**BANKING**

**1. Introduction to Banking**  
Banking forms the foundation of the financial ecosystem. Banks act as intermediaries between depositors (savers) and borrowers, enabling capital circulation in the economy. They provide safety, liquidity, and returns on deposits while earning interest from lending activities.

Banks also perform crucial roles in payment facilitation, wealth management, and financial inclusion. With digitization, banks now offer mobile banking, internet banking, and API-based services to reach more customers and reduce costs.

**2. Structure of a Bank's Balance Sheet**  
A bank's balance sheet includes:

* **Assets**: Loans, government securities, investments, cash reserves.
* **Liabilities**: Customer deposits, interbank borrowings, bonds issued.
* **Equity/Capital**: Shareholder funds and retained earnings.

**Formula**: Assets = Liabilities + Equity

Banks must maintain a balance between their assets and liabilities to remain solvent. Capital Adequacy Ratios (CAR) are enforced by regulators to ensure banks have enough cushion to absorb losses.

**3. Revenue Streams**  
Banks primarily earn revenue in two ways:

* **Interest Income**: From loans extended to individuals and businesses.
* **Fee/Non-Interest Income**: From services like insurance distribution, custodial services, account charges, forex, and remittances.

*Example:* Indian banks earn 80–90% via interest income, while global banks like BNY Mellon have a larger share of fee-based income (~67%).

**4. Net Interest Margin (NIM)**  
NIM = Lending Rate - Deposit Rate  
It indicates a bank's efficiency in generating profits from its core lending business. A high NIM suggests better profitability but must be balanced with credit risk and competitive rates.

**5. Banking Risks**

* **Credit Risk**: Defaults by borrowers.
* **Liquidity Risk**: Inability to meet withdrawal demands.
* **Operational Risk**: System failures, fraud, human error.
* **Market Risk**: Interest rate fluctuations.
* **Reputational Risk**: Scandals, poor service affecting customer trust.
* **Regulatory Risk**: Changes in RBI norms, compliance lapses.

**6. Open Banking & APIs**  
Open APIs allow fintechs and third-party providers to integrate with banks securely. This has enabled services like budgeting apps, instant credit scoring, and Account Aggregators (AA) in India.

APIs such as account info, transaction history, and payment initiation help customers get better financial control and transparency.

**7. Bank Types**

* **Scheduled Commercial Banks** (SBI, ICICI)
* **NBFCs** (Bajaj Finance): Cannot take deposits but lend actively.
* **Neobanks**: Digital-only banks that operate via licensed banks.
* **Challenger Banks**: Fully licensed digital banks (popular in UK).
* **Cooperative Banks**: Community-owned, often in rural India.

**LENDING**

**1. Introduction to Lending**  
Lending is the process by which money is provided temporarily on the condition that it will be repaid, usually with interest. It is a critical function in the banking and fintech industry.

Lending supports personal consumption, business expansion, infrastructure growth, and economic development. It can be secured or unsecured, short-term or long-term.

**2. Types of Loans**

* **Retail Loans**: Home, vehicle, personal, education.
* **Business Loans**: Working capital, equipment finance, invoice discounting.
* **Modern/Fintech Loans**: BNPL (Buy Now Pay Later), P2P (peer-to-peer), embedded finance.
* **Specialized Loans**: Agri-loans, gold loans, startup funding, ESG-linked loans.

**3. 3 Cs of Lending (Individuals)**

* **Character**: Intent to repay (via credit score, history).
* **Capacity**: Income vs obligations.
* **Collateral**: Security for the lender.

**4. 6 Cs of Lending (Businesses)**  
Includes the 3 Cs above, plus:

* **Capital**: Promoter's equity.
* **Conditions**: Purpose and terms of loan.
* **Creditworthiness**: Historical loan behavior, audit trails.

**5. Loan Lifecycle**

* **Origination**: Application, KYC, scoring, underwriting.
* **Monitoring**: Repayment behavior, financial health.
* **Servicing**: EMI collection, restructuring, recovery.
* **Closure**: Final settlement or recovery process.

**6. Credit Scoring**  
In India, CIBIL and Experian are common agencies.

* Scores >750: Generally safe.
* NTC (New to Credit): First-time borrowers.
* Alternate data: Mobile bills, rent payments used by fintechs.

**7. Gold Loans (RBI Norms)**

* LTV ratio increased to 85%.
* ETFs allowed as collateral.
* No credit checks for small-ticket gold loans.
* Valuation based on 22 karat gold price.

**8. P2P Lending**

* Direct matching of lenders and borrowers.
* Removes traditional banking intermediary.
* Higher returns but increased risk.
* Platforms like Faircent and Lendbox operate in India.

**9. Student Loan Innovations**

* Linked to GPA or job outcomes.
* Disbursed directly to institutions.
* Refinancing options post one year.
* Fintechs assess course, university, employability.

**10. Fintech Opportunities in Lending**

* Risk modeling using AI.
* Underwriting using alternate data.
* Digitized loan management and collections.
* Loan monitoring using Account Aggregator + Video KYC
* Lending for informal economy (street vendors, gig workers)

**PAYMENTS**

**1. Overview of Payments System**  
Payments are at the core of every economic transaction. A robust payment infrastructure improves commerce, tax collection, and financial inclusion. India is a global leader in real-time payments thanks to UPI.

**2. Card Payment Ecosystem**

* **Participants**: Cardholder, Issuer Bank, Merchant, Acquirer Bank, Card Network (Visa, Mastercard, Rupay)
* **Transaction Flow**: Swipe/tap → Issuer approval → Network routing → Acquirer settlement
* Time: < 6 seconds

**3. Types of Card Transactions**

* **Authorization**: Temporary hold on funds.
* **Sale/Capture**: Actual deduction.
* **Refunds**: Reversal to cardholder.
* **Batch Settlement**: End-of-day clearing.

**4. Merchant Discount Rate (MDR)**

* Fee paid by merchants on card transactions.
* Offline: 0.4–1.5%, Online: 0.4–2%
* MDR is shared among issuer, network, and acquiring bank.

**5. UPI (Unified Payments Interface)**

* Real-time, zero-cost bank-to-bank transfers.
* Supported by NPCI and RBI.
* Disrupted PoS industry due to no MDR.
* International expansion to UAE, Singapore, France.
* UPI 2.0: Recurring payments, IPO applications, overdraft.

**6. Wallets & Float Economics**

* Wallets like Paytm, Amazon Pay earn interest on unutilized balances.
* Revenue through MDR + data-driven marketing.
* Wallets are losing share to UPI but still useful for closed ecosystems.

**7. Buy Now Pay Later (BNPL)**

* Short-term credit facility at checkout.
* Types: “Pay Later”, “Hold Now, Pay Later”, “Save Now, Pay Later”.
* Used heavily in e-commerce.
* Risks: Overleveraging, poor repayment culture.

**8. CBDC (Central Bank Digital Currency)**

* Digital Rupee issued by RBI.
* Exists in both online and offline formats.
* Safer than private stablecoins (e.g., no counterparty risk).
* Works with QR codes and supports interoperability.
* Pilot launched in 2023 across retail and wholesale segments.

**9. Payment Security Measures**

* Chip + PIN
* SMS alerts
* 2FA (Two Factor Authentication)
* IP/geolocation checks for online transactions
* Tokenization & biometric authentication

**10. Emerging Trends in Payments**

* QR voice boxes for shops
* Wearables (watches, rings)
* Dynamic CVV for security
* Nano-payments for small content or features
* Account-to-account (A2A) payments using open APIs