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HANDOUT

FIN725

Credit & Risk Management

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FIN725

Credit & Risk Management

STUDY HANDOUT

A complete topic-wise study handout for FIN725 Credit & Risk Management, prepared from the course video lectures (Instructor Shahid Habib, 45 video lectures on YouTube; midterm: module packs 1-2, final-term: module packs 3-4). Covers credit concepts, credit appraisal, financial analysis, types of risk, Basel accords, NPL management, and risk mitigation - with definitions, explanations, numerical examples and exam pointers.

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Lecture 1: Understanding the Word 'Credit'

Key terms: credit, debtor, creditor, creditworthiness

As a financial term, credit refers to the granting of a loan and the creation of debt: the lender provides funds now against the borrower's promise to repay later. Any movement of financial capital depends on credit, which in turn depends on the reputation or creditworthiness of the borrower. In commercial trade, credit means approval for delayed payment for goods purchased. Unlike money in the strict sense, credit cannot itself act as a unit of account - it is denominated in one.

- Credit as trust: from Latin 'credere' - to believe/trust.
- Forms: bank credit, trade credit, consumer credit, hire purchase.
- A privilege granted to extend time for payment of a debt.

EXAM POINTER: Define credit as a financial term and distinguish it from money - the course's opening concept.

Lecture 2: Types of Credit Facilities

Key terms: funded vs non-funded, term finance, running finance, LC, guarantees

Banks extend funded facilities (actual cash outflow: term loans, running finance, demand finance) and non-funded facilities (contingent commitments: letters of credit, guarantees, bid bonds). Term finance funds long-term assets with scheduled repayments; running finance is a revolving working-capital limit; demand finance is repayable on demand. Trade finance (LCs, bills) supports imports/exports.

- Funded = money disbursed; non-funded = promise to pay if the customer defaults.
- LC (letter of credit): bank guarantees the exporter's payment on compliant documents.
- Pricing differs: funded earns markup; non-funded earns commission.

Lecture 3: The Credit Process and Credit Policy

Key terms: credit process, credit policy, appraisal, approval, monitoring

The credit process runs: application -> appraisal (5 Cs, financial analysis) -> approval (within delegated limits) -> documentation -> disbursement -> monitoring/review -> recovery if needed. A bank's credit policy sets the rules: target markets, exposure limits, pricing, collateral requirements, approval authorities and provisioning norms - approved by the board and aligned with SBP Prudential Regulations.

- Segregation: marketing, appraisal and approval should sit with different people.
- Credit Administration Department handles documentation and limit monitoring.

- Policy review: at least annually or when regulations/economy change.

Lecture 4: The 5 Cs of Credit

Key terms: character, capacity, capital, collateral, conditions

The 5 Cs frame credit appraisal. Character: integrity and willingness to repay - checked via credit history (eCIB), references, market reputation. Capacity: ability to repay from cash flows - analysed through financial statements and projections. Capital: the borrower's own stake - skin in the game. Collateral: secondary security - property, stocks, guarantees. Conditions: loan purpose and economic environment.

- Character is judged from past behaviour; capacity from numbers.
- SBP's eCIB report is the first document a Pakistani credit officer pulls.
- Weak character cannot be compensated by strong collateral - a cardinal rule.

EXAM POINTER: Explain the 5 Cs with what the analyst examines under each - asked every term.

Lecture 5: Financial Statement Analysis for Lending

Key terms: ratio analysis, liquidity, leverage, profitability, cash flow

Lenders read financial statements to judge repayment capacity. Key ratios: liquidity (current ratio, quick ratio - can short-term obligations be met?), leverage (debt-equity, debt-service coverage - how indebted is the firm?), profitability (gross/net margins, ROE), and activity (receivable/inventory days). Trend analysis over 3-5 years and comparison with industry norms reveal direction; cash-flow statements show whether profits convert to cash for debt service.

- DSCR (debt service coverage ratio) = operating cash flow / debt obligations - lenders want $\geq 1.2x$.
- Red flags: qualified audit opinions, related-party transactions, window dressing at year-end.
- Projections must be stress-tested, not accepted at face value.

EXAM POINTER: Given a small financial summary, compute current ratio, debt-equity and DSCR and comment on creditworthiness.

Lecture 6: Cash Flow Analysis and Projections

Key terms: cash flow, operating cash flow, free cash flow, projections

Profit is an opinion; cash is a fact - lenders ultimately rely on cash-flow analysis. Operating cash flow shows cash generated by the business; free cash flow (after capex) shows what is available for lenders and owners. Repayment capacity = sustainable cash flows minus existing obligations. Projections translate business plans into future cash flows; sensitivity analysis tests them against adverse scenarios (sales -20%, costs +10%).

- Direct vs indirect cash-flow presentation - analysts reconstruct operating cash flow either way.
- Seasonal businesses need monthly, not annual, cash-flow views.
- Debt should amortise within the cash-generating life of the financed asset.

Lecture 7: Credit Scoring Models

Key terms: credit scoring, Z-score, Altman, logistic regression

Credit scoring models convert borrower data into a default probability or score. Altman's Z-score combines five ratios (working capital/assets, retained earnings/assets, EBIT/assets, market equity/liabilities, sales/assets) to predict corporate distress - $Z < 1.81$ signals danger. Modern banks use logistic regression and machine-learning scorecards on application and behavioural data, validated and recalibrated regularly.

- Cut-off scores balance approval rates against bad-debt tolerance.
- Scorecards must be monitored for population drift and overrides.
- Retail scoring (application + behaviour) differs from corporate rating models.

Lecture 8: Loan Structuring and Pricing

Key terms: loan structuring, tenor, amortisation, risk-based pricing, KIBOR

Structuring matches the facility to purpose: tenor aligned with asset life and cash flows, repayment schedule (amortising, bullet, seasonal), covenants (restrictions protecting the lender), and security. Pricing is risk-based: base rate (KIBOR) + credit spread reflecting the borrower's risk, tenor, collateral and profitability - plus fees. Mis-structured loans (short-term funds for long-term uses) are a classic cause of default.

- Covenants: financial (maintain current ratio), informational (quarterly statements), negative (no further borrowing).
- Effective rate includes fees - compare APRs, not just markups.
- Evergreening (fresh loans to service old ones) hides problems and is prohibited.

Lecture 9: Collateral and Security Documentation

Key terms: collateral, mortgage, hypothecation, pledge, lien, guarantee

Collateral is the lender's second way out. Forms: mortgage (immovable property - registered), hypothecation (movable assets like stocks/vehicles - charge without possession), pledge (possession transferred, e.g. goods in a warehouse), lien (right to retain), and guarantees/sureties (third-party promises). Documentation must be legally perfected - registered charges, verified titles, adequate insurance assigned to the bank - or the security is worthless in recovery.

- Forced-sale value (not market value) determines real coverage; haircuts apply.
- Title verification and valuation by approved valuers are mandatory steps.
- Personal guarantees of directors strengthen SME lending.

EXAM POINTER: Distinguish mortgage, hypothecation and pledge with one example each.

Lecture 10: Introduction to Risk and Risk Management

Key terms: risk, pure vs speculative risk, loss exposure, risk management process

Risk is uncertainty about outcomes - the possibility of loss. Pure risk offers only loss or no loss (fire, death); speculative risk offers gain or loss (investments). A loss exposure is any situation where loss is possible. Risk management is the process of identifying loss exposures and selecting the best techniques to treat them: pre-loss objectives (economy, reduced anxiety, legal compliance) and post-loss objectives (survival, continuity, earnings stability, growth).

- New risk management covers both pure and speculative exposures (enterprise-wide).
- Risk management vs insurance: insurance is one technique among several.
- In banks, risk management protects depositors, shareholders and the financial system.

Lecture 11: Types of Financial Risk in Banks

Key terms: credit risk, market risk, operational risk, liquidity risk

Banks face: credit risk (borrower defaults - the largest risk), market risk (losses from interest-rate, exchange-rate, equity and commodity movements), operational risk (failed processes, people, systems, external events - including fraud), and liquidity risk (cannot meet withdrawals/obligations). Others: country risk, reputational risk, strategic and compliance risk. Each needs identification, measurement, mitigation and monitoring.

- Credit risk dominates traditional banks; market risk dominates trading books.
- Operational risk examples: system outages, rogue traders, cyberattacks.
- Risks interact: a credit crisis can trigger liquidity and reputational crises.

Lecture 12: Credit Risk: Measurement

Key terms: PD, LGD, EAD, expected loss, unexpected loss

Credit risk is quantified as Expected Loss = PD x LGD x EAD: Probability of Default (borrower fails), Loss Given Default (share lost after recoveries), Exposure at Default (amount outstanding then). Expected loss is priced into margins and covered by provisions; unexpected loss (volatility around the mean) is covered by capital. Portfolio models add correlation - defaults cluster in downturns.

- Through-the-cycle vs point-in-time PD estimates.
- LGD depends on collateral quality and seniority; EAD includes undrawn commitments.
- Credit VaR measures worst-case portfolio loss at a confidence level.

EXAM POINTER: Numerical: given PD 2%, LGD 45%, EAD Rs. 10m, compute expected loss. (Rs. 90,000)

Lecture 13: Basel Accords: Basel I, II and III

Key terms: Basel I, Basel II, Basel III, CAR, capital adequacy

The Basel Accords (Basel Committee on Banking Supervision) set global capital standards. Basel I (1988): 8% capital against risk-weighted assets with crude buckets. Basel II (2004): three pillars - (1) minimum capital with refined risk weights (standardised vs Internal Ratings-Based approaches for credit risk, plus market and operational risk charges), (2) supervisory review, (3) market discipline/disclosure. Basel III (post-2008): higher and better capital, buffers (conservation, countercyclical), leverage ratio, and liquidity standards (LCR, NSFR).

- SBP implements Basel standards in Pakistan with local CAR requirements.
- Standardised approach uses external ratings; IRB uses banks' own PD/LGD models (needs approval).
- Pillar 2 covers risks missed by Pillar 1 (concentration, interest-rate risk in banking book).

EXAM POINTER: Explain the three pillars of Basel II - a guaranteed theory question.

Lecture 14: Non-Performing Loans: Classification and Provisioning

Key terms: NPL, classified, substandard, doubtful, loss, provisioning

Loans turn non-performing when overdue beyond regulatory days. Pakistan's classification: OAEM (especially mentioned), substandard, doubtful, and loss - with rising provisioning requirements (e.g. 10%, 50%, 100% of the shortfall). Provisions are charged against profit, reducing capital; hence NPLs hurt twice. SBP's Prudential Regulations prescribe classification criteria, provisioning percentages and write-off rules.

- Specific provisions (against identified bad loans) vs general provisions.
- Forced-sale value of collateral can reduce provisioning requirements.
- NPL ratio = classified advances / total advances - the headline asset-quality metric.

Lecture 15: NPL Resolution and Recovery

Key terms: recovery, restructuring, settlement, banking courts, foreclosure

Recovery strategy depends on viability: viable borrowers get restructuring/rescheduling (extended tenor, revised terms); unviable ones face collateral enforcement and legal action. Tools: negotiated settlements, sale of collateral (including through foreclosure laws), banking courts and the Financial Institutions (Recovery of Finances) Ordinance, and write-offs (board-approved, without extinguishing recovery rights). Early action - special mention and watch-list processes - prevents slippage.

- Corporate debt restructuring (CDR) frameworks handle large exposures.
- Out-of-court settlement is faster and cheaper than litigation when possible.
- Recovery targets and specialised remedial units professionalise the function.

Lecture 16: Market Risk Management

Key terms: market risk, VaR, interest rate risk, forex risk

Market risk is loss from movements in market prices. Measurement: Value at Risk (VaR) - the maximum expected loss over a horizon at a confidence level (e.g. 99% 1-day VaR of Rs. 5m); supplemented by stress tests and expected shortfall. Management: position limits, stop-losses, hedging with derivatives (forwards, futures, swaps, options), and asset-liability management for interest-rate risk in the banking book (gap analysis, duration).

- VaR limitations: says nothing about losses beyond the confidence level; model risk.
- Hedging example: a bank with fixed-rate assets and floating liabilities uses interest-rate swaps.
- SBP sets forex exposure limits for banks.

Lecture 17: Operational Risk Management

Key terms: operational risk, RCSA, KRIs, loss data, BCP

Operational risk - loss from failed processes, people, systems or external events - includes fraud, errors, system failures and legal risk (but excludes strategic/reputational risk). Management: Risk Control Self-Assessments (RCSA) by business units, Key Risk Indicators (early warnings like failed trades, system downtime), internal loss-data collection, and Business Continuity Planning/disaster recovery. Basel II offers Basic Indicator, Standardised and Advanced Measurement Approaches for capital.

- Famous cases: Barings (rogue trader), large cyber heists - used as case studies.
- Three lines of defence: business units, risk/compliance, internal audit.
- BCP testing (mock drills) matters more than the plan document.

Lecture 18: Liquidity Risk Management

Key terms: liquidity risk, ALM, LCR, NSFR, contingency funding

Liquidity risk is inability to meet obligations as they fall due - the risk that kills banks fastest (runs). Management through Asset-Liability Management (ALM): maturity profiling, liquidity gaps, and holding buffers of high-quality liquid assets. Basel III's Liquidity Coverage Ratio (LCR: liquid assets / 30-day stressed outflows $\geq$ 100%) and Net Stable Funding Ratio (long-term stability), plus Contingency Funding Plans for stress scenarios.

- Structural liquidity: match asset-liability maturities; avoid over-reliance on wholesale funding.
- SBP's liquidity requirements and lender-of-last-resort facility.
- Early warnings: rising funding costs, deposit concentration, rating downgrades.

Lecture 19: Country Risk and Cross-Border Lending

Key terms: country risk, sovereign risk, transfer risk

Country risk affects cross-border credit: sovereign risk (government defaults or restructures), transfer risk (borrower willing but blocked from remitting forex), and political/macroeconomic risk. Assessed via sovereign ratings, macro indicators (reserves, debt ratios, political stability), with country limits capping exposure. Export credit agencies and multilateral guarantees mitigate it.

- Examples: sanctions regimes, currency crises blocking remittances.
- Pricing: country risk premium added to borrower spreads.
- Pakistani banks' foreign operations need SBP approval and host-country compliance.

Lecture 20: Risk Mitigation: Collateral, Guarantees, Derivatives, Insurance

Key terms: credit risk mitigation, netting, credit derivatives, CRM

Credit risk mitigants recognised by Basel II: collateral (financial, with haircuts), guarantees and credit derivatives (protection buyer pays a premium; seller compensates on default - e.g. credit default swaps), on-balance-sheet netting, and insurance. Recognition requires legal certainty, proper valuation and no excessive correlation between borrower and mitigant (wrong-way risk).

- Haircuts: collateral value reduced by volatility-based percentages.
- Substitution approach: guaranteed exposure gets the guarantor's risk weight.
- Over-reliance on mitigants without borrower analysis is poor banking.

Lecture 21: Enterprise Risk Management (ERM)

Key terms: ERM, risk appetite, risk governance, CRO

Enterprise Risk Management integrates all risks under one framework: the board sets risk appetite (how much risk to take for returns), a Chief Risk Officer coordinates, and risk committees oversee credit, market, operational and compliance risks consistently. Tools: risk registers, enterprise-wide stress tests, economic capital allocation, and risk-adjusted performance measures (RAROC). ERM culture - risk awareness in every decision - matters more than models.

- Risk appetite statement: quantitative limits plus qualitative principles.
- RAROC = risk-adjusted return / economic capital - for comparing businesses fairly.
- Regulators increasingly assess banks' ERM and governance, not just ratios.

Lecture 22: Internal Ratings and Credit Administration

Key terms: internal rating, rating grades, credit administration, review

Banks assign internal ratings (grades like 1-10) to borrowers based on financial and qualitative factors, mapped to PDs for pricing, provisioning and capital. Credit administration ensures documentation perfection, limit monitoring, covenant compliance and periodic reviews (annual at least; more for weak accounts). Independent review/audit of the credit function keeps standards honest.

- Rating migration tracked over time validates the system.
- Watch-list: early-warning accounts get intensified monitoring.
- Documentation gaps are a common audit finding - checklists help.

Lecture 23: Islamic Banking: Credit and Risk Specifics

Key terms: Islamic credit, Murabaha, Salam, Istisna, Shariah risk

Islamic banks extend credit via Shariah-compliant modes: Murabaha (cost-plus sale), Salam (advance purchase), Istisna (manufacturing order), Ijarah (leasing), and Musharakah/Mudarabah (partnerships). Risk specifics: Shariah non-compliance risk (transactions must stay compliant - purified income), displaced commercial risk (pressure to match conventional returns), and asset-ownership risks in Murabaha/Ijarah. SBP's Shariah governance framework and Shariah boards oversee compliance.

- Late-payment charity (not bank income) handles delinquency in Islamic modes.
- IFSB standards adapt Basel concepts for Islamic banks.
- Documentation must reflect true trade/lease structures, not disguised interest.

Lecture 24: Case Studies in Credit Failure

History's credit disasters teach lasting lessons. Common threads: concentrated exposures to one sector/borrower group, evergreening to hide problems, weak governance (loans to connected parties), fraud and documentation gaps, and ignoring early warnings. Pakistan's banking history includes major defaults that led to the creation of recovery laws and stronger SBP supervision. Each case reinforces: appraise character and cash flows first, diversify, monitor continuously, and act early on weakness.

- Red-flag checklist: rapid growth, frequent restructuring, auditor changes, lifestyle beyond means.
- Governance lesson: independent risk functions must be able to say no.
- Regulatory lesson: crises produce reforms - study what changed after each episode.

EXAM POINTER: Be ready to analyse a mini-case: given borrower facts, identify warning signs and recommend action.

Lecture 25: Revision: Midterm Practice Set (Module Packs 1-2)

1. Define credit and explain funded vs non-funded facilities with examples. (5 marks)
2. Explain the 5 Cs of credit. (5 marks)
3. From given financials, compute current ratio and debt-equity ratio and assess liquidity and leverage. (5 marks)
4. Distinguish mortgage, hypothecation and pledge. (5 marks)
5. Define risk and explain the risk management process with pre- and post-loss objectives. (5 marks)

Lecture 26: Revision: Final-Term Practice Set (Module Packs 3-4)

1. Explain the three pillars of Basel II. (5 marks)
2. Define PD, LGD and EAD; compute expected loss for PD 3%, LGD 40%, EAD Rs. 20m. (5 marks)
3. Describe the classification and provisioning of NPLs. (5 marks)
4. Explain VaR and two limitations of it as a risk measure. (5 marks)
5. Discuss operational risk management tools: RCSA, KRIs and BCP. (5 marks)

End of Handout - Good luck with your exams!