Capital Adequacy (Credit Risk- Standardised Approach & Advanced Approaches)

Basel Committee on Banking Supervision

- **It** is an international body that **sets global regulatory standards for banks** to ensure financial stability and reduce systemic risk.
- It was established by the ce**ntral bank governors of the Group of Ten (G-10) countries** in 1974

? Establishment of the Basel Committee (1974) ?

✅**Formed by G10 nations** in response to global financial instability.

✅Originally called **Committee on Banking Regulations and Supervisory Practices**.

✅The **collapse of Herstatt Bank (West Germany)** in 1974 triggered its formation.

✅**Objective:** Strengthen **global financial stability** and improve

banking supervision.

✅Served as a platform for **cooperation among member nations** on banking regulations.

◆ Basel-I Accord (1988) 📊

☑ Introduced **minimum capital requirements** for banks.

✅Set **Capital to Risk-Weighted Assets Ratio (CRAR) at 8%** (to be implemented by 1992).

✅Applied **risk weights** to assets **both on & off balance sheets**.

✅**India adopted Basel-I in April 1992** (implementation spread over 3 years).

Key Takeaway:

- Focused **only on credit risk** and required banks to maintain a minimum **capital adequacy ratio (CAR) of 8%**.

Basel-II Accord (2004)

✅ Introduced **three pillars** for risk management:

1️⃣ **Minimum Capital Requirements** (Credit Risk, Market Risk & Operational Risk).

2️⃣ **Supervisory Review Process** (Regulatory oversight on risk management).

3️⃣ **Market Discipline** (Transparency in risk disclosures).

✅**Encouraged use of external credit ratings** for risk weighting.

✅Banks had to assess **Operational Risk** in addition to Credit & Market Risk.

India's Basel-II Adoption:

- RBI issued **Basel-II guidelines in June 2004**.
- Initially applied to **foreign banks & Indian banks with international presence**.
- Later extended to **all scheduled commercial banks**.

🔶 Basel-III Accord (2010) 🏛

☑ Developed in response to the **2008 Global Financial Crisis**.

✅**Stronger capital requirements** for banks to withstand financial shocks.

✅Introduced **Leverage Ratio** (restricts excessive borrowing).

✅Introduced **Liquidity Coverage Ratio (LCR)** & **Net Stable Funding Ratio (NSFR)**.

✅**Common Equity Tier 1 (CET1) capital increased** to **4.5%** (previously 2% under Basel-II).

✅**Capital Conservation Buffer (CCB)** of **2.5%** over minimum capital requirement.

✅**Countercyclical Buffer** (to be built up in good times for use in downturns).

▯ India's Basel-III Implementation:

● Implemented **phased approach starting from 2013**.

● Initially planned for full implementation by **March 2019**, later extended.

●Minimum **CRAR requirement raised to 9% + additional buffers**.

📌 **Why Basel Norms Matter?** 🔍

☑ **Ensure financial stability** & prevent banking crises.

✅ **Regulate global banking practices** for consistency & transparency.

✅ **Prevent bank failures** due to inadequate capital buffers.

✅ **Enhance risk management** in banks.

📌 **Capital Adequacy & Risk Management in Banks** 🏦

🔶 7.2.1 Capital: The Core of Financial Stability

✅**Objective:** Ensure banks have enough **capital buffer** to absorb losses and maintain stability.

✅**Capital Classification:**

- **Tier I Capital (Core Capital):** Highest quality capital, fully available to absorb losses.
- **Tier II Capital (Supplementary Capital):** Lower loss absorption capacity, consists of reserves and subordinated debt.

� Tier I Capital: ✓Common Equity Tier I (CET1):

- Paid-up equity capital
- Share premium
- Statutory & disclosed free reserves
- Capital reserves (from sale of assets)
- Profit & Loss balance from previous FY
- **Revaluation reserve** (discounted by 55%)

✓Additional Tier I (AT1):

- Perpetual non-cumulative preference shares
- Eligible debt capital instruments
- Any other instrument notified by RBI

▯ Tier II Capital:

✓Includes:

- General provisions & loss reserves
- Debt capital instruments
- Preference share capital
- Surplus from Tier II capital instruments
- Any other instrument notified by RBI

▯ Domestic Systemically Important Banks (D-SIBs) ▯

✅**Definition:** Banks that are "Too Big to Fail" due to their systemic importance.

✅RBI classifies D-SIBs into **buckets based on Systemic Importance Scores (SISs)**.

✅Additional **Common Equity Tier 1 (CET1) capital requirement** applies.

✅Foreign banks classified as **Global Systemically Important Banks (G-SIBs)** also require additional CET1 buffer in India.

Why It Matters?

- Prevents **severe financial instability** in case of failure of a large bank.

- Ensures **higher capital reserves** to absorb potential shocks.

🔶 7.2.2 Credit Risk ⚠

☑ **Definition:** Risk that a borrower **fails to meet obligations**, causing financial loss.

✅ **Sources:**

- Loans & advances
- Off-balance sheet items
- Interbank transactions
- Cross-border transactions

Key Aspects of Credit Risk Management:

✔ **Transaction Risk:** Risk at the individual borrower level.

✔ **Portfolio Risk:** Risk at the **aggregate loan book** level.

✓ **Counterparty Risk:** Risk of **non-performance in trading & settlements**.

✅**Objective:**

- Keep credit risk **within acceptable limits**.
- Maximize **risk-adjusted returns** while ensuring capital adequacy.

🔶 7.2.3 Market Risk 📉

☑️ **Definition:** Risk of financial loss due to **changes in market prices**.

✅**Key Market Risk Factors:**

- **Interest Rate Risk:** Fluctuations in lending/borrowing rates.
- **Exchange Rate Risk:** Impact of currency movements.
- **Stock Price Risk:** Volatility in equity markets.

- **Commodity Price Risk:** Changes in raw material & trading prices.

Impact on Banks:

- Affects **earnings & capital** stability.
- Requires **active monitoring & hedging strategies**.

🔶 7.2.4 Operational Risk 🏢

☑ **Definition:** Risk of **loss due to failed internal processes, human errors, or external events**.

✅**Examples:**

- Fraud & cyber threats
- System failures & IT disruptions
- Regulatory non-compliance
- Business continuity risks

� Management of Operational Risk:

✓**Risk Identification & Assessment** (Process Mapping, Root Cause Analysis).

✓**Monitoring & Reporting** (Risk Indicators, Internal Audits).

✓**Control & Mitigation** (Automation, Employee Training, Business Continuity Plans).

✅**Key Role of Senior Management & Board:**

- **Promote risk culture** in the organization.
- Ensure **robust operational processes** to minimize losses.

� Why Capital Adequacy & Risk Management Matter? �

✅**Protects financial stability** by ensuring banks have sufficient capital reserves.

✅ **Reduces default risk** & prevents banking crises.

✅ **Regulatory compliance** with RBI & Basel norms.
✅**Enhances investor & depositor confidence** in the banking system.

📌 Basel III Framework: Strengthening Banking Stability & Risk Management 🏦

The Reserve Bank of India (RBI) implemented Basel III in **phases from April 1, 2013, to March 31, 2019**, with additional measures applied as needed.

🔹 7.4 Basel III Framework: Key Enhancements

- **Higher Capital Requirements** for increased financial resilience.
- **Improved Risk Coverage** by addressing new risks like liquidity and leverage.

- **Stronger Leverage & Liquidity Ratios** to reduce excessive risk-taking.

🔶 7.4.1 Pillar I: Minimum Capital Requirements 💰

📌 Capital Adequacy Guidelines by RBI (Master Circular, July 1, 2015)

1️⃣ Capital to Risk-Weighted Assets Ratio (CRAR) 📊

✅ **Banks must maintain a minimum CRAR of 9%** on an **ongoing basis**.

✅ Banks need to **assess their own risk profile** to maintain adequate capital beyond the minimum required.

✅ Capital adequacy is measured as follows:

Formula:

- **Common Equity Tier 1 Capital Ratio =** *CET1 Capital ÷ (Credit Risk RWA + Market Risk RWA + Operational Risk RWA)*

- **Tier 1 Capital Ratio =** *Tier 1 Capital ÷ (Credit Risk RWA + Market Risk RWA + Operational Risk RWA)*

- **Total Capital Ratio =** *Total Capital (Tier 1 + Tier 2) ÷ (Credit Risk RWA + Market Risk RWA + Operational Risk RWA)*

□ **RWA (Risk-Weighted Assets):** Weighted measure of assets based on risk exposure.

2 Components of Capital: Tier 1 & Tier 2 📌

📌 **Tier 1 Capital (Going-Concern Capital) → Absorbs losses while bank remains operational**

- **Common Equity Tier 1 (CET1)**
- **Additional Tier 1 (AT1)**

� Tier 2 Capital (Gone-Concern Capital) → Absorbs losses when bank fails

3� Capital Requirements Under Basel III

Regulatory Capital	% of RWAs
Minimum CET1 Ratio	5.5%
Capital Conservation Buffer (CCB)	2.5%
Minimum CET1 + CCB	8.0%
Additional Tier 1 (AT1) Capital	1.5%
Minimum Tier 1 Capital (CET1 + AT1)	7.0%
Tier 2 Capital	2.0%

Minimum Total Capital Ratio (CRAR)	9.0%
Minimum CRAR + CCB	**11.5%**

✅**Capital Conservation Buffer (CCB):** Extra cushion to absorb losses during financial stress.

✅**Higher requirements for Systemically Important Banks (SIBs).**

4⃣ Common Equity Tier 1 (CET1) Capital

✅**For Indian Banks**

- **Paid-up equity capital**
- **Share premium reserves**
- **Statutory & capital reserves**
- **Disclosed free reserves**
- **Balance in Profit & Loss Account**

- Revaluation reserves (discounted 55%)
- Foreign currency translation reserve (discounted 25%)

✅For Foreign Bank Branches in India

- Head Office interest-free funds for capital adequacy
- Retained earnings & statutory reserves in Indian books
- Capital reserve from asset sales (not repatriable)

� Deductions Applied:

- Goodwill, deferred tax assets, pension fund assets
- Investments in other banks' capital
    - Securitization gains, unrealized credit risk gains

5� Additional Tier 1 (AT1) Capital

✅For Indian Banks

- **Perpetual Non-Cumulative Preference Shares (PNCPS)**
- **Eligible debt capital instruments**
- **Stock surplus from issuing AT1 instruments**
- **Third-party AT1 instruments in consolidated subsidiaries**

✅For Foreign Bank Branches

- **Head Office borrowings for AT1 capital**

� AT1 capital must be loss-absorbing (can be written off or converted to equity in distress).

6� Tier 2 Capital

✅For Indian Banks

- **General provisions & loss reserves**
- **Debt capital instruments & preference shares**

- **Revaluation reserves (if not in CET1) discounted 55%**

✅**For Foreign Banks in India**

- **Head Office borrowings in foreign currency**

7️⃣ Minority Interest & Regulatory Adjustments

- **Only capital issued by fully consolidated subsidiaries can be counted.**
- **Investments in own shares & related entities are deducted.**

📌 7.4.2 Pillar II: Supervisory Review & ICAAP 📌

✅**Supervisory Review & Evaluation Process (SREP)**

- RBI ensures that **banks hold capital in line with their risk profile**.

- Focuses on **bank-specific risks like liquidity, market, and operational risks**.

✅**Internal Capital Adequacy Assessment Process (ICAAP)**

- Banks must **submit a Board-approved ICAAP report to RBI annually (by June 30).**
- Must **forecast capital needs & demonstrate risk management practices**.

� 7.4.3 Pillar III: Market Discipline �

✅**Transparency & Public Disclosures**

- Banks must **publish key financial & risk-related information**.
- Allows **market participants to assess bank stability**.

✓**Mandatory Disclosures Include:**

- **Capital structure & adequacy**
- **Risk exposures & management strategies**
- **Credit risk, market risk, and operational risk data**

? Basel III: Why It Matters for Banks ?

✓ **Higher capital buffers = Stronger banking system**
✓ **Better risk management = Fewer bank failures**
✓ **Enhanced transparency = More market confidence**
✓**Lower financial crises probability**

Basel III **sets the foundation for a more resilient global banking system** by ensuring banks are **better prepared for financial shocks**.

� Basel III: Calculation of Minimum Capital Requirement & Credit Risks �

Under **Basel III**, banks are required to calculate their **Minimum Capital Requirement** under **Pillar 1**. The framework offers three distinct options for:

- **Credit Risk Calculation:**

1. **Standardized Approach (SA)**
2. **Foundation Internal Ratings-Based (F-IRB) Approach**
3. **Advanced Internal Ratings-Based (A-IRB) Approach**

- **Operational Risk Calculation:**

1. **Basic Indicator Approach (BIA)**
2. **Standardized Approach (SA)**
3. **Advanced Measurement Approach (AMA)**

□ 7.6 Capital for Credit Risks □

1□ 7.6.1 Standardized Approach (SA) □

The **Standardized Approach (SA)** calculates **Risk-Weighted Assets (RWA)** as:

Formula:

✅**RWA = Exposure Amount × Risk Weight** (determined by RBI guidelines)

□ Key Features:

- Risk weights depend on **borrower category** (sovereign, bank, corporate).
- Based on **external credit ratings** from RBI-approved rating agencies.

● Unrated exposures get **higher risk weights** to ensure adequate capital.

� RBI's 2022 Circular:

Banks **must use only disclosed credit ratings**; non-disclosed ratings will be treated as **unrated with higher risk weights**.

2� 7.6.2 Claims Included in the Regulatory Retail Portfolio �

Retail claims meeting **all four qualifying criteria** are assigned a **risk weight of 75%**, except NPAs.

Exclusions from Regulatory Retail Portfolio

● Investments in securities (bonds, equities).

●**Mortgage loans** secured by residential or commercial property.

●Loans to **bank staff** secured by superannuation benefits/property.

- **Consumer credit** (personal loans, credit card receivables).
- **Capital market exposures** and **venture capital funds**.

Qualifying Criteria for Retail Portfolio

(i) **Orientation Criterion** – Exposure to **individuals or small businesses** with annual turnover **≤ ₹50 crore**.

(ii) **Product Criterion** – Includes **term loans, revolving credit, leases, small business facilities**.

(iii) **Granularity Criterion** – No single exposure can exceed **0.2%** of the **total retail portfolio**.

(iv) **Low Value Criterion** – Maximum aggregate retail exposure per borrower **≤ ₹7.5 crore**.

� Non-performing assets (NPAs) are excluded from granularity assessments

3� 7.6.3 Internal Ratings-Based (IRB) Approach �

Under **IRB**, banks use their own risk models to assess capital requirements. **Two types:**

- **Foundation IRB (F-IRB):** Banks estimate **Probability of Default (PD)**; RBI assigns other risk parameters.
- **Advanced IRB (A-IRB):** Banks estimate **all risk components (PD, LGD, EAD, Maturity)**.

� Key Asset Classes Under IRB:

1. **Corporate**
2. **Sovereign**
3. **Bank**

4. **Retail**

5. **Equity**

6. **Others**

4⃣ 7.6.4 Calculation of Expected Loss (EL) 📉

Under **A-IRB**, banks calculate **Expected Loss (EL)** using:

Formula:

EL = Probability of Default (PD) × Exposure at Default (EAD) × Loss Given Default (LGD)

📌 Risk Parameters:

- **PD (Probability of Default):** % chance a borrower defaults within 1 year.
- **EAD (Exposure at Default):** Expected outstanding exposure when default occurs.

- **LGD (Loss Given Default):** % of EAD likely lost if default occurs.

? Additional Adjustments for Systemic Risk:

- **Transverse Shocks:** Risks spreading between **interconnected banks (e.g., consortium lending).**
- **Longitudinal Shocks:** Risks due to **economic cycles and financial stress.**

? Regulatory Capital Calculation Uses:

- **PD, LGD, EAD models**
- **Macro stress tests** to estimate impact on capital

? Basel III Guidelines (April 1, 2022):

- **System-wide PD, LGD, and EAD parameters** provide insights into credit risk vulnerabilities.
- **Consortium lending & herd lending trends** are analyzed to manage systemic risks.