

Unit 3 – Credit Market Risk Management

Meaning of Credit Market Risk Management:

Credit market risk management refers to the process of identifying, assessing, and mitigating risks associated with borrowers or counterparties failing to meet their contractual obligations. These risks primarily arise in lending, trading, and investment activities where credit is extended.

1. Information required for evaluation of Credit Risk

Evaluating credit risk involves a comprehensive analysis of both qualitative and quantitative information about a borrower or counterparty. The aim is to assess the likelihood of default and the potential financial loss in the event of such a default. Below are the key types of information required for an effective credit risk evaluation:

1. Financial Information

- **Financial Statements:** Analyze a borrower's income, balance sheet, and cash flow to assess profitability, liquidity, and debt levels.
- **Credit History:** Review past borrowing behavior, such as missed payments or defaults.
- **Cash Flow:** Look at how well the borrower generates cash to meet obligations.

2. Business and Industry Information

- **Business Model:** Understand the borrower's core activities and revenue sources.
- **Industry Trends:** Evaluate the business in the context of its sector and market conditions.
- **Macroeconomic Conditions:** Consider external factors like inflation, interest rates, and the overall economy.

3. Credit Score and Rating

- **Credit Score:** A personal score (for individuals) or a corporate rating (for businesses) that shows creditworthiness.

4. Collateral and Security

- **Type of Collateral:** Assets like real estate or equipment that back the loan.
- **Valuation of Collateral:** Ensures the collateral is sufficient to cover the loan.
- **Loan-to-Value (LTV) Ratio:** How much of the loan is covered by the value of the collateral.

5. Borrower's Character and Management Quality

- **Management Experience:** Look at the track record of the borrower's leadership.
- **Reputation:** Assess their market standing and trustworthiness.

- Governance: How well the company manages risks and decision-making.
6. Debt Structure and Current Obligations
- Existing Debt: Review how much debt the borrower already has.
 - Debt Maturity: Understand when the borrower's current debt is due.
 - Covenants: Check for restrictions on borrowing or financial actions.
7. Credit Exposure and Concentration Risk
- Credit Concentration: Avoid lending too much to one borrower or industry.
 - Diversification: Spread exposure across different borrowers or sectors to reduce risk.
8. Economic and Political Factors
- Regulatory Environment: Ensure the borrower isn't affected by unfavourable regulations.
 - Political Risk: Consider any political instability that could impact the borrower's business.
9. Behavioural and Transactional Data
- Payment Patterns: Track if the borrower makes regular, timely payments.
 - Account Behaviour: Review borrowing and repayment trends over time.
10. Historical Performance and Peer Comparison
- Default History: Review past performance in repaying debt.
 - Benchmarking: Compare the borrower's financial health with similar businesses.

2. Procedure for Credit Risk Management

The procedure for credit risk management involves a systematic approach to identifying, assessing, monitoring, and mitigating risks associated with lending or credit exposure. The key steps are:

1. Risk Identification

- **Gather Information:** Collect data on borrowers, counterparties, or investment opportunities, including financial statements, credit history, and industry trends.
- **Identify Credit Exposures:** Determine where credit risks exist—loans, bonds, derivatives, or trade receivables.

2. Risk Assessment

- **Credit Scoring:** Use credit scores or ratings (for individuals or companies) to evaluate the likelihood of default.

- **Financial Analysis:** Analyze financial ratios (like debt-to-equity, liquidity, and profitability) to assess the borrower's ability to repay.
- **Stress Testing:** Simulate adverse scenarios (e.g., economic downturns) to see how the borrower might perform under stress.

3. Risk Measurement

- **Quantify Potential Loss:** Estimate potential financial loss using tools like **Value at Risk (VaR)** or **Loss Given Default (LGD)**.
- **Assess Exposure Limits:** Set limits on how much exposure the institution is willing to accept from a single borrower, industry, or region.

4. Risk Mitigation

- **Collateral and Guarantees:** Secure collateral or third-party guarantees to reduce potential losses in case of default.
- **Diversification:** Spread credit exposure across various borrowers, industries, or geographic areas to minimize concentrated risk.
- **Credit Derivatives:** Use tools like **credit default swaps (CDS)** to transfer credit risk to another party.
- **Loan Covenants:** Implement conditions in loan agreements to protect against deteriorating financial conditions (e.g., maintaining certain financial ratios).

5. Risk Monitoring and Control

- **Ongoing Monitoring:** Regularly track the borrower's financial health, market conditions, and performance.
- **Early Warning Signals:** Identify signs of potential default, like missed payments or deteriorating financial conditions.
- **Credit Reviews:** Conduct periodic reviews of credit exposures, adjusting risk limits or loan terms as needed.

6. Reporting and Compliance

- **Internal Reporting:** Provide regular reports to management on credit risk exposure and portfolio performance.
- **Regulatory Compliance:** Ensure all credit risk practices meet regulatory standards (e.g., Basel III, local banking regulations).

7. Recovery and Resolution

- **Debt Recovery:** In case of default, initiate the process of recovering losses through collateral seizure, debt restructuring, or legal action.
- **Resolution Strategies:** Work with distressed borrowers to restructure loans or manage defaults in a way that minimizes loss.

3. Credit Lifecycle

The **credit lifecycle** refers to the process that a loan or credit goes through from its origination to its eventual repayment or default. It encompasses various stages that involve evaluating, approving, managing, and, if necessary, recovering the loan. Below is an outline of the key stages in the credit lifecycle:

1. Credit Origination

This is the initial stage where the loan or credit application is created and processed.

- **Application Submission:** The borrower submits a credit or loan application, providing necessary details about their financial status, collateral, and purpose of the loan.
- **Credit Evaluation:** The lender conducts a credit assessment, reviewing the applicant's financial health, credit history, and repayment ability.
- **Documentation:** Collecting supporting documents, such as financial statements, proof of income, and collateral details, for further analysis.
- **Credit Scoring/Rating:** The borrower is assigned a credit score or rating based on their creditworthiness and risk profile.

2. Credit Approval

At this stage, the lender decides whether to approve or reject the application.

- **Underwriting:** The lender assesses the borrower's risk using financial analysis, stress testing, and credit scoring.
- **Decision Making:** Based on the risk assessment, the loan is either approved or declined. If approved, the terms and conditions (interest rate, tenure, loan amount, collateral) are finalized.
- **Loan Documentation:** Formal legal agreements and documents are drawn up, outlining the terms of the credit, including repayment schedules, covenants, and collateral arrangements.

3. Credit Disbursement

Once the loan is approved, funds are disbursed to the borrower.

- **Fund Transfer:** The lender releases the approved loan amount to the borrower's account.
- **Account Setup:** A loan account is set up in the lender's system to track disbursements, repayments, interest accruals, and fees.

4. Credit Monitoring

After disbursement, the lender continuously monitors the loan throughout its term.

- **Payment Tracking:** The lender monitors regular payments to ensure they are made on time.
- **Financial Performance Review:** For business loans, the lender may review updated financial statements to assess the borrower's financial health.
- **Credit Score Monitoring:** Any changes in the borrower's credit score or financial behavior are observed to anticipate potential risks.
- **Early Warning Systems:** Signs of financial distress, such as missed payments or covenant violations, trigger warnings for potential credit deterioration.

5. Credit Servicing

Ongoing management of the loan, including repayment collections and interest adjustments.

- **Repayment Collection:** Collecting principal and interest payments based on the agreed schedule.
- **Interest Rate Adjustments:** If the loan has a variable interest rate, adjustments are made periodically as per the terms of the agreement.
- **Covenant Compliance:** Ensuring that the borrower complies with loan covenants, such as maintaining certain financial ratios.

6. Credit Restructuring (if necessary)

If the borrower encounters financial difficulties, the loan may need to be restructured.

- **Loan Modifications:** Adjusting loan terms such as extending the repayment period, reducing interest rates, or providing payment holidays to help the borrower meet their obligations.
- **Debt Restructuring:** In cases of severe financial distress, the lender may renegotiate the loan or offer a restructuring plan to avoid default.

7. Credit Recovery (in case of default)

If the borrower defaults on the loan, the lender initiates recovery efforts.

- **Default Management:** Identifying the default and determining the best recovery strategy, which may include negotiations, legal action, or asset liquidation.
- **Collateral Seizure:** If collateral was provided, the lender may seize and sell the asset to recover the outstanding debt.
- **Debt Collection:** Engaging with collection agencies or legal teams to recover unpaid balances.

8. Credit Closure

The loan lifecycle ends when the borrower fully repays the loan or after all recovery efforts have been completed.

- **Loan Repayment:** When the borrower completes repayment of the loan, the account is closed.
- **Documentation and Release:** The lender issues documentation confirming the closure of the loan and releases any liens on collateral.
- **Final Reporting:** Final records are updated in the lender's system, and a final credit report is submitted, reflecting the closure.

4. Loan Review Mechanism

A **Loan Review Mechanism** is a structured process used by financial institutions to regularly assess the quality, performance, and risk profile of their loan portfolios. The goal is to identify potential issues early, ensure compliance with loan agreements, and manage overall credit risk.

Key Components of a Loan Review Mechanism:

1. Loan Selection for Review

- **Risk-Based Selection:** Loans are selected based on their risk profile. High-risk loans, large exposures, or loans to sectors facing economic challenges are typically prioritized.
- **Random Sampling:** In addition to risk-based selection, a random sample of loans may be reviewed to ensure a broad assessment of the portfolio.

2. Credit Documentation Review

- **Loan Files Check:** Ensure all documentation is complete, including loan agreements, collateral details, financial statements, and credit appraisals.
- **Compliance with Terms:** Review whether the borrower has complied with loan covenants, payment schedules, and other agreed terms.
- **Collateral Verification:** Confirm the existence, valuation, and legal enforceability of collateral pledged.

3. Financial Condition Assessment

- **Financial Analysis:** Review the borrower's financial performance, profitability, liquidity, and cash flow since the loan was granted.
- **Trend Analysis:** Compare current financial data with historical performance to identify any decline or improvement.
- **Industry/Market Conditions:** Evaluate how changes in the borrower's industry or economic conditions may impact their ability to repay.

4. Credit Risk Rating

- **Risk Rating Review:** Assess the borrower's credit rating or risk grade. Adjust the risk rating if the borrower's financial health has deteriorated or improved.

- **Stress Testing:** Simulate adverse conditions (e.g., economic downturns, interest rate hikes) to test how the loan would perform under stress.

5. Loan Performance Review

- **Payment History:** Review the borrower's payment patterns, noting any late payments, missed payments, or partial payments.
- **Covenant Compliance:** Ensure the borrower is meeting all financial covenants (e.g., maintaining certain ratios) and other conditions outlined in the loan agreement.
- **Restructuring/Modification History:** Check if the loan has been restructured or modified and evaluate the borrower's ability to adhere to new terms.

6. Problem Loan Identification

- **Early Warning Signals:** Identify signs of potential default, such as declining financial ratios, missed payments, or negative market trends.
- **Classification of Problem Loans:** Classify loans into categories such as "Substandard," "Doubtful," or "Loss" based on their risk of default.
- **Special Attention Loans:** Assign high-risk loans to special units for more intensive monitoring or early intervention.

7. Corrective Action

- **Loan Modifications:** Recommend changes to loan terms, such as adjusting the payment schedule, reducing interest rates, or extending the repayment period.
- **Restructuring:** If the borrower is in financial distress, consider restructuring the loan to help the borrower meet obligations.
- **Recovery Plans:** Develop recovery strategies for loans that are likely to default, such as liquidating collateral or pursuing legal action.

8. Reporting and Monitoring

- **Internal Reports:** Regularly report findings from loan reviews to management, highlighting problem loans, potential risks, and recommended actions.
- **Follow-Up Reviews:** Monitor any loans flagged during the review process to ensure that corrective actions are being implemented and risk is being managed.

9. Compliance with Regulatory Requirements

- **Regulatory Standards:** Ensure that loan review procedures comply with applicable banking regulations and guidelines (e.g., Basel III requirements, national banking rules).
- **Capital Adequacy:** Assess whether the financial institution holds sufficient capital to cover potential loan losses, based on the current risk profile of the loan portfolio.

10. Audit and Quality Control

- **Internal Audit:** Periodic audits should be conducted to ensure the loan review process is effective, consistent, and follows best practices.
- **Continuous Improvement:** Regularly update and improve the loan review mechanism based on audit findings, regulatory changes, and emerging risks.

5. RBI guidelines on Credit Rating Framework

The **Reserve Bank of India (RBI)** has provided guidelines for banks to implement a robust **credit rating framework** to effectively assess and manage credit risk. These guidelines aim to ensure consistency, accuracy, and transparency in the credit rating process, and play a vital role in risk management, loan approval, and capital adequacy.

The key aspects of the **RBI guidelines on the credit rating framework** are:

1. Internal Credit Rating System

- **Mandatory Implementation:** RBI mandates all banks to establish an internal credit rating system to assess the creditworthiness of borrowers.
- **Borrower-Specific Ratings:** The system should assign a borrower-specific credit rating, reflecting the default risk. Ratings should be based on both quantitative (financial) and qualitative (management, industry) factors.
- **Granularity:** Banks must ensure that their credit rating scale is sufficiently granular, with multiple rating levels, to distinguish between different credit risks.

2. Use of External Credit Rating Agencies (ECRA)

- **Recognized Agencies:** Banks are required to use ratings provided by RBI-approved External Credit Rating Agencies (ECRAs) for capital adequacy calculations under the Standardized Approach of the Basel framework. The approved agencies include:
 - CRISIL
 - ICRA
 - CARE Ratings
 - India Ratings and Research (Fitch Group)
 - Brickwork Ratings
 - SMERA (now Acuité Ratings & Research)
- **Mapping to Risk Weights:** RBI provides a standardized mapping of external credit ratings to risk weights. For example, a higher-rated loan (e.g., AAA) attracts a lower risk weight, and a lower-rated loan (e.g., BB or below) attracts a higher risk weight.

3. Risk-Based Classification

- **Risk Sensitivity:** Banks are required to assign risk-sensitive ratings, which influence lending decisions, interest rates, and credit terms.

- **Differentiated Treatment:** Higher-risk borrowers should be identified and assigned lower ratings, while stronger borrowers should receive higher ratings. Risk-based classification helps determine the level of capital provisioning required.

4. Capital Adequacy and Basel Norms

- **Alignment with Basel Guidelines:** The RBI's credit rating framework aligns with Basel II and III norms, where credit ratings are crucial for calculating **risk-weighted assets (RWA)** and determining capital adequacy under the Capital-to-Risk (Weighted) Assets Ratio (CRAR).
- **Standardized Approach:** For banks adopting the standardized approach under Basel norms, the credit rating assigned by external agencies directly impacts the capital charge for credit risk.

5. Comprehensive Review and Validation

- **Regular Review:** Banks must regularly review their internal credit rating models to ensure their accuracy and reliability. Ratings should be updated based on new financial data and market conditions.

6. Corporate and Retail Credit Differentiation

- **Corporate Loan Ratings:** Corporate borrowers must be rated individually based on their financial health, industry position, management quality, and other relevant factors.
- **Retail Loan Pools:** For retail loans (such as personal, housing, or auto loans), a pool-based approach may be adopted, where loans of similar characteristics are grouped and rated collectively.

7. Credit Risk Mitigation

- **Collateral and Guarantees:** Banks should factor in collateral and third-party guarantees in their credit rating framework, applying risk mitigation techniques to reduce the borrower's risk profile.
- **Loan-to-Value Ratio (LTV):** The credit rating should take into account the LTV ratio when collateral is involved. Lower LTV ratios typically result in a better credit rating.

8. Default and Watchlist Monitoring

- **Early Warning Systems:** Banks must incorporate early warning mechanisms to identify and monitor potential defaulters. Loans showing signs of stress should be placed on a watchlist for closer scrutiny.
- **Default Data Analysis:** Banks should track default trends and use this data to continuously improve their credit rating models.

9. Consistency and Transparency

- **Uniform Rating Methodology:** RBI mandates banks to follow a consistent methodology in their credit rating process across different borrower types and industries.

- **Documentation and Disclosure:** Banks are required to document the rating process and disclose the rating framework to relevant stakeholders. This includes periodic reporting to the RBI.

10. Loan Loss Provisions and Capital Buffer

- **Provisioning Based on Ratings:** The internal credit ratings should directly influence the provisioning levels for loans. Higher-risk loans (lower-rated) should have higher provisions, while lower-risk loans (higher-rated) have lower provisions.
- **Capital Buffers:** The RBI encourages banks to maintain capital buffers above the minimum regulatory requirement, based on the risk profile of their loan portfolios.

11. Board Oversight and Governance

- **Role of the Board:** The Board of Directors of the bank must oversee the credit rating process and ensure that adequate policies, procedures, and controls are in place.
- **Internal Audit:** The credit rating system should be subjected to regular internal audits to assess its effectiveness and ensure compliance with RBI guidelines.

6. Introduction to Basel Norms

Basel Norms are a set of international banking regulations developed by the **Basel Committee on Banking Supervision (BCBS)** to strengthen the global banking system, improve risk management, and ensure that banks have enough capital to absorb unexpected losses. The Basel norms primarily focus on maintaining adequate capital reserves to safeguard financial stability and manage risks.

Overview of Basel Norms

There are three major Basel accords: **Basel I**, **Basel II**, and **Basel III**. Each accord builds on the previous one, aiming to enhance the resilience of banks against crises and improve risk management frameworks.

1. Basel I (1988)

Basel I, introduced in 1988, was the first step towards establishing international banking regulations. It focused on:

- **Capital Adequacy:** Ensuring banks hold enough capital to cover their risk exposure.
- **Risk-Weighted Assets (RWA):** It introduced the concept of risk-weighting of assets, meaning different asset classes (e.g., loans, securities) are assigned different risk weights. Higher-risk assets require banks to hold more capital.

Key Features:

- **Minimum Capital Requirement:** Banks must maintain a capital-to-risk-weighted-assets ratio (CRAR) of at least **8%**.
- **Risk Weighting:** Assets are classified into different categories based on their risk. For example:

- **0%** risk weight: Cash, government bonds
- **20%** risk weight: Interbank loans
- **100%** risk weight: Corporate loans

2. Basel II (2004)

Basel II aimed to refine Basel I by incorporating more advanced risk management and greater emphasis on banks' internal processes. It introduced a more detailed approach to determining capital requirements and placed greater focus on managing operational and market risks.

Key Components of Basel II (3 Pillars):

1. Pillar 1: Minimum Capital Requirements

- **Credit Risk:** Expands on Basel I by providing more sophisticated approaches to measure risk, including the Standardized Approach, the Internal Ratings-Based (IRB) Approach, and the Advanced IRB Approach.
- **Market Risk:** Involves capital requirements to cover risks arising from changes in market prices.
- **Operational Risk:** Basel II introduced capital requirements for operational risks (e.g., fraud, systems failures), with three methods to calculate it: Basic Indicator Approach, Standardized Approach, and Advanced Measurement Approach.

2. Pillar 2: Supervisory Review Process

- Requires banks to assess their internal capital adequacy through a review process, ensuring they have sufficient capital to cover all risks (including those not covered under Pillar 1).

3. Pillar 3: Market Discipline

- Promotes greater transparency by requiring banks to disclose their risk exposures, capital adequacy, and risk management practices to enhance market discipline.

3. Basel III (2010-11)

Basel III was introduced in response to the **2008 global financial crisis**, which exposed weaknesses in the banking system, such as inadequate capital levels, poor liquidity, and high leverage. Basel III significantly strengthened the regulatory framework.

Key Features of Basel III:

1. Higher Capital Requirements:

- **Common Equity Tier 1 (CET1):** Banks must hold more high-quality capital (equity), focusing on common equity as the primary form of capital.
- **Minimum Capital Requirement:** The minimum required CRAR was raised from 8% to **10.5%**, including capital conservation buffers.

2. **Capital Conservation Buffer (CCB):**

- An additional **2.5% buffer** (over and above the minimum capital requirement) of risk-weighted assets is mandated to absorb losses during periods of financial stress.
- If banks fall below this buffer, restrictions on dividends and bonuses are imposed to conserve capital.

3. **Countercyclical Buffer:**

- This is a buffer designed to be built up in good times (up to 2.5% of RWA) to be used in periods of downturns to protect against credit booms and busts.

4. **Leverage Ratio:**

- Basel III introduced a minimum **leverage ratio** of 3%, which is a simple non-risk-based ratio to limit excessive borrowing and leverage. It is calculated as **Tier 1 Capital / Total Exposures**.

5. **Liquidity Standards:**

- Basel III introduced two liquidity ratios to ensure that banks maintain sufficient liquidity to survive financial stress:
 - **Liquidity Coverage Ratio (LCR):** Banks must hold enough high-quality liquid assets (HQLA) to cover their net cash outflows for 30 days in a stress scenario.
 - **Net Stable Funding Ratio (NSFR):** Aimed at promoting long-term funding stability, requiring banks to hold stable funding for a 1-year period to cover their long-term assets.

6. **Systemically Important Financial Institutions (SIFIs):**

- Basel III introduced additional capital surcharges for **Global Systemically Important Banks (G-SIBs)**, ensuring that banks deemed "too big to fail" hold more capital.

Examples of G-SIBs:

1. **JPMorgan Chase (USA)**
2. **Citigroup (USA)**
3. **Bank of America (USA)**
4. **Wells Fargo (USA)**
5. **Goldman Sachs (USA)**
6. **Morgan Stanley (USA)**
7. **HSBC (UK)**
8. **Barclays (UK)**

9. **Standard Chartered** (UK)
10. **BNP Paribas** (France)
11. **Société Générale** (France)
12. **Deutsche Bank** (Germany)
13. **Mitsubishi UFJ Financial Group (MUFG)** (Japan)
14. **Mizuho Financial Group** (Japan)
15. **Sumitomo Mitsui Financial Group** (Japan)
16. **China Construction Bank** (China)
17. **Industrial and Commercial Bank of China (ICBC)** (China)
18. **Bank of China** (China)
19. **Agricultural Bank of China** (China)
20. **UBS** (Switzerland)
21. **Credit Suisse** (Switzerland)
22. **State Bank of India** (India)