

Certified Enterprise Risk Professional (CERP) Exam Outline and Resources

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Section 1: Risk Governance

Domain 1: Board and Senior Management Oversight (8%)

Task 1: Provide relevant, timely, and accurate information to board and senior management.

Knowledge of:

- a. Procedures to manage and report the status of risk identification, measurement, and control activities
- b. The concepts and components of risk appetite and risk culture and how they link to corporate strategy and operations
- c. The concept of credible challenge by the board

Task 2: Champion policies, risk appetite, and risk culture across the organization.

Knowledge of:

- a. Methods to manage organizational, process, and cultural change
- b. The concepts and components of risk appetite and risk culture and how they link to corporate strategy and operations
- c. Practices to educate and increase awareness of risk policies, appetite, and culture within and across all three lines of defense

Task 3: Direct information to the appropriate board and/or management risk committees.

Knowledge of:

- a. Organizational structures and committees, and their roles and responsibilities
- b. The concepts and components of risk appetite and risk culture and how they link to corporate strategy and operations
- c. The concept of credible challenge by the board

DOMAIN 1 - Study Resources

Journal References

IT Governance Institute. Information Security Governance: Guidance for Boards of Directors 2nd Edition.

Regulation/Standard References

[OCC. Interest Rate Risk - Comptroller's Handbook.](#)

[COSO - The Committee of Sponsoring Organizations of the Treadway Commission. Effective Enterprise Risk Oversight - The Role of the Board of Directors.](#)

[Federal Reserve Board of Governors. SR 16-11 Supervisory Guidance for Assessing Risk Management at Supervised Institutions with Total Consolidated Assets Less than \\$50 Billion.](#)

[The Office of the Comptroller of the Currency. 12 CFR Parts 30 and 170: OCC Guidelines Establishing Heightened Standards.](#)

[The Office of the Comptroller of the Currency. OCC Comptroller's Handbook - Corporate and Risk Governance.](#)

[COSO. Enterprise Risk Management - Integrated Framework – 2004](#)

[OCC. Retail Lending - Comptroller's Handbook.](#)

Domain 2: Policies, Procedures, and Limits (15%)

Task 1: Establish and maintain enterprise risk management policies in alignment with enterprise goals and objectives.

Knowledge of:

- a. Elements of a good control environment
- b. Business performance relative to policy limits and the implications this has for the effectiveness of the limits themselves
- c. Regulatory expectations around policy constraints
- d. How to identify current and emerging expectations in the regulatory environment
- e. Methods to implement and communicate enterprise risk management policies, standards, procedures, and guidelines
- f. The importance of idiosyncratic risks to the business
- g. The concepts of organizational control structure and escalation channels
- h. The relationship between risk appetite and enterprise goals and objectives
- i. Purpose of policies and guiding principles that policies should follow
- j. The concepts and components of risk appetite and risk culture and how they link to corporate strategy and operations

Task 2: Define and maintain enterprise risk management standards, guidelines, and procedures to guide and enforce compliance.

Knowledge of:

- a. Elements of a good control environment
- b. Regulatory expectations around policy constraints
- c. How to identify current and emerging expectations in the regulatory environment
- d. The importance of idiosyncratic risks to the business
- e. The concepts of organizational control structure and escalation channels
- f. Elements of risk appetite and the relationship between risk appetite and enterprise goals and objectives
- g. Purpose of procedures and principles the procedures should follow
- h. Expectations for policy, procedure, and limit review

Task 3: Develop and maintain policy limits.

Knowledge of:

- a. Business performance relative to policy limits and the implications this has for the effectiveness of the limits themselves
- b. Regulatory expectations around policy constraints
- c. How to identify current and emerging expectations in the regulatory environment
- d. The importance of idiosyncratic risks to the business
- e. Concept of risk appetite and its relationship to limit-setting
- f. Purpose of, methodologies for establishing, and sound governance principles for limits

- g. Calculation of risk metrics/quantitative methods
- h. Typical sources of risk concentration

Task 4: Establish risk appetite framework.

Knowledge of:

- a. Elements of a good control environment
- b. The importance of idiosyncratic risks to the business
- c. Elements of risk appetite and the relationship between risk appetite and enterprise goals and objectives

Task 5: Administer and handle policy and standard exceptions.

Knowledge of:

- a. Organizational structures, committees and their roles and responsibilities, and the concept of escalation
- b. Documentation of policy and standard exceptions, including that the appropriate approval authority was used for the exception

Task 6: Escalate risk to the appropriate governing body.

Knowledge of:

- a. Corporate governance, organizational structures, committees, and their roles and responsibilities
- b. Communication channels and techniques
- c. Business writing and communication techniques
- d. Documentation techniques and best practices

DOMAIN 2 – Study Resources

Regulation/Standard References

[Office of the Comptroller of Currency. Loan Portfolio Management / Comptroller's Handbook](#)

[OCC. Interest Rate Risk - Comptroller's Handbook.](#)

[Board of Governors of the Federal Reserve System. SR 11-7 Supervisory Guidance on Model Risk Management.](#)

[Board of Governors of the Federal Reserve. SR 10-1 Interagency Advisory on Interest Rate Risk.](#)

[Office of Comptroller of the Currency \(OCC\). Allowance for Loan and Lease Losses, Comptroller's Handbook.](#)

[Office of Comptroller of the Currency \(OCC\). Concentrations of Credit, Comptrollers Handbook.](#)

[Federal Reserve, OCC, et. al.. Joint Interagency Guidance on Interest Rate Risk.](#)

[The Office of the Comptroller of the Currency. Capital Planning: OCC Bulletin 2012-16.](#)

[Federal Reserve. SR 1215a1 - Federal Reserve Supervisory Letter.](#)

[The Office of the Comptroller of the Currency. 12 CFR Parts 30 and 170: OCC Guidelines Establishing Heightened Standards.](#)

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[The Office of the Comptroller of the Currency. OCC 2011-12: Supervisory Guidance on Model Risk Management.](#)

[OCC. Liquidity Safety and Soundness - Comptroller's Handbook.](#)

[The Office of the Comptroller of the Currency. Interagency Supervisory Guidance on Counterparty Risk Management.](#)

[OCC. Comptroller's Handbook: Rating Credit Risk. OCC.](#)

[The Office of the Comptroller of the Currency. Comptroller's Handbook - Related Organizations.](#)

Federal Statutes References

[Appendix D to Part 30—OCC Guidelines Establishing Heightened Standards for Certain Large Insured National Banks, Insured Federal Savings Associations, and Insured Federal Branches. 12 CFR 30. \[Docket ID OCC–2015–0017\] 12 CFR 30, appendix D, II.J, “Risk Data Aggregation and Reporting.”.](#)

[Part 206 - Regulations on Interbank Liabilities \(Regulation F\).](#)

Website References

[Securities and Derivatives.](#)

<https://www.fdic.gov/regulations/reform/dfast/>

[FDIC. Vol 11 issue 2.](#)

[Deloitte.](#)

Domain 3: Management Information Systems (9%)

Task 1: Develop and maintain management information systems (reporting tools) to systematically track and evaluate the performance of risk mitigation actions.

Knowledge of:

- a. Risk aggregation analysis tools and processes
- b. How to manage risk effectively with existing system limitations and access restrictions (e.g., manual vs. automated reporting)
- c. Methodologies for confirming and challenging the integrity of entries in the system
- d. Information systems likely to be able to provide data required for risk reporting (e.g., asset liability systems)
- e. Collection, preservation, and presentation of evidence (completeness, quality, etc.)
- f. Design elements in MIS reports to board and senior management that escalate attention to important risk mitigation actions

Task 2: Assess the quality and capabilities of the MIS systems used to support the decision-making activities of the institution.

Knowledge of:

- a. Risk aggregation analysis tools and processes
- b. Industry standards, sound practices, and regulatory expectations regarding enterprise risk management
- c. How to manage risk effectively with existing system limitations and access restrictions (e.g., manual vs. automated reporting)
- d. Information systems likely to be able to provide data required for risk reporting (e.g., asset liability systems)
- e. Investigative techniques (inquire, observe, request documentation, challenge)

Task 3: Ensure accuracy of data used for board and senior management reporting.

Knowledge of:

- a. Risk aggregation analysis tools and processes
- b. Investigative techniques (inquire, observe, request documentation, challenge)
- c. Fundamental system requirements knowledge (e.g., asset liability system, modeling, credit risk, risk assessment)

Task 4: Effectively manage data governance.

Knowledge of:

- a. Risk aggregation analysis tools and processes
- b. Investigative techniques (inquire, observe, request documentation, challenge)
- c. Information systems likely to be able to provide data required for risk reporting (e.g., asset liability systems)
- d. Techniques for establishing quality control processes and accountability

DOMAIN 3 - Study Resources

Book References

Rossi, Clifford. 2014. A Risk Professional's Survival Guide. John Wiley & Sons.

Regulation/Standard References

[Federal Reserve Board of Governors. SR 08-8 Compliance Risk Management Programs and Oversight at Large Banking Organizations with Complex Compliance Profiles.](#)

[Basel Committee on Banking. Principles for Effective Data Aggregation and Risk Reporting.](#)

[Office of Comptroller of Currency \(OCC\). Rating Credit Risk, Comptrollers Handbook.](#)

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[Office of the Comptroller Currency. Comptrollers Handbook: Corporate-Risk Governance. OCC.](#)

[OCC. Comptroller's Handbook: Large Bank Supervision. OCC.](#)

Website References

[McKinsey & Company.](#)

[Protiviti KnowledgeLeader.](#)

[Metric Stream.](#)

[McKinsey.](#)

[Deloitte.](#)

Domain 4: Control Framework (10%)

Task 1: Determine if the internal control framework aligns with the size, complexity, and risk appetite of the organization.

Knowledge of:

- a. Three lines of defense: roles, responsibilities, and the importance of an independent ERM function
- b. System of internal controls, including control types and techniques
- c. Control frameworks (e.g., COSO)
- d. Effective challenge by risk management staff
- e. Principles for conducting effective risk and control self-assessments (RCSAs)
- f. Model risk management practices

Task 2: Coordinate timing, coverage, and scope of risk management reviews with those of other control partners.

Knowledge of:

- a. Three lines of defense: roles, responsibilities, and the importance of an independent ERM function
- b. System of internal controls, including control types and techniques
- c. Quality control and quality assurance

Task 3: Support effective exam management for regulators, independent third parties, and audit.

Knowledge of:

- a. Three lines of defense: roles, responsibilities, and the importance of an independent ERM function
- b. System of internal controls, including control types and techniques
- c. Principles for effective exam management (e.g., regulatory and audit)

Task 4: Assess the adequacy of controls around external financial reporting and disclosures.

Knowledge of:

- a. Three lines of defense: roles, responsibilities, and the importance of an independent ERM function
- b. System of internal controls, including control types and techniques
- c. Sarbanes-Oxley Act and financial review committees
- d. Financial and regulatory reports and appropriate interpretation
- e. Control frameworks (e.g., COSO)
- f. Effective challenge by risk management staff

DOMAIN 4 – Study Resources: Regulation/Standard References

[Federal Reserve Board of Governors. SR 11-7 Supervisory Guidance on Model Risk Mgmt.](#)

[Federal Reserve Board of Governors. SR 16-11 Supervisory Guidance for Assessing Risk Management at Supervised Institutions with Total Consolidated Assets Less than \\$50 Billion.](#)

[Federal Reserve Board of Governors. SR 08-8 Compliance Risk Management Programs and Oversight at Large Banking Organizations with Complex Compliance Profiles.](#)

[Federal Reserve Board of Governors. SR 04-18 Bank Holding Company Rating System.](#)

[Federal Reserve Board of Governors. Bank Holding Company Supervision Manual.](#)

[Federal Reserve Board of Governors. SR 13-01 Supplemental Policy on Internal Audit /Outsourcing.](#)

[Board of Governors of the Federal Reserve System. SR 92-28 Interagency Guidance on Coordination and Communication Between External Auditors and Examiners.](#)

[Board of Governors of the Federal Reserve. Commercial Bank Examination Manual.](#)

[Board of Governors of the Federal Reserve. SR 96-37 Supervisory Guidance on Required Absences from Sensitive Positions.](#)

[Board of Governors of the Federal Reserve. SR 13-13 / CA 13-10: Supervisory Considerations for the Communication of Supervisory Findings.](#)

[Board of Governors of the Federal Reserve. SR 05-4 Interagency Advisory on the Confidentiality of Nonpublic Supervisory Information.](#)

[Board of Governors of the Federal Reserve. SR 15-16: Enhancements to the Federal Reserve System's Surveillance Program.](#)

[National Information Center of the Board of Governors of the Federal Reserve. BHCPR Peer Group Average Reports.](#)

[Board of Governors of the Federal Reserve System. SR 96-26 Provision of Individual Components of Supervisory Rating Systems to Management and Boards of Directors.](#)

[Board of Governors Federal Reserve System. SR 96-38 Uniform Financial Institutions Rating System.](#)

[Board of Governors of the Federal Reserve. SR 94-12 The Federal Reserve System's Definition of a Full Scope, On-Site Examination for Safety and Soundness.](#)

[Board of Governors of the Federal Reserve. SR 17-12: Timing Expectations for the Completion of Safety-and-Soundness Examination and Inspection Reports for Regional Banking Organizations.](#)

[Board of Governors Federal Reserve System. SR 93-59 Interagency Uniform Core Examination Report.](#)

[Board of Governors of the Federal Reserve. SR 16-14: FFIEC Information Technology Examination Handbook – Information Security Booklet.](#)

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[Board of Governors Federal Reserve. SR 13-19 / CA 13-21: Guidance on Managing Outsourcing Risk.](#)

[Board of Governors of the Federal Reserve. Federal Reserve Purposes and Functions.](#)

[Electronic Code of Federal Regulations. Enhanced Prudential Standards \(Regulation YY\).](#)

[Basel Committee of the Bank of International Settlements. Basel Regulatory Framework.](#)

[Board of Governors of the Federal Reserve System. Stress Tests and Capital Planning.](#)

[Board of Governors of the Federal Reserve System. Resolution Plans.](#)

[Board of Governors of the Federal Reserve. SR 17-11: Interagency Frequently Asked Questions on Implementation of the Liquidity Coverage Ratio \(LCR\) Rule.](#)

[Board of Governors of the Federal Reserve. 14-3: Supervisory Guidance on Dodd-Frank Act Company-Run Stress Testing for Banking Organizations with Total Consolidated Assets of More Than \\$10 Billion but Less Than \\$50 Billion.](#)

[Board of Governors of the Federal Reserve. SR 10-1 Interagency Advisory on Interest Rate Risk.](#)

[Board of Governors of the Federal Reserve. SR 16-12: Interagency Guidance on the New Accounting Standard on Financial Instruments – Credit Losses.](#)

[PCAOB. An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements.](#)

Section 2: Risk Management

Domain 5: Risk Identification (12%)

Task 1: Monitor and survey the internal and external environment for emerging risks and, where necessary, identify and execute appropriate risk mitigating strategies.

Knowledge of:

- a. Likelihood, impact, direction, and velocity for assessing risks
- b. Types of risk events (across risk taxonomies)
- c. Potential upstream/downstream impact of risk events
- d. Criteria for criticality
- e. Regulatory environment and applicable requirements
- f. Internal risk appetite and tolerance
- g. Basic processes and principles of banking

Task 2: Aid the first line in properly identifying, scoping, and conducting comprehensive risk and control self-assessments (RCSAs).

Knowledge of:

- a. Likelihood, impact, direction, and velocity for assessing risks
- b. Types of risk events (across risk taxonomies)
- c. Potential upstream/downstream impact of risk events
- d. Criteria for business criticality
- e. Risk and control self-assessment (RCSA) scoping
- f. Regulatory environment and applicable requirements
- g. Risk appetite and tolerance
- h. Basic processes and principles of banking

Task 3: Identify key risks associated with non-compliance with internal and external expectations.

Knowledge of:

- a. Likelihood, impact, direction, and velocity for assessing risks
- b. Types of risk events (across risk taxonomies)
- c. Potential upstream/downstream impact of risk events
- d. Criteria for business criticality
- e. Regulatory environment and applicable requirements
- f. Risk appetite and tolerance
- g. Basic processes and principles of banking

Task 4: Identify key idiosyncratic risks.

Knowledge of:

- a. Likelihood, impact, direction, and velocity for assessing risks
- b. Types of risk events (across risk taxonomies)
- c. Potential upstream/downstream impact of risk events
- d. Criteria for business criticality
- e. Regulatory environment and applicable requirements
- f. Risk appetite and tolerance
- g. Basic processes and principles of banking

Task 5: Identify risk scenarios that could lead to business loss.

Knowledge of:

- a. Likelihood, impact, direction, and velocity for assessing risks
- b. Types of risk events (across risk taxonomies)
- c. Potential upstream/downstream impact of risk events
- d. Criteria for business criticality
- e. Regulatory environment and applicable requirements
- f. Risk appetite and tolerance
- g. Basic processes and principles of banking

DOMAIN 5 – Study Resources

Book References

Rossi, Clifford. 2014. A Risk Professional's Survival Guide. John Wiley & Sons.

Anthony Saunders and Marcia Millon Cornett. MCGraw-Hill Irwin. Financial Markets and Institutions.

Regulation/Standard References

[Federal Reserve Board of Governors. SR 16-11 Supervisory Guidance for Assessing Risk Management at Supervised Institutions with Total Consolidated Assets Less than \\$50 Billion.](#)

[The Office of the Comptroller of the Currency. Risk Management Guidance: Third Party Relationships, Bulletin 2013-29.](#)

[FDIC. Supervisory Guidance on Operational Risk Advanced Measurement Approaches for Regulatory Capital.](#)

Website References

<http://www.gpmfirst.com/books/short-guide-operational-risk/risk-and-control-self-assessment-rdsa>

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Domain 6: Risk Measurement and Evaluation (17%)

Task 1: Estimate the likelihood that an event will occur and the impact of an event if it occurs.

Knowledge of:

- a. Key credit, financial, and non-financial risk measures (see Appendix for risk measures)
- b. Evaluation of inherent risk, control environment, and residual risk
- c. Calculation of risk metrics/quantitative methods
- d. Key indicators of economic trends (e.g., unemployment, bankruptcy rate, etc.)
- e. Typical sources of risk concentration

Task 2: Effectively challenge risk metric calculations by others.

Knowledge of:

- a. Key credit, financial, and non-financial risk measures (see Appendix for risk measures)
- b. Calculation of risk metrics

Task 3: Conduct scenario analysis stress tests.

Knowledge of:

- a. Key credit, financial, and non-financial risk measures (see Appendix for risk measures)
- b. Calculation of risk metrics
- c. Types of events that should be used in stress testing and the limitations of these scenario analyses
- d. Key indicators of economic trends (e.g., unemployment, bankruptcy rate, etc.)

Task 4: Complete risk and control self-assessments (RCSAs).

Knowledge of:

- a. Key credit, financial, and non-financial risk measures (see Appendix for risk measures)
- b. Evaluation of inherent risk, control environment, and residual risk
- c. Calculation of risk metrics

Task 5: Evaluate risk relative to risk appetite and risk tolerance.

Knowledge of:

- a. Key credit, financial, and non-financial risk measures (see Appendix for risk measures)
- b. Risk appetite and tolerance
- c. Calculation of risk metrics
- d. Typical sources of risk concentration

Task 6: Perform root cause analysis.

Knowledge of:

- a. Effects of diversification or amplification on aggregated risks
- b. Typical sources of risk concentration
- c. How risk appetite is quantified by risk types (for aggregation purposes)
- d. Root cause analysis principles and techniques

Task 7: Aggregate like risks.

Knowledge of:

- a. Effects of diversification or amplification on aggregated risks
- b. How risk appetite is quantified by risk types (for aggregation purposes)

Task 8: Aggregate across multiple risk types.

Knowledge of:

- a. Effects of correlation on diversification and aggregated risks

DOMAIN 6 – Study Resources

Book References

Jorion, Philippe (2006). McGraw-Hill. Value at Risk: The New Benchmark for Managing Financial Risk (3rd ed.).

Regulation/Standard References

[Office of the Comptroller of the Currency. Comptroller's Handbook - Bank Supervision Process.](#)

[OCC. Interest Rate Risk - Comptroller's Handbook.](#)

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[OCC. Comptroller's Handbook: Commercial Real Estate Lending.](#)

[The Office of the Comptroller of the Currency. 12 CFR Parts 30 and 170: OCC Guidelines Establishing Heightened Standards.](#)

[OCC. "Community Bank Stress Testing: Supervisory Guidance". OCC.](#)

[OCC. Liquidity Safety and Soundness - Comptroller's Handbook.](#)

[OCC. Comptrollers Handbook: Concentrations Of Credit.](#)

[OCC. Asset Based Lending - Comptroller's Handbook.](#)

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[Basel Committee on Banking Supervision. Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools.](#)

[OCC. Residential Real Estate - Comptroller's Handbook.](#)

[Federal Reserve. Supervisory Policy and Guidance Topics - Market Risk Management.](#)

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[Appendix D to Part 30—OCC Guidelines Establishing Heightened Standards for Certain Large Insured National Banks, Insured Federal Savings Associations, and Insured Federal Branches. 12 CFR 30. \[Docket ID OCC–2015–0017\] 12 CFR 30, appendix D, II.J, “Risk Data Aggregation and Reporting.”.](#)

Website References

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www.oliverwyman.com/content/dam/oliver-wyman/global/en/2015/dec/OW_Operational-Risk-Stress-Testing.PDF

<https://www.coso.org/Documents/COSO-ERM-Risk-Assessment-in-Practice-Thought-Paper-October-2012.pdf>

https://www.federalreserve.gov/supervisionreg/topics/asset_quality.htm

[Financial Stability Board \(FSB\).](#)

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Electronic Media References

[The Office of the Comptroller of the Currency \(OCC\). ENTERPRISE RISK APPETITE STATEMENT. April 2016.](#)

Domain 7: Risk Mitigation (17%)

Task 1: Evaluate the appropriateness of management's risk response and documentation.

Knowledge of:

- a. Types of risk responses (accept, mitigate, transfer, avoid)
- b. Basic classes of risk transfer instruments, including insurance and securitized assets, and when they are appropriate to use
- c. Practices for mitigating counterparty risk in risk transfer
- d. Root cause analysis and after action reviews
- e. Documentation expectations

Task 2: Prepare proper action plans for possible events.

Knowledge of:

- a. Types and examples of risk responses (accept, mitigate, transfer, avoid), and when each is appropriate
- b. Root cause analysis and after action reviews
- c. Third-party risk management practices
- d. Risk appetite and tolerance

Task 3: Select or recommend appropriate types of risk mitigation activity.

Knowledge of:

- a. Types of risk responses (accept, mitigate, transfer, avoid)
- b. Basic classes of risk transfer instruments, including insurance and securitized assets, and when they are appropriate to use
- c. Practices for mitigating counterparty risk in risk transfer
- d. Root cause analysis and after action reviews
- e. Third-party risk management practices
- f. Risk appetite and tolerance

Task 4: Respond to incidents with timely and appropriate mitigation.

Knowledge of:

- a. Types of risk responses (accept, mitigate, transfer, avoid)
- b. Root cause analysis and after action reviews

Task 5: Perform issue management, including identification and tracking, to ensure effective and timely resolution.

Knowledge of:

- a. Types of risk responses (accept, mitigate, transfer, avoid)
- b. Root cause analysis and after action reviews
- c. Effective issue management

Task 6: Respond to findings from regulators, independent third parties, and audit.

Knowledge of:

- a. Types of risk responses (accept, mitigate, transfer, avoid)
- b. Root cause analysis and after action reviews
- c. Effective finding management

Task 7: Estimate the residual risk of an event post-mitigation.

Knowledge of:

- a. Evaluation of inherent risk, control environment, and residual risk
- b. Calculation of risk metrics

DOMAIN 7 – Study Resources

Book References

[Basel Committee on Banking Supervision. Bank for International Settlements. 2011. Principles for the Sound Management of Operational Risk and the Role of Supervision. Basel, Switzerland.](#)

Regulation/Standard References

[BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM. Supervisory Guidance Regarding Counterparty Credit Risk Management.](#)

[OCC. Liquidity Coverage Ratio: Liquidity Risk Measurement Standards.](#)

[COSO - The Committee of Sponsoring Organizations of the Treadway Commission. Effective Enterprise Risk Oversight - The Role of the Board of Directors.](#)

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[The Office of the Comptroller of the Currency. Risk Management Guidance: Third Party Relationships, Bulletin 2013-29.](#)

[Board of Governors of the Federal Reserve System. Resolution Plans.](#)

[OCC. Comptroller's Handbook: Interest Rate Risk.](#)

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[OCC. Liquidity Safety and Soundness - Comptroller's Handbook.](#)

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[Basel Committee on Banking Supervision. Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools.](#)

[The Office of the Comptroller of the Currency \(OCC\). OCC BULLETIN 2008-16 \(Application Security\).](#)

[BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM. SR 09-1: Application of the Market Risk Rule in Bank Holding Companies and State Member Banks.](#)

[OCC. OCC 2011-12: SUPERVISORY GUIDANCE ON MODEL RISK MANAGEMENT.](#)

[OCC. OCC BULLETIN 2013-29: Third-Party Relationships - Risk Management Guidance.](#)

Website References

[T.Vijay Kumar.](#)

[Jonathan Stempel - Reuters.](#)

<https://pmstudycircle.com/2015/04/risk-response-strategies-for-negative-risks-or-threats/>

[Disaster Recovery Institute.](#)

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<https://www.isixsigma.com/tools-templates/cause-effect/determine-root-cause-5-whys/>

https://library.skillport.com/courseware/Content/cca/proj_27_a04_bs_enus/output/html/sb/sbproj_27_a04_bs_enus001004.html

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Domain 8: Risk Monitoring (12%)

Task 1: Design and produce standardized and ad hoc reporting.

Knowledge of:

- a. Required frequency and granularity for monitoring and distribution, including timeline, scoping, periodicity, time horizon, level of aggregation, and segmentation
- b. Techniques for effectively summarizing and communicating risk information (e.g., color coding, heat mapping)
- c. Techniques for effectively deconstructing risk information
- d. The proper level to distribute and make information available, including escalation
- e. Reporting requirements

Task 2: Monitor internal and external indicators and reports to identify key environmental changes.

Knowledge of:

- a. Required frequency and granularity for monitoring and distribution, including timeline, scoping, periodicity, time horizon, level of aggregation, and segmentation
- b. Techniques for effectively deconstructing risk information
- c. The proper level to distribute and make information available, including escalation
- d. Key credit, financial, and non-financial risk measures (see Appendix for risk measures)

Task 3: Identify and define key risk indicators.

Knowledge of:

- a. Key credit, financial, and non-financial risk measures (see Appendix for risk measures)
- b. Risk appetite and tolerance
- c. Calculation of risk metrics
- d. Distinction between key indicators (i.e., performance vs. risk vs. control)
- e. Key indicators of economic trends (e.g., unemployment, bankruptcy rate, etc.)
- f. Elements of effective risk measures

Task 4: Analyze report output.

Knowledge of:

- a. Techniques for effectively summarizing and communicating risk information (e.g., color coding, heat mapping)
- b. Techniques for effectively deconstructing risk information
- c. The proper level to distribute and make information available, including escalation

Task 5: Evaluate the controls for design and operating effectiveness.

Knowledge of:

- a. Required frequency and granularity for monitoring and distribution, including timeline, scoping, periodicity, time horizon, level of aggregation, and segmentation
- b. Control effectiveness evaluation
- c. Techniques for effectively deconstructing risk information

Task 6: Evaluate the quality of first-line performance/control monitoring.

Knowledge of:

- a. Required frequency and granularity for monitoring and distribution, including timeline, scoping, periodicity, time horizon, level of aggregation, and segmentation
- b. Control effectiveness evaluation
- c. Techniques for effectively deconstructing risk information
- d. The proper level to distribute and make information available, including escalation
- e. Best practices for first-line monitoring
- f. Reporting requirements

DOMAIN 8 – Study Resources

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Appendix: Key Measures of Credit, Financial, and Non-Financial Risk

Key Credit Risk Measures

- Loss rate—actual
- Loss frequency—actual
- Loss severity—actual
- Probability of default (PD)—modeled
- Loss-given default (LGD)—modeled
- Exposure at default (EAD)—modeled
- Expected loss
- Unexpected loss
- Roll rates—by delinquency status, corporate rating transition, etc.
- Point-in-time vs. through-the-cycle
- Loan delinquencies
- Loan consumer bankruptcy rates
- Loan non-accruals
- Loan non-performing assets
- Loan loss gross charge-offs
- Loan loss recoveries
- Loan loss net charge-offs
- Loan loss provision
- Allowance for loan and lease loss (ALLL) reserve
- Consumer credit scores (e.g., FICO)
- Loan-to-value (LTV) ratios
- Combined loan-to-value (CLTV) ratios
- Debt-to-income ratio
- Lien position
- Line-of-credit utilization rate
- Obligor rating
- Facility rating
- Regulatory classified loans and loan losses (substandard, doubtful, etc.)
- Corporate credit ratings from rating agencies
- Capitalization rate (“cap rate”) for commercial properties
- Debt service coverage ratio
- Investment grade
- Non-investment grade
- Counterparty concentration risk (by geography, industry, or other stratification)

Key Financial Risk Measures

Price/Market Rate Risk (Excluding Interest Rate)

- Value at risk (VaR)
- Tail value at risk (TVaR)

Interest Rate Risk

- Effective duration
- Weighted average life
- Term to maturity
- Yield to maturity
- Amortization
- Variable rate vs. fixed rate
- Reference rate
- Basis risk
- Net interest income vs. economic value of equity
- Optionality

Liquidity Risk

- Liquidity coverage ratio
- Net stable funding ratio
- Liquidity vs. funding

Memo:

Financial condition measures pertain to capital, asset quality, earnings, liquidity, and sensitivity to interest rates. In addition to the above, within the Key Financial Risk Measures category, the associated key measures for capital adequacy include the following:

- Capital available: regulatory total
- Capital available: regulatory Tier 1
- Capital available: regulatory common equity Tier 1
- Capital available: total assets for the regulatory leverage ratio
- Capital required: total risk-weighted assets
- Capital ratios: risk-based regulatory capital
- Capital ratios: leverage capital ratios

Key Non-Financial Risk Measures

Operational Risk

- Operational loss event frequency (number)
- Operational loss event severity (individual or average cost/number)
- Efficiency ratio
- Error rates (e.g., new account documentation or existing account maintenance)
- Percentage of contracts meeting service-level agreements (SLAs)
- Number of critical suppliers
- Number of critical suppliers with high risk per monitoring of their financial condition
- Percent concentration of key activities with critical suppliers
- Employee turnover ratio (voluntary and involuntary)
- Number of workplace threat or workplace violence incidents
- Ongoing training provided for staff
- Number of violations of corporate or regulatory policies by staff
- Ratio of vacant positions to total management and staff positions
- Average duration of open management and staff positions

Information Technology and Information Security (IT/IS) Risk

- Number of outdated systems
- Critical system uptime
- Incident response time
- Number of unpatched PCs and servers
- Internal phishing campaign failure rates
- Number of actual phishing attempts
- Number of attempts at network intrusion
- Number of attempts at distributed denial of service (DDOS)

Legal/Compliance Risk

- Auditable entities with less than satisfactory rating
- Repeat audit or regulatory findings
- Repeat model validation findings
- Geographic and borrower lending performance
- Branch distributions for low- and moderate-income tracts
- Majority-minority tract lending performance
- Non-qualifying mortgage to total loans ratio
- Consumer complaints
- Complaints filed with a regulatory agency
- Lending pricing exceptions

Strategic Risk

- Market share (of own company relative to total market)
- Market share concentration ratio
- Capital dedicated to non-core business
- Assets in non-core activities
- Total exposure to non-core relationships or businesses

Reputational Risk

- Analyst buy/sell recommendations
- Number of negative customer sentiment indications

