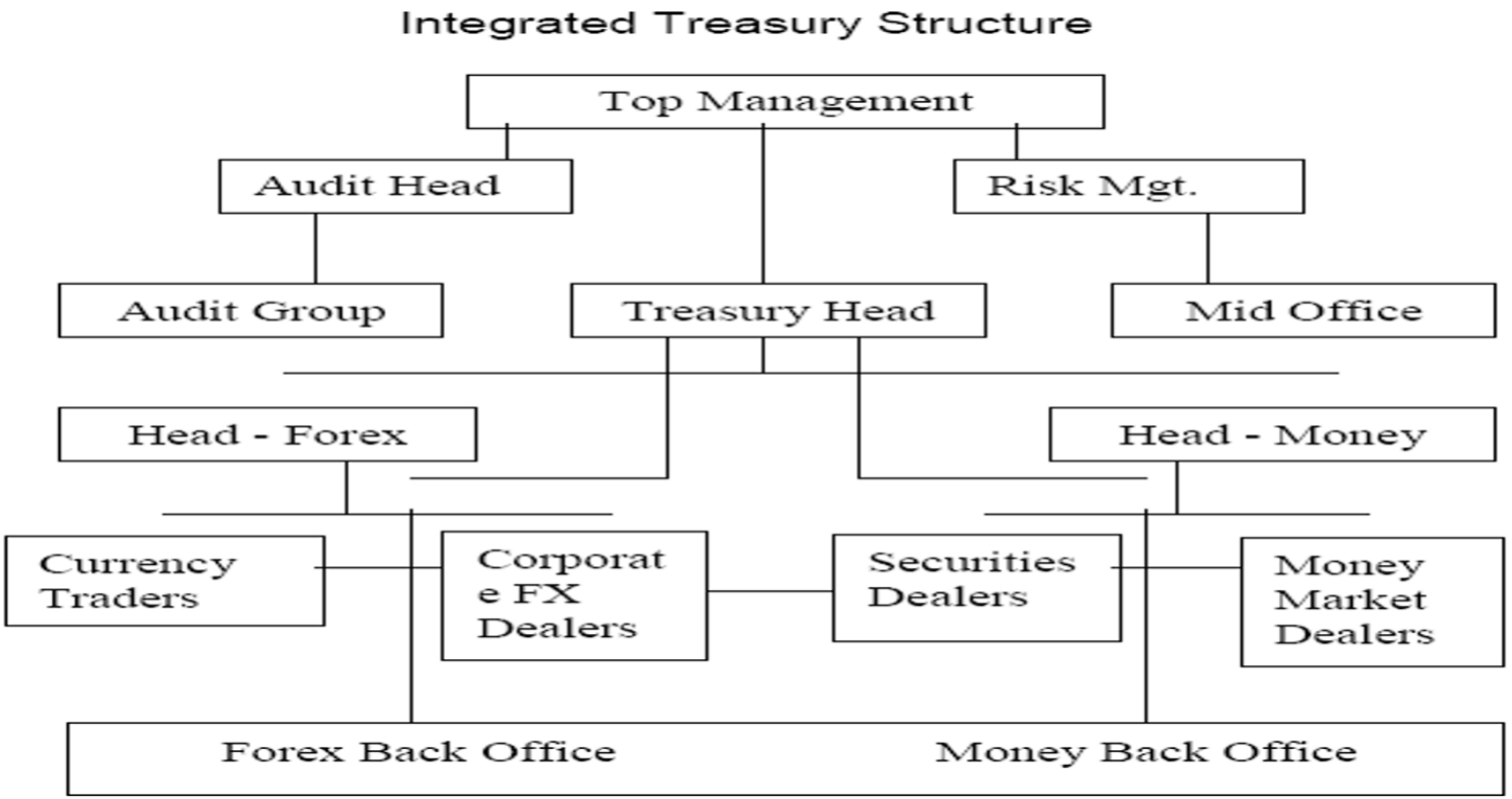
Treasury Management

- Treasury generally refers to the funds and revenue at the disposal of the bank and day-to-day management of the same.
- The treasury acts as the custodian of cash and other liquid assets.
- The art of managing, within the acceptable level of risk, the consolidated fund of the bank optimally and profitably is called Treasury Management.
- It is the window through which banks raise funds or place funds for its operations.

Functions of an Integrated Treasury

- Reserve Management and Investment
- Liquidity and Funds Management
- Asset-Liability Management
- Risk Management
- Transfer Pricing
- Derivatives Trading
- Arbitrage
- Capital Adequacy

Structure of an Integrated Treasury



Structure of an Integrated Treasury

- The treasury department is manned by the front office, mid office, back office and the audit group. In some cases the audit group forms a part of the middle office only.
- The dealers and traders constitute the front office. In the course of their buying and selling transactions, they are the first point of interface with the other participants in the market (dealers of other banks, brokers and customers).
- They report to their department heads. They also interact amongst themselves to exploit arbitrage opportunities.

Structure of an Integrated Treasury

- A mid office set up, independent of the treasury unit, responsible for risk monitoring, measurement analysis and reports directly to the Top management for control.
- This unit provides risk assessment to Asset Liability Committee (ALCO) and is responsible for daily tracking of risk exposures, individually as well as collectively.
- The back office undertakes accounting, settlement and reconciliation operations.
- The audit group independently inspects/audits daily operations in the treasury department to ensure adherence to internal/regulatory systems and procedures.

Thank You