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MISSION

OCCU MISSION

The Mission of the Office of Corporate Credit Unions (OCCU) is to ensure the safety and soundness of the corporate credit union system by:

1. Providing timely and effective advice to the National Credit Union Administration (NCUA) Board on legislative, regulatory, and operational issues concerning corporate credit unions.

2. Developing, implementing, and maintaining examination and supervisory policies and procedures that timely address corporate credit union issues in an evolving financial market.

3. Effectively managing OCCU's resources, the applicable risk to the National Credit Union Share Insurance Fund (NCUSIF) and the systemic risk to the credit union system.

Chapter: 101

ADMINISTRATION

Introduction

The Corporate Examiner's Guide ("Guide") is for use during the examination and supervision of Corporate Credit Unions (corporates) which are subject to regulation by the National Credit Union Administration (NCUA). It provides Office of Corporate Credit Union (OCCU) personnel with uniform standards for planning and conducting examinations and should be used as a reference tool, training aid, and a guide to NCUA policies and procedures.

Via the regulatory process, OCCU personnel assess the safety and soundness of each corporate. This process includes an:

1. objective evaluation of a corporate's operational and financial soundness and its compliance with applicable laws and regulations;
2. assessment of the quality of management and directors; and
3. identification of areas where corrective action is required to strengthen operations, or improve the quality of performance, or enable compliance with applicable laws and regulations.

This Guide sets forth the framework for this process and is designed to encourage independent reasoning, objectivity, efficiency, and professionalism in the examination process. To promote consistent application among OCCU examination teams, the Guide sets forth minimum standards for examination objectives and procedures. While it promotes standardization of the examination process, field staff are encouraged to modify Guide programs to fit specific institution needs.

Examiners should supplement the Guide and its associated programs with education, experience, and sound judgment. Supplemental pages, updates, and revisions will be periodically published and distributed.

References within the text to specific regulations refer to regulations promulgated by NCUA, unless otherwise designated.

Guide Organization: Chapters

The Corporate Examiner's Guide is divided into five major areas, with each area divided into chapters. Each area and chapter is designated by a divider tab.

Mission

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Each chapter is divided into the following Sections and into further subsections, as applicable.

1. Introduction (Overview)
2. Examination Objectives
3. Examination Procedures
4. Examination Questionnaires
5. References
6. Appendices

Not every Chapter will include each Section.

Introduction

The Introduction describes the subject and explains the activity or operation. Introductions serve as an overview of the respective topics and reinforces knowledge the examiner has gained through NCUA's education programs and experience on the job. Introductions are designed to provide comprehensive information and guidance to examiners. They provide the reader with basic information such as NCUA policies and pertinent accounting issues. Introductions also focus on risks, rewards, and controls.

Examination Objectives

Examination objectives describe the goals that should be of primary interest to the examiner. Listed objectives are general and designed to help examiners tailor the examination to the specific corporate. Some examination objectives, such as evaluation of the corporate's system of internal controls, policies, practices, procedures, and the scope and adequacy of the audit function, help examiners determine the examination scope. Other objectives, such as assessing the corporate's compliance with laws and regulations and evaluating the need for corrective action, provide a framework to help examiners identify areas of risk and develop and implement a strategy for supervising the corporate.

Certain objectives are germane to the overall examination process and to virtually every examination section. These common objectives are presented below. Staff may wish to review this list during the course of an examination, as these objectives might not be specifically included in other Guide Sections.

<u>Common Objectives</u>

1. document the effectiveness of the corporate's operations;
2. determine compliance with laws and regulations;
3. determine the adequacy of and adherence to corporate policies and procedures;
4. assess management's expertise and ability to manage the corporate's affairs;
5. assess the board of director's oversight and ensure that management and the board are receiving complete and accurate reports;
6. verify that an acceptable system of records and internal controls is in place;
7. assess the effect of anticipated internal and external changes on the corporate;
8. assess the corporate's ability to meet its future needs (e.g., fund growth, provide capital, absorb losses);
9. identify any actual or potential undue risk to the corporate, the corporate system, or the National Credit Union Share Insurance Fund (NCUSIF); and

10. Report examination findings:
    a) Present analysis and conclusions regarding the corporate's overall condition, trends, and prospects for future viability; and
    b) Report concerns of material risk and initiate corrective action when needed.

Corporate Examination Procedures

Corporate examination procedures are steps an examiner may follow to accomplish objectives for an area. Examination procedures are a comprehensive collection of approaches from which the examiner-in-charge (EIC) selects only those necessary to adequately assess the area in the corporate under examination.

The materiality and significance of a given area of corporate operations are the EIC's primary considerations in deciding the scope of the examination and the procedures to be performed. Examiner flexibility results in examinations tailored to fit the operations of the corporate.

Examination procedures are divided into three groups: Base, Standard, and Expanded. All examinations will be conducted under Standard Examination Procedures (Standard), unless otherwise justified by the examiner and approved by the EIC. However, even if the examiner chooses to divert from the Standard Procedures, Base Examination Procedures will be accomplished in all examinations. <u>There are no exceptions</u>.

Base Examination Procedures are the minimum examination steps conducted when it is determined that less than Standard Examination Procedures are appropriate. This determination may be made when developing a multi-year examination scope or as a result of events during an examination. For instance, the EIC and the Corporate Field Supervisor (CFS) may determine that the Standard Automated Clearing House procedures should be conducted every other year to provide additional time to review the investment area. Likewise, the EIC may determine, after an examination has started, that a problem has arisen in an area that needs more attention, which requires less time in the Funds Transfer area. In each of these cases the Standard Examination Procedures may be reduced, but never below Base Examination Procedures.

Standard procedures are employed by examiners under normal circumstances. Normally, every examination will be staffed to complete Standard procedures. However, the EIC and the CFS have the authority to adjust those procedures if circumstances warrant. Standard procedures may be reduced to Base or increased to Expanded procedures. The EIC must explain the decision to alter Standard procedures in the Confidential Section workpaper.

Expanded procedures are more discretionary. Examiners should follow these procedures only when they identify significant problems and it is necessary and expeditious to perform audit-like verification procedures. Ideally, these procedures can be performed by the corporate's staff, directors, and internal and/or external auditors. If the corporate's internal controls or external audit program are not adequate, the examiner should:

1. require the corporate to immediately address the areas of concern, or
2. broaden the scope of the examination to include the Expanded procedures.

Although examination subject areas differ greatly, certain procedures are applicable to any phase of an examination. A list of procedures that are common to the overall examination process and to virtually every examination section follows. The examiner may wish to review this list when completing an area of review, as the procedures might not be specifically incorporated in other Corporate Examiner Guide Sections.

<u>General Procedures</u>

Gather Data

1. review previous Report of Examination, exceptions, and workpapers;
2. review current year's scope, supervisory correspondence, and interagency data;
3. consider regulatory policy associated with the area of review; and
4. obtain corporate's management reports and written policies and procedures.

Set Scope

1. establish a clear understanding of examination objectives;
2. perform analytical review of financial data;
3. identify new or unusual transactions requiring modified examination procedures;
4. indicate areas of greatest concern;
5. tailor examination program to meet the corporate's risk profile;
6. consult with other examiners and take the nature of their initial findings into account in determining the procedures to perform;
7. determine if expanded procedures are necessary;
8. develop additional procedures not covered in the Guide, if necessary; and
9. perform only those procedures necessary to achieve program objectives.

Evaluate Process

1. interview corporate personnel;
2. evaluate policies and procedures;
3. spot check the reliability and accuracy of reports;.
4. test the corporate's procedures;
5. identify material changes in operation or policy since the previous examination;
6. evaluate trends;
7. research significant variations from last year's examination to determine if there is cause for concern; and
8. obtain explanations for any matters of significance.

Assess Management

1. review adequacy of management reports to the board of directors;
2. determine the extent to which the directors are involved in monitoring performance and initiating corrective action;
3. review management's plan for future operations;
4. interview management and staff to ascertain if personnel have adequate knowledge of policies and procedures;
5. determine sufficiency of training and expertise to implement procedures; and

6. determine if policies and procedures are being communicated and regularly updated.

Formulate Conclusion

1. keep the EIC informed of progress;
2. discuss concerns with other examiners, as appropriate;
3. identify, and determine significance of, regulatory violations and deficiencies;
4. discuss findings with management;
5. determine adequacy of management's response to problem issues; and
6. consider possible strategies for corrective action and develop a recommended course of action.

Conduct Post Review Activities

1. review work to ensure objectives have been satisfied;
2. summarize results and conclusions;
3. draft comments, including scope, findings, and recommendations;
4. assign ratings if applicable;
5. ensure that there are properly cross-referenced work papers to document and support substantive findings and conclusions; and
6. update the Field File.

Corporate Examination Questionnaires

Corporate Examination Questionnaires (Questionnaires) are checklists an examiner may utilize to gather and summarize information relative to an area. Questionnaires for each area of review are provided on a chapter-by-chapter basis under the guide tab entitled Corporate Examination Questionnaires.

Questionnaires help to assess a corporate's control systems and improve the examiner's understanding of the corporate's internal controls, policies, practices, and procedures. Questionnaires ask about controls that ideally are in effect to provide the corporate with proper day-to-day protection. The examiner is primarily interested in controls that relate to compliance with managerial policies.

The EIC decides when to complete or update the questionnaires related to a particular area of review as part of an examination. IT IS NOT NECESSARY TO COMPLETE ALL QUESTIONNAIRES DURING EACH EXAMINATION. The examiner should include only those questionnaires pertinent to the examination scope and objectives.

Questionnaires reflect standards for safe and sound operating procedures and may be useful for evaluating a corporate's operations. They also assist in organization, act as memory joggers, and facilitate the review process.

References

Pertinent citations of law and regulation appear in the reference section. References to other relevant NCUA publications are identified where appropriate, including: various bulletins, agency instructions, industry sources, and accounting pronouncements.

An attempt has been made to ensure that the reference list is comprehensive, providing resources beyond those needed on a day-to-day basis. Therefore, the examiner should not be concerned if access to these references is not routinely available. If the corporate under examination is state chartered, the examiner should also refer to state regulations in accordance with OCCU policy. Regulatory references appear in the applicable Guide Section and in the scope.

Appendices

Following the main sections are appendices that might include various forms, checklists, statements, and guidelines, which provide the examiner with additional information regarding certain topics.

Corporate Examiner Conduct

Office of Corporate Credit Union Culture

OCCU has recruited and trained the highest caliber staff from within and outside NCUA. As such the expectations for performance and conduct are exceptionally high. OCCU staff are expected to be hard working, dedicated, efficient, effective, honest, independent, and professional.

OCCU staff expect to be treated in a professional and respectful manner by corporate officials, management, and employees. Likewise, those in the corporate expect the same treatment from OCCU staff. Discourteous treatment is not anticipated, nor will it be accepted, from either OCCU or corporate staffs.

Corporates are engaged in a dynamic industry where change is the "norm rather than the exception." Examiners must expect that corporate staff will go through the same learning curve which they have. Just as examiners learn through their experiences with other examiners and corporate staff, examiners should accept that corporate staff may look to them for their experience. Willingly sharing experiences builds mutual respect and understanding.

Examiners are expected to maintain open lines of communications with corporate staff. Those communication lines should enable corporate staff to discuss openly and frankly pertinent issues involving the corporate. Corporate staff should be encouraged to look to the district examiner (in most cases the EIC) to discuss examination and supervision related issues. Likewise, examiners should discuss issues first with appropriate corporate staff or the chief executive officers (CEO). If discussions are not fruitful, EICs are free to move up the chain of command in addressing those issues.

Corporate examiners also should understand that while they must have open communications with corporates, they also must maintain clear independence from the corporate and its staff. Thus, examiners are encouraged not to socialize with corporate employees. Any interaction which would give the perception to the reasonable person that the examiner may lose this independence is not appropriate.

Examples of questionable activities include, but are not limited to: corporates paying for meals, other than working meals, attending or participating in sporting events or other forms of entertainment, and other personal interactions.

Ethical Conduct

All OCCU employees are subject to the Standard of Ethical Conduct for Employees of the Executive Branch issued under Executive Order 12674 of April 12, 1989, as modified by Executive Order 12731. All OCCU employees should have available to them a manual under the same name issued by the United States Office of Government Ethics (OGE). The manual contains the standards and regulations issued by OGE.

OCCU employees should be familiar with the information contained in the manual since they are expected to comply with its requirements. NCUA's Ethics Officer offers some simple advice: "abide by the spirit as well as the letter of the standards." Should examiners have an ethical question which causes concern, they should contact the agency's Ethics Officer.

Administrative Issues in Corporate Credit Unions

The following policies governing professional conduct do not constitute an exhaustive or all-inclusive list; rather they are general guidelines addressing important issues that corporate examiners face in their day-to-day work environment.

Duration of On-site Examinations and Supervision Contacts

The scope of each examination and supervisory contact is determined by the EIC and the CFS, targeting problems and high-risk areas. These contacts should be conducted in the most efficient and least disruptive manner possible. Factors to consider in making these decisions are the number and availability of staff, travel costs, effect on the routine operations of the corporate, and the condition of the corporate.

Working Hours

Examiners should manage their time in a responsible and professional manner. Due to the substantial travel involved with a national examination program, OCCU staff have a great deal of flexibility in setting hours. As a general rule, OCCU staff work an eight hour workday, with travel authorized on Mondays and Fridays. On occasion in order to complete an examination in an effective manner, the EIC may request Sunday travel. Additionally, the distance and time to travel home on weekends may dictate that an over the weekend stay is necessary.

EICs will provide each examiner with a work schedule. Examiners should obtain prior approval from the EIC for any deviation from the pre-determined work schedule. Plans for each examination should be provided to the corporate being examined. As a courtesy, EICs should also inform the corporate's management with any material variances from the schedule as such situations develop.

Working Space

Normally corporates provide adequate working space for examiners. If space is inadequate, additional space may be requested, as long as it does not unnecessarily disrupt the corporate's operations.

Smoking

If a corporate has rules regarding smoking, they should be followed. Agency personnel who smoke should always be courteous and considerate of others. If a corporate allows smoking throughout the facility and it is perceived that it endangers the health of the examination participants, the EIC should work with the corporate to obtain smoke free space. If that is impossible, the EIC should work with the CFS on any other reasonable solution.

Access to Information

Examiners should carefully protect all information entrusted to them by the institution, securing it from unauthorized access. Confidential documents should not be left unattended.

Examiners should never divulge confidential information in any form to unauthorized persons. On the other hand, if the corporate refuses to provide information needed to complete the examination, the EIC should notify the CFS. If the CFS is not successful in obtaining the release of the information, the Director of OCCU should be notified to determine if appropriate administrative or other legal action is necessary.

Dress Code

Prior to conducting examinations and other contacts at corporates, the EIC is to determine the dress code that is acceptable at the corporate and inform all participants. In general, if less than business attire is acceptable in the corporate, business casual is acceptable for OCCU staff, even during staff and exit briefing meetings with officials. Traditional Business attire still is required for all joint conferences.

Examiners should use common sense in determining what is business casual. If, when corporate examiners look into the mirror, they have any questions as to the appropriateness of their dress, they should change into something they know is acceptable. Regardless of what examiners wear, it should be in good shape, fit properly, be clean, and appropriately pressed or ironed.

Acceptable business casual clothing includes: dress slacks, dress docker type pants, button down shirts, polo type shirts (such as high quality cotton shirts), loafer type leather shoes, dress shoes, socks, skirts (with hose), blouses, heeled shoes, and sweaters (with collared shirt).

Unacceptable casual dress includes: jeans or denim pants, sports type Khakis, un-collared shirts (men's), shirts with team or country club logos and characters (except agency issued shirts), deck shoes, tennis shoes, no socks, shorts or skorts, sleeveless shirts, open toed shoes including sandals, flannel shirts, and ski sweaters.

References

1. Standards of Ethical Conduct for Employees of the Executive Branch Manual, August 1992

Chapter 102

CORPORATE CREDIT UNION SUPERVISION AND EXAMINATION PROCESS

Introduction

The Office of Corporate Credit Unions (OCCU) fulfills its mission by promoting and ensuring the safety and soundness of the Corporate Credit Union System (System) principally through a program of continual supervision. Supervision includes, but is not limited to, the on-site examination of corporate credit unions (corporates) that results in an examination report. Supervision is the act of vigilance that encompasses all regulatory efforts to formulate, implement, and maintain an ongoing process to ensure that:

1. corporates report their condition in a timely and comprehensive manner;
2. OCCU evaluates and reports the condition of corporates;
3. corporates correct deficiencies in a timely manner; and
4. the System remains safe and sound.

OCCU's Supervision Goal

OCCU's overall supervision goal is to ensure the safety and soundness of the System by continuously evaluating and supervising the financial condition and performance of individual corporates and their service organizations, and reporting those conditions to the NCUA Board in a timely manner. OCCU provides high-quality "targeted" supervision. The key element in accomplishing OCCU's goal is the timely identification and resolution of any problem or condition that may have a material impact on a corporate, the System, or the National Credit Union Share Insurance Fund (NCUSIF).

OCCU's efforts are focused on (1) identifying existing and/or emerging material problems in individual corporates and/or the System, and (2) ensuring that such problems are corrected in a timely and appropriate manner. Since "accepting risk" is inherent to the business of the System, OCCU's philosophy is centered on evaluating risk.

OCCU applies this philosophy in all of its supervisory activities. OCCU combines the structure of consistent supervision with reasoned flexibility to ensure that its procedures are appropriate for both the corporate and the dynamic, evolving marketplace in which it operates. Flexibility allows examiners to adjust the supervisory effort to meet the risks posed by a particular corporate while ensuring that similar risks are addressed consistently throughout the System.

Elements of the Supervision Process

Regardless of the approach taken, effective supervision includes, at a minimum, the following elements:

1. Performing high quality annual examinations of all corporates which accept deposits from any federally insured credit union, whether federal or state chartered.

2. Conducting periodic or continuous on-site reviews of corporate activities based upon the degree of existing or perceived risk they undertake.

3. Conducting monthly off-site reviews of corporate activities through the review of their financial and management reports.

4. Conducting monthly reviews of periodic corporate financial data (NCUA 5310 reports) to determine trends in individual corporates and the System.

In conjunction with its efforts to implement these four elements, OCCU communicates with State Supervisory Authorities (SSA) to coordinate an overall supervision plan. Agreements with SSAs are contained in Chapter 104 and may be supplemented by special agreements with individual SSAs. Examiners should familiarize themselves with both agreements prior to initiating a contact with the SSA to discuss supervision and examinations plans.

Targeted Risk Approach

OCCU employs Targeted Risk procedures to ensure the examination scope appropriately focuses resources toward areas of major risk. While all areas of risk are addressed, an appropriate examination plan may utilize one or more of the following techniques:

1. Allocate examination hours based on the perceived risk that the examination area poses and the extent and results of prior years' review of the area.

2. Prioritize areas for a comprehensive review once every two, three, or four years (depending on risk) unless there is a demonstrable need for more frequent or thorough review.

3. Use examination procedures that test the quality of managerial supervision of the area, reliability of the area's internal controls, and the quality of oversight provided by the board of directors and its auditors.

Targeting risk requires examiners to determine how existing or emerging situations confronting a corporate, or the credit union industry, affect the nature and extent of risks in that institution. The examiner then structures supervisory plans and actions based on the corporate's risk profile. The Targeted Risk approach provides flexibility for the examiner to prioritize the use of OCCU resources toward the areas of greatest risk. It officially sanctions the ability and elevates the responsibility of the examiner-in-charge (EIC) to prioritize procedures to maximize the value of resources applied.

OCCU recognizes that corporates must take risks to earn a return. Risk levels, however, must be appropriately identified, managed, and controlled. The significance of risks must be evaluated continually.

Corporate management is responsible for controlling risk. OCCU assesses how well a corporate manages risk over time, rather than at a single point in time. Targeted Risk procedures focus on the oversight role rather than an audit role. Targeted Risk allows OCCU to concentrate on systemic risks and institutions that pose the greatest risk to the System and the NCUSIF.

OCCU's Targeted Risk approach identifies areas that, in aggregate, pose the potential for presenting an unacceptable level of risk to the System and the NCUSIF. To address high-risk activities that can be influenced by market conditions, OCCU's goal is to communicate with, and influence, the System through direct supervision, policy, and NCUA regulation. In situations where corporates are not properly managing risks, OCCU's goal is to use appropriate means to influence management to adjust its practices to conform with fundamentally sound corporate credit union principles.

Inherent Risks

Some risks are inherent to the System. A wide body of knowledge exists within the System on how to identify, measure, control, and monitor these inherent risks. Targeted Risk acknowledges these inherent risks and tests them during the examination to confirm that adequate controls are in place. Other risks in the System are more diverse and complex. These more sophisticated risks require enhanced controls and monitoring by both the corporate and OCCU. OCCU is committed to focusing its resources on these complex and evolving risks, especially when they present material actual or potential risks to the System.

Supervisory Response to Degree of Exposure to Risk

Risks that large corporates assume are generally diverse and complex and warrant a targeted risk approach. Under this approach, examiners do not attempt to eliminate appropriate risk-taking, but rather ensure that corporates understand and control the levels and types of risk they assume. In situations where risk is not properly managed, OCCU will direct management to take corrective action so that the corporate is managed in a safe and sound manner. In all cases, OCCU's supervisory focus is to ensure that management identifies, measures, controls, and monitors risks to ensure sufficient capital is present in relationship to the risks assumed or present in the corporate's activities.

Risks that "pass-through" corporates (those which primarily rely on another corporate for investment placement and product offerings) assume are generally less diverse and complex than those which deal

directly with the larger financial marketplace. In these institutions, the targeted risk approach calls for examiners to verify the existence of adequate controls and risk management systems by testing transactions. As pass-through corporates become increasingly more diverse and complex, examiners focus incrementally more attention on the risk management systems and the methods management uses to identify, measure, control, and monitor risk.

Targeted Risk Procedures

The Corporate Examiner's Guide stratifies Targeted Risk within Base, Standard, and Expanded examination procedures in Chapter 101.

A crucial element of the Targeted Risk approach is the EIC's pre-examination risk assessment of the corporate. (The framework for this process is described in Appendix 102-A entitled "Application of the Targeted Risk Approach in the Identification, Measurement, and Assessment of Risk.") During this assessment, the EIC determines and documents the level of supervisory concern and direction of risk for each risk category. Having prioritized the risks to which the corporate is exposed, the EIC prescribes and documents a detailed examination scope, selecting procedures which are appropriate on a Targeted Risk basis for the examination. A determination not to use Standard Examination Procedures will be documented. Likewise, while implementing these procedures (during the examination's on-site field work), additional review or analysis may be needed. The EIC will use professional judgment to complete or assign elected additional procedures from the Expanded Examination Procedures.

Targeted Risk Summary

The Targeted Risk approach allocates greater resources to those areas with higher risks. OCCU accomplishes this by:

1. Identifying risks using common definitions. This set of risks forms the basis for supervisory assessments and actions.

2. Measuring risk based on common evaluation factors. Risk measurement is not always quantified in dollar terms; it is sometimes a relative assessment of exposure. For example,

numerous internal control deficiencies may indicate a corporate has an excessive amount of transaction risk.

3. Evaluating risk management to determine if the corporate's systems adequately manage and control risk levels. The sophistication of the systems will vary based on the level of risk present and the size and/or complexity of the institution.

4. Assigning greater resources to areas of higher or increasing risk, both within an individual institution and among corporates in general. This is accomplished through the supervisory strategy.

5. Performing examinations based on the risks, reaching conclusions on risk profile and condition, and following up on areas of concern.

To accomplish these tasks, examiners should discuss preliminary conclusions with corporate management and adjust conclusions and strategies based on these discussions, if appropriate. OCCU can then target supervisory efforts on significant risks.

The Targeted Risk approach provides OCCU and the System with:

1. a high level of consistency in supervision by using minimum core procedures;
2. an allocation of resources based on risk;
3. sufficient flexibility to allow examiners to tailor the supervisory effort to the risks present;
4. less supervisory intervention in areas of low risk; and
5. help in determining the sufficiency of each corporate's capital and risk management systems.

Planning

Examination/supervision planning is the process of identifying and establishing supervisory goals and objectives for incorporation into OCCU's supervisory strategy for the corporate. On-site examinations, supplemented by on- and off-site supervision activities are the means by which OCCU's supervisory strategies are implemented and its supervisory goals and objectives are achieved.

The Targeted Risk approach ensures that OCCU's resources are efficiently used by establishing appropriate examination procedures, and developing appropriate guidelines for OCCU personnel to follow when completing assignments.

Examination/Supervision Planning

OCCU's supervision policies require a specific supervisory strategy for each corporate. The strategy includes detailed, planned supervisory activities. Planning normally begins at the conclusion of a full-scope, on-site examination. Planning for the largest corporates is ongoing.

On-going Modification of Examination/Supervision Plans

Examiners perform ongoing supervision and periodic follow-up activities during an examination cycle to identify and assess risks and changing conditions. As supervisory strategy is dynamic, EICs and Corporate Field Supervisors (CFSs) should review their examination/ supervision strategies at least quarterly. They should revise or update them based on the corporate's risk profiles, developments in the System, and regulatory changes. Examiners should discuss changes to examination/supervision plans with corporate management.

Developing an Examination/Supervision Plan

Examination/supervision of individual corporates is tailored to their conditions and needs according to OCCU policy. This approach should balance consistency with flexibility. Annual examination/supervision plans for each corporate are developed as follows:

1. Budget - In conjunction with preparing OCCU's budget, each CFS will recommend to the Director, OCCU (Director), the category Type of supervision (discussed below) planned for each corporate during the next examination cycle. The CFS should consult with examiner staff before making a recommendation. The Director will approve the type of supervision recommended, subject to NCUA Board budget approval.

2. Three-Year Plan - After each annual examination, the CFS and the EIC will develop the corporate's supervision and examination scope for the forthcoming year, and contingent plans for the subsequent two years (three years total). The plan will be submitted to the Director for approval.

3. The CFS and the EIC will monitor implementation of the plan on an ongoing basis, notifying the Director of any needed changes/ revisions.

Supervision "Types"

Each corporate is categorized by "Type." The type code assigned to a corporate determines the specific targeted examination and supervision program applicable to the institution. Variances may be made to prescribed programs only with the approval of the Director.

A corporate's assigned supervision type is not a rigid function of asset size, expanded authority level, or classification (CRIS). Rather, it represents a combination of factors that may include these elements in addition to perceived risk level, quality of or changes in management, financial condition, trends, etc.

Type I

All corporates not classified as a Type II or III, are classified as Type I. Type I corporates do not have expanded authorities above the Base Plus level.

Supervision of "Type I" corporates includes:

1. Monthly off-site monitoring by the EIC.

2. Ongoing monitoring of NCUA 5310 report data and trends, as well as monthly verification of data by the EIC.

3. Examination and on-site supervision:

    a. Risk Management and Financial Risk rated either 1 or 2: Annual Examination

b. Risk Management and/or Financial Risk rated no worse than a 3:

1) Annual Examination
2) Semiannual on-site follow-up contact

c. Risk Management rated 4 and Financial Risk rated 3:

1) Annual Examination
2) Semiannual Examination
3) Quarterly on-site follow-up contact

d. Risk Management rated 3 and Financial Risk rated 4:

1) Annual Examination
2) Semiannual Examination
3) Quarterly on-site follow-up contact

e. Risk Management and Financial Risk rated 4:

1) Annual Examination
2) Semiannual Examination
3) Monthly on-site follow-up contact

Type II

To qualify for Type II supervision, corporates must generally exceed $1 billion in total assets, and/or have expanded authorities above the Base Plus level and exercise its approved powers in a significant and assertive manner, and/or have very complex and creative operations, and/or have significant impact in the marketplace, and/or present unusual or unique examination and supervision problems that cannot be addressed by Type I supervision.

Supervision of Type II Corporates includes:

1. Monthly off-site monitoring by the EIC.

2. Ongoing monitoring of NCUA 5310 reports, as well as monthly verification of data by the EIC.

3. Examination and on-site supervision:

   a. Risk Management and Financial Risk rated either 1 or 2:

      1) Annual Examination
      2) Monthly one or two week on-site contact by EIC

   b. Risk Management and/or Financial Condition rated no worse than 3:

      1) Annual Examination
      2) Semiannual follow-up Examination
      3) Monthly one or two week on-site contact by EIC

   c. Risk Management rated 4 and Financial Risk rated 3:

      1) Annual Examination
      2) Semiannual Examination
      3) Monthly two week on-site contact by EIC

   d. Risk Management rated 3 and Financial Risk rated 4:

      1) Annual Examination
      2) Semiannual Examination
      3) Monthly two week on-site contact by EIC
      4) Weekly review of financial deficiencies

   e. Management and Financial Condition rated 4:

      1) Annual Examination
      2) Semiannual Examination
      3) Full time, on-site presence

Type III

Corporates which qualify for Type III supervision, generally, have billions of dollars in total assets, and/or have expanded powers in excess of Part I and exercise their approved powers in a significant and assertive manner, and/or have very complex and creative operations,

and/or have a significant impact in the marketplace and on the corporate and/or credit union system, and/or present unusual or unique examination and supervision problems which cannot be addressed by Type I or Type II supervision.

Supervision of Type III corporates includes:

1. Monthly off-site monitoring by the EIC

2. Ongoing monitoring of NCUA 5310 report data and trends, as well as monthly verification of data by the EIC

3. Examination and on-site supervision - regardless of Management and Financial Condition rating:

    a. Incremental annual examination, scoped with three separate contacts
    b. Full time presence by on-site examiner, not the EIC
    c. Monthly on-site contact by EIC

Examinations

Scheduling Examinations

Annual examinations are required and performed for all corporates. On-site follow-up examinations and supervisory contacts are performed consistent with the corporate's Type coding.

Examination Teams

Examinations are performed by examination teams, composed of an EIC and one or more team members. Selection of the EIC and team members is accomplished by the CFS and is based upon a variety of factors such as experience, complexity of the corporate, and scheduling considerations.

Examination Steps

An examination entails a number of steps in the planning and execution of the examination process. These steps generally include:

1. pre-examination planning;
2. on-site pre-examination preparation;
3. examination field work;
4. report writing;
5. joint conference; and
6. wrap-up.

Pre-Examination Planning

Prior to each examination, the EIC has an opportunity to plan the on-site (field) examination work. This planning effort is accomplished during a period referred to as "pre-examination." The pre-examination effort may be accomplished either on- or off-site, at the discretion of the EIC. For practical reasons, the pre-examination is frequently accomplished via a combination of on-site/off-site effort.

By necessity, pre-examination planning efforts are conducted approximately 90 - 120 days in advance of the examination, and generally require from three days to one week to complete. Pre-examination planning is an opportunity for the EIC to:

1. arrange team lodging or assign that responsibility to a team leader on large examinations;
2. arrange for corporate management to complete and return to the EIC for consideration the Pre-Examination Questionnaire and Fact Sheet (OCCU 102Q);
3. develop a preliminary examination work plan (scope) and time budget;
4. prepare correspondence to the team regarding their participation on the examination; and
5. prepare correspondence to the corporate being examined regarding information that should be made available for the examination, arrangements for review of the annual audit, and scheduling of the joint conference date.

Factors to consider in the pre-examination planning process:

1. Attain goals and objectives - The examination effort should be directed toward attaining the supervisory goals and objectives that were previously identified and established during the examination/supervision planning process.

2. Develop scope - Examination procedures contained in the individual programs are designed to be comprehensive and target the areas of risk. Therefore, it is important that only the appropriate procedures are selected within each program.

3. Plan for optimum productivity - The EIC should pre-plan opportunities for meetings with examination staff and corporate personnel, arrange adequate workspace for the examination team, and prioritize and schedule work flow.

4. Make assignments and monitor job - The EIC must determine the expertise necessary to perform certain aspects of the examination and make assignments accordingly. When warranted, major areas should be assigned to assistants. Depending on the size of the job, the EIC may want to delegate certain management responsibilities to assistants. Delegation will free the EIC to perform critical functions and allow the assistants to improve administrative and management skills. Training and development needs should also be considered when making examination assignments.

5. Assign assistant - When possible, assistants should be assigned to program areas they can complete, including preparing reports and comments, before leaving the assignment. This allows for efficiency and accountability and provides on-the-job training.

6. Budget and monitor overall time - The EIC must consider the time budget when assigning tasks. A useful tool for improved personnel planning is a time and planning summary that is organized according to the sections of the examination. Such a summary specifies the areas for which procedures are planned and provides for a comparison of actual and budgeted hours. As the examination progresses, any activities not included on the time sheet should be added by the EIC as needed.

7. Assign priorities - The EIC should assign priorities to the critical categories. Ordinarily this can be accomplished by assigning categories of related programs to one assistant who subsequently may supervise others. If time allows, it is also efficient to have an assistant complete interrelated programs to avoid duplication of effort.

8. Schedule examination - To minimize costs and disruption for the corporate, it is important that the examination be conducted as quickly as practical. It is the responsibility of the EIC to discuss any planning problems with the CFS. If the corporate's management is concerned about scheduling, this matter should also be discussed.

Pre-Examination Questionnaire and Fact Sheet (OCCU 102Q)

This questionnaire contains questions concerning the nature and complexity of the corporate's operations and internal controls and is designed to assist the EIC in planning examination procedures and resources. It should be completed as one of the first steps of the "Pre-Examination" planning effort. Ideally, it should be prepared by corporate management or by the EIC during an on-site interview with corporate management.

On-Site Examination Preparation

Examiner's utilize on-site examination preparation time to accomplish several purposes:

1. review the Procedural Questionnaires which management has completed at the EIC's request and make any necessary changes in the preliminary scope;
2. ensure that all requested information is or will be available for the examination team upon its arrival; and
3. review the workpapers supporting the annual audit.

On-site examination preparation efforts usually take 1 to 2 days and are generally performed during the first few days of the week preceding the on-site arrival of the examination team (first day of examination field work). This timing allows the EIC to review information provided by management pursuant to the pre-examination request, make any necessary changes in the preliminary scope, and follow-up on any requested information that management has yet to make available.

Examination Field Work

Depending on the size and complexity of the corporate, an examination usually entails two to four weeks of on-site effort (field work). The duration of a Type III incremental examination may vary. During this period, the examination team gathers information and performs procedures that have been outlined by the EIC in the examination scope.

Managing An Examination

Managing an examination is as important as planning it. The level and sophistication of management methods and procedures will vary depending on the activities to be performed and the size and nature of the corporate. The EIC carries the primary responsibility for managing the examination.

Inherent in the EIC's responsibilities is ensuring that the supervisory strategy objectives are met and that the activity is completed in a timely manner. To accomplish these goals, the EIC must monitor the progress of the examination continually and supervise, coordinate, and evaluate the work of assisting examiners (team members).

Key elements the EIC should consider during the course of the examination are:

1. Communicate examination objectives - The EIC must ensure that the examiners understand the objectives for the examination and their assigned programs. Examiners should notify the EIC as questions occur regarding scope or depth of review.

2. Monitor staff performance - Examiners' performance must be monitored throughout the examination to ensure that objectives are being met according to schedule and to prevent minor problems from growing. It is also important to avoid material deviations from the examination scope into unplanned activities. Early identification of work-related problems also allows examiners the opportunity to correct mistakes and to immediately improve upon skills.

3. Monitor the examination - Monitoring the examination's progress allows early adjustments to the scope, staffing, and completion date, as necessary. The EIC is responsible for notifying the CFS as soon as adjustments to scope are considered necessary.

4. Training and evaluating examiners - Examiners may frequently need guidance, depending on their experience and ability. Questions should be encouraged and the EIC is responsible to ensure that someone is available for guidance. Depending on the size of the examination, the EIC should be familiar with the examiner's work to make fair and constructive evaluations of their performance.

5. Communicate effectively - The EIC must maintain effective communications with corporate management, the CFS, and examiners regarding the examination's progress.

6. Complete workpapers - Prepare, file, index, and review work papers to facilitate efficient preparation of the examination report.

7. "Out-brief" examiners - The out-briefing process is critical to the conclusion of the on-site examination effort. As the field work draws to a close, a chief responsibility of the EIC is to ensure the out-briefing (interview) of each examination participant. This interview consists of a verbal report by the participant to the EIC or the EIC's designee regarding examination areas reviewed and issues identified. It also is intended to provide an opportunity for the orderly transfer of examination materials, such as workpapers, reference material, time sheets, etc., from the participant to the EIC or the EIC's designee. Importantly, this occasion is utilized as an opportunity for the EIC to provide the participant with verbal feedback concerning the work performed by the examiner.

Work Paper Documentation

Integral to the Targeted Risk approach is its system of workpapers which is designed to assist the EIC in examination planning, coordinating, observing, understanding, critiquing, reporting, and follow-up. Overall, examination workpapers provide efficient vehicles for the examiner to report both the understanding obtained and concerns identified.

Required workpapers for each examination include:

1. National Credit Union Administration Examination Report, OCCU 102B and OCCU 102C - These forms are the standard report letter page for the distribution of an examination report. OCCU 102A is utilized for a report to a federally chartered corporate credit union and OCCU 102B is used for a state chartered corporate credit union. These forms list the procedures used during and objectives of the examination, cites the responsibility of the board of directors and management, and provides instructions on how to address the report's findings.

2. Executive Summary, OCCU 102D - The Executive Summary summarizes the examiner's review, analysis, and findings in the major areas of the credit union's operation, financial condition, and management.

3. Supplementary Facts, OCCU 102E- The Supplementary Facts is used to discuss material facts or situations not contained in other narrative sections of the examination report. This form is optional.

4. Document of Resolution, OCCU 102F - This form is designed to record and report the findings, issues, and actions needed to correct findings for issues of major importance. Matters presented on this form must represent violations of law, regulation, policy, and/or must constitute a material safety and soundness business issue. As OCCU 102F issues are identified, examiners should:
   a) confirm their understanding of the facts and circumstances surrounding the issue and the corresponding basis for the exception;

b) prepare the OCCU 102F; and
c) report the finding and provide a copy of the OCCU 102F to the team leader (if any) and the EIC.

5. Checklist of Other Examiner's Findings, OCCU 102G - The examiner has broad latitude regarding the documentation of issues which do not merit inclusion on the OCCU 102F. The OCCU 102G has been devised to serve as a vehicle to report issues about which the examiner has a "concern," but which are not material and are not appropriate for inclusion on the OCCU 102F.

   OCCU 102G issues should be discussed with "departmental" management as they are identified during the examination. The OCCU 102G should be maintained on an "in progress" basis throughout the on-site examination work and provided to the team leader (if any) and EIC daily during the examination.

   A summary of this form will be provided to the corporate's directors no later than the conclusion of the joint conference. Normally, it will not be included in the official examination report. However, with the concurrence of the CFS, the examiner may include the form with the report if the number of non-material items when considered as a whole will have a material impact on the overall evaluation of any component of the either the financial risk or risk management rating. When it is included as a part of the report, the examiner will explain the reasons to the corporate's board.

6. Consolidated Balance Sheet Report (product of the 5310 System, - This report is to be produced and analyzed during each examination and included in the examination report. It provides monthly balance sheet, income, and ratio trends

7. Corporate Examiner's Memorandum OCCU 102H - This form is developed as part of the examiner's "Observation/Reviewing" responsibilities. The examiner develops a thorough understanding of assigned processes as they are uniquely implemented in the corporate being examined. As evidence of this understanding, the examiner prepares the OCCU 102H which is a "high level" memorandum, optimally one to three pages.

OCCU 102H is designed to be "carried forward" from year to year and updated/revised only as necessary to reflect any changes to the operation that have been made since the prior examination. Concluding each OCCU 102H is a brief narrative overview, ideally one page or less in length, which summarizes the examiner's conclusions regarding the operational status of the area reviewed. This should be a "conclusions reached" memorandum - not a listing of the review steps which the examiner accomplished. The concluding narrative should be titled "Status as of (Date of Examination) Examination."

8. Corporate Risk Information System, OCCU 102I - This form is used to support the Corporate Risk Information System (CRIS) ratings developed by examiners during the examination. From this form, the examiner will obtain the composite and component CRIS ratings which will be included in the Executive Summary, OCCU 102D.

9. Confidential Section, OCCU 102J - The Confidential Section is for NCUA's internal use only. However, situations exist when all or part of a report's Confidential Section may be released by court order or in compliance with a Freedom of Information Act request. The possibility of release should not dissuade examiners from presenting necessary information; however, examiners should maintain their professionalism and objectivity when writing the Confidential Section.

   Examiners are to report corrective and constructive work accomplished during the examination in the Confidential Section if not included in the open sections of the report. Examiners should comment briefly but completely enough to clearly reflect actions taken. Of particular importance is an explanation of what the examiner accomplished during discussions with officials and management. If not discussed elsewhere in the report, the Confidential Section should state what formal actions the board took and how the officials will handle major problems.

Examiners should include in the Confidential Section pertinent matters of a private or restricted nature, including professional opinions based on the examiner's observations. However, the examiner should not make statements based on gossip or hearsay.

Other examiner-designed workpapers. Examiners are authorized and encouraged to use their professional judgment in devising unique workpapers to supplement core workpapers for the assigned area of review. However, excessive documentation should be avoided and such workpapers should only include information that is relevant and/or may require follow-up. Time spent recording extraneous information is better spent examining high-risk areas.

Report Writing

Depending upon the size and complexity of the corporate and/or deficiencies noted during the examination, the EIC is afforded one week to consolidate, review, and analyze the team's workpapers and prepare and submit a draft report for supervisory review.

Supervision

On-Site and Off-Site Supervision Process

Corporates are an integral part of the System and the credit union industry. Additionally, they have the ability to take risks in the management of their assets as they provide services to their members. Due to the complexity and inherent importance of corporates, on-going supervision is needed to ensure the safety and soundness of individual corporates and the System. Effective and continuous review of a corporate's operations is an essential part of the supervision process.

Files

EICs maintain field files for each corporate in their district. These files should not only include documents, analysis, and reports related to previous examinations and supervision contacts, but also current policies and procedures of all critical areas of operation. The files should be well organized to ensure their efficient use and, when necessary, their orderly transfer to other OCCU staff.

Information Received

To supplement the files maintained, each EIC should receive a monthly board package from corporates in their district. The package, at a minimum, should include the following:

1. monthly board and committee minutes with supplemental attachments (e.g., proposed policies, individual new product business plans, etc.);
2. ALM reports (i.e., NEV, spread analyses, book of business, etc.);
3. financial statements, including a delinquent loan report;
4. budget comparisons; and
5. current lists of investments and new investments purchased during the month.

Analyses Performed

While conducting on-site and off-site supervision contacts, the EIC will perform, at a minimum, specific supervision functions. The following supervision tasks are the key to determining whether an immediate on-site contact is required, or the current on-site contact is to be expanded, and the scope of the next examination or supervision contact.

1. analyze financial trends;
2. ensure timely compliance with the previous examination report's Records of Action and Examiner Findings;
3. assess changes in management (i.e. board of directors, senior management, and other key employees, etc.);
4. assess changes to MIS systems or major related systems (i.e., item processing etc.);
5. monitor and analyze changes in the investment portfolio and ALM strategies;
6. review and verify for accuracy financial information submitted monthly by corporates, via the 5310 system;
7. review all changes in policies, procedures, practices, and operations.

Examination Objectives

Examination Planning and Control Objectives:

1. Prepare for supervisory activities, including the on-site examination, in an efficient manner.

2. Select and structure examination programs that target the goals and objectives of the supervisory strategy.

3. Ensure that the examination is conducted in a professional manner.

4. Establish controls and recordkeeping systems to communicate examination findings effectively.

5. Maintain review processes to ensure that prescribed work is completed and that workpapers support the conclusions.

Supervision Contact Objectives

The objectives of both on-site and off-site supervision contacts are to:

1. Obtain reasonable assurances each corporate continues to be financially sound.

2. Determine the risk to the NCUSIF.

3. Determine the corporate is in compliance with applicable laws and regulations.

4. Determine the corporate's activities and financial condition do not adversely affect the System.

Examination Procedures

See Corporate Examination Procedures - Examination Administration (OCCU 102P).

Supervision On-Site Procedures

See Corporate Examination Procedures - Examination Administration (OCCU 102Pon).

Supervision Off-Site Procedures

See Corporate Examination Procedures - Examination Administration (OCCU 102Pof).

Examination Questionnaire

See Pre-Examination Questionnaire and Fact Sheet (OCCU 102Q).

Appendices

102A - Application of the Targeted Risk Approach in the Identification, Measurement, and Assessment of Risk

Appendix 102A

COMPTROLLER'S - APPLICATION OF THE TARGETED RISK APPROACH IN THE IDENTIFICATION, MEASUREMENT, AND ASSESSMENT OF RISK

Supervision by Risk

Supervision by risk requires examiners to determine how certain existing or emerging issues facing a bank or the banking industry affect the nature and extent of risk in that institution. Based on that risk evaluation, examiners then structure regulatory supervisory plans and actions. Supervision by risk builds upon the risk-based supervisory philosophy historically used by the OCC. This enhancement provides consistent definitions of risk, a structure for assessing these risks, and a more integrated use of risk assessment in the supervisory process.

The OCC recognizes that banking is a business of taking risk in order to earn profits. Risk levels, however, must be appropriately managed and controlled. Banking risks also must be evaluated in terms of their significance. These assessments should be ongoing.

Supervision by risk leaves the responsibility for controlling risks with bank management. The OCC assesses how well a bank manages this risk over time, rather than only assessing the condition at a single point in time. With supervision by risk, the OCC functions in more of an oversight than an audit role. Supervision by risk allows the OCC to supervise by concentrating systemic risk and institutions or areas that pose the greatest risk to the system.

For the entire industry, the OCC's supervision by risk identifies areas that, in aggregate, pose the potential for presenting an unacceptable level of risk to the banking system and the federal deposit insurance fund. For those high-risk activities and/or activities that have become particularly risky because of market conditions, the OCC's goal is to communicate with, and influence, the industry through direct supervision, policy, and regulation. In situations where an individual bank is not properly managing its risks, the OCC's goal is to use appropriate means to influence bank management to adjust its practices to conform with sound fundamental banking principles.

Some risk are inherent to banking. A wide body of knowledge exists within the industry on how to identify, measure, control, and monitor these inherent risks. Supervision by risk acknowledges those inherent risks and performs limited testing in examinations directed at confirming whether adequate controls are in place. Other risks in the industry are more diverse and complex. These more sophisticated risks require enhanced controls and monitoring by both the bank and the OCC. The OCC is committed to directing its most significant resources to these complex and evolving risks, especially where they present material, actual, or potential risks to the banking system.

Risks that large banks assume are generally diverse and complex and warrant a risk-oriented supervisory approach. Under this approach, examiners do not attempt to prohibit appropriate risk-taking, but rather ensure that banks understand and control the levels and types of risk they assume. In situations where risk is not properly managed, the OCC tries to direct bank management to take corrective action so that the bank is managed in a safe and sound manner. In all cases, the OCC's supervisory focus is to ensure that bank management identifies, measures, controls, and monitors risks to ensure sufficient capital is present in light of the risks.

Risks that community banks assume are generally less diverse and complex than those of larger banks. Under this approach, examiners verify the existence of adequate controls and risk management systems by testing transactions. Examiners will focus attention on the risk management systems and the methods management uses to identify, measure, control, and monitor risk in those community banks or in areas that are more diverse and complex.

Supervision by risk allocates greater resources to those areas with higher risks. The OCC accomplishes this by:

- Identifying risks using common definitions. This set of risks forms the basics for supervisory assessments and actions.

- Measuring risk based on common evaluation factors. Risk measurement is not always quantified in dollar terms; it is sometimes a relative assessment of exposure. For example, numerous internal control deficiencies may indicate a bank has an excessive amount of transaction risk.

- Evaluating risk management to determine if bank systems adequately manage and control the identified risk levels. The sophistication of the systems will vary based on the level of risk present and the size and/or complexity of the institution.

- Assigning greater resources to areas of higher or increasing risk, both within an individual institution and among banks in general. This is done through the supervisory strategy.

- Performing examinations based on the risks, reaching conclusions on risk profile and condition, and following up on areas of concern.

To accomplish these tasks, examiners should discuss preliminary conclusions of this risk-based supervisory strategy with bank management and adjust conclusions and strategies based on these discussions, if appropriate. The OCC can then focus supervisory efforts on significant risks, i.e., the areas of highest risk within a bank and within the banking system.

Examiners must focus on the consolidated company risk profile to fully implement supervision by risk. This consolidated approach recognizes that risks at individual institutions may be mitigated or increased on a company-wide basis. Individual bank risk profiles, however, must be determined for the lead bank and significant national bank affiliates for the examiner to fully evaluate the consolidated risk profile.

In summary, the supervision by risk approach provides the OCC and the banking industry with:

- A high level of consistency in supervision because it sets and uses minimum core procedures.
- An allocation of resources based on risk.
- Sufficient flexibility to allow examiners to tailor the supervisory effort to the risk present.
- Less supervisory intervention in areas of low risk.
- Help in determining the sufficiency of each bank's capital and risk management systems.

Definition of Risk

For purpose of the OCC's discussion of risk, the OCC assesses banking risk by its impact to capital and earnings. From a supervisory perspective, risk is the potential that events, expected or unanticipated, may have an adverse impact on the bank's capital or earnings.

The simple existence of risk is not necessarily reason for concern. To put risks in perspective, examiners should decide if the risks a bank is undertaking are warranted. Generally, risks are warranted when they are understandable, measurable, controllable, and within the bank's capacity to readily withstand adverse performance. If examiners determine risks are unwarranted, they must communicate with management and the directorate to mitigate or eliminate the unwarranted risks. Appropriate actions for the bank to take may include reducing exposures, increasing capital, or strengthening risk management processes.

Risk Management

Because market conditions and company structure vary, no single risk management system works for all companies. Each institute should develop its own risk management program tailored to its needs and circumstances. The sophistication of the risk management system will increase with the size, complexity, and geographic diversity of each bank or company. All sound risk management systems, however, have several common fundamentals. For example, bank staff responsible for implementing sound risk management systems perform those duties independent of the bank's risk-taking activities. Regardless of the risk management program's design, each program should include:

- Risk identification. Proper risk identification focus on recognizing and understanding existing risks or risks that may arise from new business initiatives. Risk identification should be a continuous process, and should occur at both the transaction and portfolio level.

- Risk measurement. Accurate and timely measurement of risks is a critical component of effective risk management. A bank that does not have a risk measurement system has limited ability to control or monitor risk levels. Further, the sophistication of the risk measurement tools a bank uses should reflect the complexity and levels of risk it has assumed. The bank should periodically verify the integrity of the measurement tools it uses. Good risk measurement systems assess both individual transactions and portfolios.

- Risk control. The bank should establish and communicate limits through policies, standards, and/or procedures that define responsibility and authority. These control limits should be meaningful management tools that can be adjusted if conditions or risk tolerance change. The bank should have a process to authorize exceptions or changes to risk limits when they are warranted.

- Risk monitoring. Banks should monitor risk levels to ensure timely review of risk positions and exceptions. Monitoring reports should be frequent, timely, accurate, and informative; and should be distributed to appropriate individuals to ensure action when needed.

Effective risk management requires an informed board of directors. The board must guide the company's strategic direction. A key component of strategic direction is endorsing the organization's risk tolerance by approving policies that set standards, either orally or in writing. Well-designed monitoring systems allow the board to hold management accountable for operating within established tolerance levels.

Capable management and appropriate staffing also are critical to effective risk management. Bank management is responsible for the implementation, integrity, and maintenance of risk management systems. Management also must keep the directors adequately informed. Management must:

- Implement the company's strategic direction.

- Develop policies, formal or informal, that define the institution's risk tolerance that are compatible with the bank's strategic goals.

- Oversee the development and maintenance of management information systems to ensure they are timely, accurate, and informative.

- Ensure that strategic direction and risk tolerance are effectively communicated and adhered to throughout the organization.

When examiners assess risk management systems, they consider policies, processes, personnel, and control systems. A significant deficiency in one or more of these components constitutes a deficiency in risk management. All of those systems are important, but the sophistication of each will vary depending upon the complexity of the bank. Noncomplex community banks normally have less formalized policies, processes, and control systems in place than do large banks.

- **Policies** reflect the bank's intent and commitment to pursuing desired results. They set standards and courses of action to pursue, implement, or enforce specific objectives. Good policies link with, and reflect, a bank's underlying mission, values, and principles. They also clarify the bank's tolerance for risk. Mechanisms should be in place to trigger a review of policies in the event that activities or tolerances change. Policies may be written or unwritten depending upon the effectiveness of management and complexity of the area or bank. In any event, standards should be articulated and adhered to in practice.

- **Processes** are the procedures, programs, and practices that govern how a bank will pursue its objectives. Processes define how daily activities are carried out. Good processes are consistent with the underlying policies, are efficient, and include checks and balances.

- **Personnel** are the staff and managers that execute or oversee performance of the processes. Good staff and managers are qualified; competent, and perform as expected. They understand the bank's mission, values, policies, and processes. Compensation programs should be designed to attract, develop, and retain qualified personnel.

- **Control Systems** are tools and information systems that bank managers use to measure performance, make decisions, and assess effectiveness of existing processes. These feedback devices must be timely, accurate, and informative. They measure performance and assist in decision-making.

Categories of Risk

The OCC has defined nine categories of risk for bank supervision purposes. These risk are: **Credit, Interest Rate, Liquidity, Price, Foreign Exchange, Transaction, Compliance, Strategic, and Reputation**. These categories are not mutually exclusive, any product or service may expose the bank to multiple risks. For analysis and discussion purposes, however, the OCC identifies and assesses the risks separately.

Credit Risk

Credit Risk is the risk to earning or capital arising from an obligor's failure to meet the terms of any contract with the bank or otherwise fail to perform as agreed. Credit risk is found in all activities where success depends on counter-party, issuer, or borrowed performance. It arises any time bank funds are extended, committed, invested, or otherwise exposed through actual or implied contractual agreements, whether reflected on or off the balance sheet.

Credit risk is the most recognizable risk associated with banking. This definition, however, encompasses more than the traditional definition associated with lending activities. Credit risk also arises in conjunction with a broad range of bank activities, including selecting investment portfolio products, derivatives trading partners, or foreign exchange counter-parties. Credit risk also arises due to country or sovereign exposure, as well as indirectly through guarantor performance.

Interest Rate Risk

Interest rate risk is the risk to earning or capital arising from movements in interest rates. The economic perspective focuses on the value of the bank in today's interest rate environment and sensitivity of that value to changes in interest rates. Interest rate risk arise from difference between the timing of rate changes and the timing of cash flows (re-pricing risk); from changing rate relationships among different yield curves affecting bank activities (basis risk); from changing rate relationship across the spectrum of maturities (yield curve risk); and from interest-related options embedded in bank products (options risk). The evaluation of interest rate risk must consider the impact of complex, illiquid hedging strategies or products, and also the potential impact on fee income which is sensitive to changes in interest rates. In those situations where trading is separately managed this refers to structural positions and not trading portfolios.

The assessment of interest rate risk should consider risk from both an accounting perspective (i.e., the effect on the bank's accrual earnings) and the economic perspective (i.e., the effect on the market value of the bank's portfolio equity). In some banks, interest rate risk is captured under a broader category of market risk. In contrast to price risk, which focuses on the market-to-market portfolios (e.g., trading accounts), interest rate risk focuses on the value implications for accrual portfolios (e.g., held-to-maturity and available-for-sale accounts).

Liquidity Risk

Liquidity risk is the risk to earnings or capital arising from a bank's inability to meet its obligations when they come due, without incurring unacceptable losses. Liquidity risk includes the inability to manage unplanned decreases or changes in funding sources. Liquidity risk also arises from the bank's failure to recognize or address changes in market conditions that affect the ability to liquidate assets quickly and with minimal loss in value.

As with interest rate risk, many banks capture liquidity risk under a broader category-market risk. Liquidity risk, like credit risk, is a recognizable risk associated with banking. The nature of liquidity risk, however, has changed in recent years. Increased investment alternative for retail depositors, sophisticated off-balance sheet products with complicated cash-flow implications, and a general increase in the credit sensitivity of banking customers are all examples of factors that complicate liquidity risk.

Price Risk

Price risk is the risk to earnings or capital arising from changes in the value of portfolios of financial instruments. This risk arises from market-making, dealing and position-taking activities in interest rate, foreign exchange, equity, and commodities markets.

Many banks use the term price risk interchangeably with market risk. This is because price risk focuses on the changes in market factors (e.g., interest rates, markets liquidity, and volatilities) that affect the value of traded instruments. The primary accounts affect the value of traded instruments. The primary accounts affected by price risk are those which are re-valued for financial presentation (e.g., trading accounts for securities, derivatives, and foreign exchange products).

Foreign Exchange Risk

Foreign exchange risk is the risk to earning or capital arising from movement of foreign exchange rates. This risk is found in cross-border investing and operating activities. Market-making and position-taking in foreign currencies is price risk.

Foreign exchange risk is also known as translation risk and is sometimes captured as a component of market risk. Foreign exchange risk arises from accrual accounts denominated in foreign currency, including loans, deposits, and equity investments (i.e., cross-border investing). Accounting conventions require quarterly revaluation of these accounts at current rates. This revaluation translates the foreign denominated accounts into U.S. dollar terms.

Transaction Risk

Transaction risk is the risk to earnings or capital arising from problems with service or product delivery. This risk is a function of internal controls, information systems, employee integrity, and operating processes. Transaction risk exists in all products and services.

Transaction risk is also referred to as operating or operational risk. This risk arises on a daily basis in all banks as transactions are processed. It is a risk that transcends all divisions and products in a bank.

Compliance Risk

Compliance risk is the risk to earnings or capital arising from violations of, or nonconformance with laws, rules, regulations, prescribed practices, or ethical standards. Compliance risk also arises in situations where the laws or rules governing certain bank products or activities of the bank's clients may be ambiguous or untested. Compliance risk exposes the institution to fines, civil money penalties, payment of damages, and the voiding of contracts. Compliance risk can lead to a diminished reputation, reduced franchise value, limited business opportunities, lessened expansion potential, and lack of contract enforceability.

Compliance risk is often overlooked as it blends into operational risk and transaction processing. A portion of this risk is sometimes referred to as legal risk. This is not limited solely to risk from failure to comply with consumer protection laws; it encompasses all laws as well as prudent ethical standards and contractual obligations. It also includes the exposure to litigation from all aspects of banking, traditional and nontraditional.

Strategic Risk

Strategic risk is the risk to earning or capital arising from adverse business decisions or improper implementation of those decisions. This risk is a function of the compatibility of an organization's strategic goals, the business strategies developed to achieve those goals, the resources deployed against these goals, and the quality of implementation. The resources needed to carry out business strategies are both tangible

and intangible. They include communication channels, operating systems, delivery networks, and managerial capacities and capabilities.

Strategic risk focuses on more than an analysis of the written strategic plan. It focuses on how plans, systems, and implementation affect the bank's franchise value. It also incorporates how management analyzes external factors that impact the strategic direction of the company.

Reputation Risk

Reputation risk is the risk to earnings or capital arising from negative public opinion. This affects the institution's ability to establish new relationships or services, or to continue servicing existing relationships. This risk can expose the institution to litigation, financial loss, or damage to its reputation. Reputation risk exposure is present throughout the organization and is why banks have the responsibility to exercise an abundance of caution in dealing with its customers and community. This risk is present in activities such as asset management and agency transactions.

The assessment of reputation risk recognizes the potential impact of the public's opinion on a bank's franchise value. This risk is inherent in all bank activities. Banks which actively associate their name with products and services, such as with fiduciary services, are more likely to have higher reputation risk exposure. As the bank's vulnerability to public reaction increases, its ability to offer competitive products and services may be affected.

Measuring and Assessing risk

To ensure effective supervision by risk, the OCC requires a common framework to document decisions about risk. The risk assessment system (RAS) provides a concise method of communicating and documenting judgments regarding the quantity of risk, the quality of risk management, the level of supervisory concern (measured as aggregate or composite risk), and the direction of risk. The common definitions explained above are critical to identifying risk consistently. A list of evaluation factors that examiners should consider in making the assessments is also provided. These evaluation factors are not mandatory checklists, but rather provide an overview of issues that can assist the examiner in making decisions within the RAS.

Assessments of risk in the RAS must reflect both current and prospective view of the company's or bank's risk profile. This assessment drives supervisory strategies and activities. It also facilitates discussions with bank management and directors and helps to ensure more efficient examinations.

The RAS is used for all banks. The OCC has, however, developed two versions of the RAS, one for community banks and one for large banks. This allows for a common supervisory philosophy while recognizing the differing levels and complexities of risk present in each bank.

Examiners should discuss conclusions from the RAS with appropriate bank management and the board. Bank management's input may help clarify or modify the examiner's RAS conclusions. While the OCC does not require bankers to adopt a similar process, examiners must effectively communicate the rationale for their decisions in evaluating risk to ensure effective supervision. These discussions will help the OCC and bank management reach a common understanding of the risks, focus on the strengths and weaknesses of risk management, and ensure that future supervisory plans are achieved.

The Risk Assessment System for Large Banks

Once the risks in a company are identified using the common definitions explained above, examiners use the common framework provided by the RAS to assess the risk exposure for the nine types of risk. For seven of the risks (Credit, Interest Rate, Liquidity, Price, Foreign Exchange, Transaction and Compliance), the supervisory process includes an assessment of the:

- **Quantity of risk**, which is the level or volume of risk that exists and is assessed as high, moderate, or low.

- **Quality of risk management**, which includes how well risk are identified, measured, controlled, and monitored and is assessed as weak, acceptable, or strong.

- **Aggregate risk**, which is a summary judgment that reflects the level of supervisory concern considering both the quantity of risk and the quality of risk management, weighing the relative importance of each. The examiner's assessment of aggregate risk may be impacted by mitigating factors, not necessarily considered in the quantity of risk and quality of risk management decisions. An example of a mitigating factor is insurance. Aggregate risk is assessed as high, moderate, or low. Aggregate risk assessments direct the specific activities and resources outlined in supervisory strategies.

- **Direction of risk,** which indicates the likely changes to the risk profile over the next 12 months and is assessed as decreasing, stable, or increasing. Decreasing direction indicates the examiner anticipates that aggregate risk will decline over the next 12 months. Stable direction indicates the examiner anticipates that the aggregate will remain unchanged. Increasing direction indicates the examiner anticipates the aggregate risk will be higher 12 months in the future. When aggregate credit risk is moderate and direction is decreasing, the examiner can

anticipate that aggregate credit risk will be low or lower in 12 months. The direction of risk often influences the supervisory strategy.

For the other two categories of risk, strategic risk and reputation risk, examiners' judgment of risk is less quantifiable. These risks affect the bank's franchise value but are not direct risks that examiners can precisely measure in an examination. These risks require examiners to consult with supervisory offices to ensure all elements are considered. Given the less explicit nature of these risks, the OCC's risk assessment and measuring process is modified. For strategic risk and reputation risk, the supervisory process includes an assessment of the:

- **Composite risk,** which is a summary judgment that reflects the level of risk of supervisory concern incorporating all elements that affect strategic risk and reputation risk. It is assessed as high, moderate or low. Composite risk assessments direct the specific activities and resources outlined in supervisory strategies.

- **Direction of risk**, which is the examiners' view of likely changes to the risk profile over the next 12 months, as explained above. It is assessed as decreasing, stable, or increasing.

The combined assessments of each significant national bank allow the examiner to assess the consolidated risk profile of the holding company. The relative importance of each risk, both for the individual bank and for the holding company, should influence the development of the strategy and the assignment of resources.

Examiners should complete a **consolidated** RAS quarterly. Examiners must also complete the RAS for each significant national bank affiliate every 12 months. The bank RAS should be updated more frequently if deemed appropriate based on the consolidated risk profile. The consolidated and individual bank RAS conclusions are recorded in SMS.

Chapter 103

ON-SITE PRESENCE SUPERVISION

This Chapter will be completed during 1999.

Chapter 104

STATE-CHARTERED CORPORATE CREDIT UNIONS

Introduction

NCUA recognizes that state regulatory agencies are the government entities responsible for the supervision of state-chartered federally insured corporate credit unions (corporate FISCUs) and non-insured state corporate credit unions (corporate NISCUs). Since all corporate credit unions provide deposit, liquidity and correspondent services to federally insured natural person credit unions, NCUA has an interest in all corporate FISCUs and NISCUs to assess risk to the National Credit Union Share Insurance Fund (NCUSIF). Section 741.206 of NCUA's Rules and Regulations reflects NCUA's interest with respect to corporate FISCUs. Likewise, Section 704.17(b), which considers a corporate NISCU as an '"instituted-affiliated party' within the meaning of Section 206(r) of the Federal Credit Union Act, 12 U.S.C 1786(r)," reflects NCUA's interest with respect to corporate NISCUs.

A key element to ensuring that corporate FISCUs and NISCUs are operated in a safe and sound manner is the performance of off-site and on-site reviews, as necessary. As noted in previous chapters, NCUA corporate examiners prepare off-site monthly status reports using information gleaned from board packets, telephone conversations, and financial data.

Although state and NCUA examiners are charged with distinct roles and responsibilities in the oversight of corporate FISCUs and NISCUs, generally speaking both employ similar methodologies in terms of off-site and on-site contacts in administering their duties.

When NCUA determines that it is necessary for its examiners to perform on-site contacts, a cooperative effort between NCUA's Office of Corporate Credit Unions (OCCU) and the State Supervisory Authorities (SSAs) is necessary to ensure an effective joint examination/insurance review of the corporate FISCU or NISCU. This cooperation results in: (1) the efficient utilization of state and federal resources, (2) on-the-job training and exposure to a common examination program for these complex financial institutions, and (3) protection of the interests of the NCUSIF by ensuring that all corporate credit unions are operated in a safe and sound manner.

Additionally, for those corporates that have been identified as having problems, an on-site joint examination/insurance review may be performed to follow through on the completion of corrective actions required by previous examination reports. NCUA staff will coordinate all on-site contacts with the SSA before contacting any corporate FISCU or NISCU officials. NCUA policy requires that examiners contact SSAs with adequate lead time to set up these follow-up on-site visits. The SSA may choose not to participate in the examination or follow-up contact and if so, the NCUA examiner is required to copy the state supervisory agency on all correspondence and reports. This practice is normally reciprocated by the SSA.

Joint Examinations/Insurance Reviews

NCUA staff will coordinate with the SSA in scheduling joint examinations/insurance reviews of corporate FISCUs and NISCUs. The dates of the examination/insurance review should be mutually agreed upon by NCUA and the SSA.

Both the SSA and NCUA may designate an examiner-in-charge (EIC) of a joint examination/insurance review. Consistent with NCUA's recognition of the SSA as the government entity responsible for the supervision of a state chartered institution, the SSA may designate the "Supervisory EIC," and NCUA, the "Insurance EIC."

During the preplanning process, the NCUA and SSA designated examiners will develop the scope and team assignments. Preliminary decisions such as who will write the report and who will present findings during the briefings and joint conferences will help both sides better prepare for the examination. A time budget is prepared based on these elements to ensure timely completion of on-site work and exit briefing.

Examination Scope and Report

All corporate credit unions will be examined using a common examination format, common scope requirements, and common workpaper standards; however, the report will be reviewed by SSA and NCUA staff to determine if additional workpapers and/or revisions to workpapers may be required prior to its release to corporate management. The work papers from each joint examination/insurance review generally will be consistent with the requirements outlined in this Guide.

A joint examination/insurance review producing a single report encompassing both SSA and OCCU work is preferable. In certain cases, SSAs and NCUA realize this may not be possible. However, whether examiners issue a single report or two separate reports, the report must address the concerns of both parties and document plans of action, developed with the corporate's officials and management, to correct the noted deficiencies. The SSA and NCUA are jointly responsible for adequately addressing the safety and soundness issues and for coordinating any necessary corrective action.

During the joint examination/insurance review, and before meeting with credit union officials, SSA and NCUA examiners will jointly discuss their findings and recommendations. Whether or not they reach agreement, it is the examiners' shared responsibility to strive to reach compatible conclusions. Any disagreements between NCUA and the SSA should not occur during briefings or meetings, and examiners should take care to not introduce topics that have not been previously discussed.

If SSA and NCUA examiners cannot reach mutual agreement on examination and supervision related issues, the examiners will defer to their respective supervising examiner for resolution of such disagreements before meeting with the corporate officials.

Both parties have the right to ensure the EIC or team member will address all significant findings, concerns, and recommendations with the corporate's officials and management, and communicate corrective actions during the briefings and joint conferences. This may require either party to voice their concerns in joint meetings, but should not be done without prior discussions between the examiners' supervisors. The customary report response gives management and officials an opportunity to respond to existing and potential problems following the joint conference.

Examiner In Charge Qualifications

NCUA and the SSAs have reached an understanding concerning the establishment of EIC criteria that formalize the minimum qualifications required for the EICs of joint examination/insurance reviews of the corporate FISCU or NISCU. The criteria are recognized as the minimum specialized experience and training required for EICs.

EICs should have extensive experience as EIC in large, complex, financial institutions prior to joining the corporate program. The EIC must have an overall understanding of all aspects of corporate operations, and above average knowledge of up-to-date investments and ALM practices and applications, excellent written and oral communications skills, and the willingness to do whatever it takes to get the job done in what many times is a very stressful situation. Additionally, all EICs should receive ongoing specialized training in investments, ALM, wire transfers, ACH, etc.

The following criteria provide guidelines which will be applied to both NCUA and State examiners. Comparable experience and training will be acceptable alternatives to these guidelines.

Training

It is preferable that all examiners who are candidates to serve as the SSA "Supervisory EIC" or NCUA's "Insurance EIC" of a corporate examination have:

1. an accounting degree, finance degree (minimum of 3 accounting courses in program) or CPA designation;
2. advanced specialized training in Asset Liability Management and Investments; and
3. ongoing Corporate Examiner training, or its equivalent.

Experience

In addition to the training cited above, the supervisory EIC and the insurance EIC should have the following experience:

1. A minimum four (4) years experience as a natural person credit union examiner or equivalent, and will have served as EIC on the examination of large, complex, natural person credit unions or other comparable financial institutions.

2. Participated in at least three (3) annual or follow-up examinations of corporate credit unions or other comparable financial institutions, and performed reviews of all areas documented in the corporate credit union examination scope.

3. Acted as assistant to the corporate credit union EIC at least twice or had other comparable experience.

SSAs and NCUA will make available additional examination team participation in corporates located in other states, provided each respective corporate's management and state supervisor does not object. Completing a confidentiality agreement may be required for out-of-state examination work.

Joint Training

NCUA is committed to staffing corporate examination teams with highly skilled examiners whose education and training are comparable with those of the corporate's own employees. Thus, NCUA is committed to training both NCUA and SSA examiners. NCUA will use a variety of training techniques such as standard classroom training, on-the-job training (OJT), small focus groups, individualized outside course training, and a combination of all these to accomplish its training goals. Among the topics covered will be asset liability management, investments, correspondent services, and EDP. Additionally, changes to corporate examination techniques and guidelines, and NCUA and outside agency regulations will be reviewed as appropriate. The objective of the training is to provide the participants with emerging issues related to corporate credit unions.

In order to maximize its training effort, NCUA will rely SSAs to coordinate the use of corporate FISCUs and NISCUs as training sites and to provide expertise (trainers) for these training programs.

State examiners participating in or expected to participate in the examination and supervision of corporate credit unions may attend the training sessions. Participant lists are prepared by the NASCUS State Programs Coordinator and forwarded to OCCU staff as requested.

Participation in Federal Corporate Credit Union (FCCU) Examinations and Insurance Reviews in Out-of-State FISCUs

From time to time, SSAs request participation in examinations of the federal corporate credit unions located in their state, to determine the safety and soundness of the corporate accepting deposits from the FISCUs and NISCUs they regulate. Additionally, to augment state examiner training, requests are made to participate on examiations/insurance reviews of corporate FISCUs and NISCUs located in other states. Due to the sensitive nature of information encountered during the course of examinations and insurance reviews, SSAs and OCCU may be required to enter into confidentiality agreements with NCUA or the applicable SSA.

Release of FCCU Examination Reports

State agencies are also requested to enter into Confidentiality Agreements when requesting copies of examination reports for federally chartered corporates located in their states, if participation in the examination did not occur.

Expanded Authorities and Waiver Requests

Part 704 of NCUA's Rules and Regulations requires that all applications for expanded authorities or waivers of the rule be approved by the SSA prior to NCUA Board consideration. To reduce the regulatory burden for state chartered corporate credit unions and to eliminate duplication of resources, it may be desirable to perform a joint review of these requests by SSA and NCUA staff.

If a request receives initial SSA approval, NCUA staff will then review the request and make a recommendation to the NCUA Board. Written documentation of the SSA's approval is an integral part of the Board Action Memorandum's supporting documentation.

If a request is denied by the SSA, NCUA will concur with the denial. To facilitate this procedure, it is requested that a copy of the SSA's denial letter mailed to the corporate be also forwarded to NCUA.

Transmittal Letters

If a joint examination report is issued and signed by both the NCUA and SSA EICs, a standard supplement to the report includes the mailing of a transmittal letter to the chairman of the corporate's board of directors. Unless otherwise agreed, the originator of the transmittal letter will be the SSA in coordination with NCUA. If an SSA does not wish to send a transmittal letter, NCUA may send one.

Correspondence

Copies of all correspondence material to the continued safety and soundness of the NCUSIF will be provided to NCUA. Copies of NCUA's correspondence will be sent routinely to the appropriate SSAs.

Follow-up Plans

At the end of the joint examination, NCUA and the SSA determine what follow-up, if any, the corporate needs, who will perform the follow-up, and when. Follow-up plans may be based partially on the risk evaluation rating. If the state and NCUA do not agree on the rating, this should be noted in the confidential section of the report, along with agreed-upon follow-up plans.

Administrative Actions

In corporate FISCUs and NIFCUs having serious operational or management problems that normal supervisory efforts have not, or cannot resolve, administrative actions represent the strongest tools available to NCUA and the SSA. The purpose of administrative actions is to prevent, alter, or eliminate serious operational problems in a corporate. Administrative actions further protect the corporate, its members, its creditors, and the NCUSIF.

By law, only the state regulator can place an insolvent corporate FISCU or NISCU into involuntary liquidation.

Administrative actions available for use in corporate FISCUs and NISCUs include:

1. cease and desist;
2. civil money penalties;
3. prohibition and removal;
4. conservatorship;
5. termination of insurance; and
6. revocation of authority to receive shares and deposits from federally insured credit unions.

NCUA may terminate federal share insurance in a corporate FISCU when the NCUA Board determines that an undue insurance risk exists because of specified practices, conditions, or violations and that, after receiving proper notice the corporate FISCU has failed to make necessary corrections and:

1. Is engaging or has engaged in unsafe or unsound practices in conducting business.

2. Is in an unsafe or unsound condition to continue operations as an insured credit union.

3. Is violating or has violated an applicable law, rule, regulation, order, or any condition imposed in writing by the NCUA Board in connection with the granting of any application or other request by the corporate.

4. Is violating or has violated any written agreement entered into with the NCUA Board.

NCUA can also revoke the authority of a corporate NISCU to receive shares and deposits from federally insured credit unions. This can occur if the NCUA Board determines the NISCU has violated its written contract with the NCUA Board, which requires adherence to Part 704 and to submit to examinations.

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Chapter 201

INVESTMENTS

Introduction

The proliferation of new securities and the complexity of instrument structures have made the comprehension and analysis of investments increasingly difficult. While the financial risks borne by corporate credit unions (corporates) are monitored and controlled at the balance sheet level through a formal ALM process, the risks inherent in individual investment assets must be understood in order to have sufficient intuition to identify sources of risk and test the appropriateness of the measure of risk for a particular instrument.

Prudent investment portfolio management practices, such as managing concentration risk and maintaining diversification, are as important for corporates as for other investors.

Concentration risk is the risk associated with having excessive exposure to securities that have related market and/or credit risk. Concentration in market risk could include, but is not limited to, excessive exposure to interest rate, basis, embedded option and/or liquidity risks. Concentration in credit risk usually includes excessive exposure to certain industries, groups, or individuals.

Diversification is an investment management technique used to reduce risk without reducing expected return. Diversification theory holds that price volatility can be reduced while achieving a given return by distributing assets more efficiently among a variety of asset classes. Diversification usually reduces the portfolio risk because the returns on various asset classes are not perfectly correlated.

Failure to manage concentration risk or adequately diversify the portfolio may give rise to excessive liquidity risk. Corporates must be especially mindful of liquidity when making investment decisions since the investment portfolio(s) are the primary source of funds to meet contingent liquidity demands.

While it is true that the interest rate risk of an asset should be viewed in the context of the entire portfolio or balance sheet, an examiner's professional judgment about the source, magnitude and impact of risk begins with an understanding of the risk inherent in individual investment structures. To measure concentrations of interest rate, liquidity, and credit risk, individual investments must be measured accurately and aggregated across all transaction types for analysis and review.

Investment Policies and Procedures

Investment policies, procedures, and limits provide the structure for the board to control and the staff to manage investment activities. Part 704.5(a) states: "A corporate credit union must operate according to an investment policy that is consistent with its other risk management policies, including, but not limited to, those related to credit risk management, asset and liability management, and liquidity management."

An effective investment policy should mandate that senior management has an understanding of the risks and cashflow characteristics of its investments. This is particularly important for products that have unusual, leveraged, or highly variable cashflows. A corporate should not acquire a position in an instrument until the board has a general understanding of the instrument and its impact on the corporate's financial condition and is assured that senior management, and all relevant personnel understand and can manage the risks associated with the product.

The board of directors must maintain written policies that clearly outline the approach for managing investments (including financial derivatives). These policies should be consistent with the corporate's broader business strategies, capital adequacy, technical expertise, and general tolerance for market, liquidity, and credit risk.

The policies must identify relevant objectives, constraints, and guidelines for both acquiring investments and managing portfolios. Policies should establish a logical framework for identifying, measuring, managing, controlling and reporting the various risks

involved in the corporate's investment portfolios, including any financial derivatives.

The policies must clearly articulate the types of permissible investments and derivative contracts to be used to achieve specified objectives. Hence, the corporate's objectives should guide the acquisition of individual investments. There should be established benchmarks for periodically evaluating the performance and effectiveness of investment holdings, strategies, and programs. Whenever multiple objectives are involved, management should prioritize objectives in light of actual or potential conflicts.

Part 704 requires that a policy must address, at a minimum:

1. Appropriate tests and criteria, if any, for evaluating standard investments and investment transactions prior to purchase.

2. Risk analysis requirements for any new investment types or transactions not previously owned or marketed, but considered for purchase by the corporate and/or sale to its members.

Investment personnel typically develop risk tests and selection criteria, and the basic risk analysis for new investments. In the limited risk taking environment of a base corporate, resource constraints often mean that risk monitoring is engaged *after* risk has been introduced to the balance sheet. As corporates advance to expanded authorities, the credit and risk management personnel should play an increasingly important role in the analytical process. Pre-purchase involvement by risk measuring/monitoring staff must be required in the case of new and complex investment structures. This analytical process is not intended to interfere with the investment manager's timely execution of prudent transactions, but it is meant to strengthen the integrity and control of the risk identification process.

It is normal practice for the board to delegate investment authority to senior management. Consequently, senior management is responsible for hiring qualified personnel and ensuring that

adequate procedures are in place for conducting investment activities on both a long-range and day-to-day basis.

There should be clear lines of authority and responsibility in the following areas:

Board responsibilities (authorized through policy):

1. purchase and sale of investments;
2. enactment of appropriate limits on risk taking (limits on transaction types and on authorized personnel);
3. establishment of effective internal controls (both board and internal audit functions); and
4. enactment of comprehensive risk-reporting and risk-management review process commensurate with to the corporate's risk profile.

Staff responsibilities (implemented through procedures):

1. establishment of adequate systems for measuring risk; and
2. development and implementation of acceptable standards for valuing positions and measuring performance.

Investment Portfolio Strategies

An examiner's evaluation of portfolio risk and return must be coordinated with the ALM review. Specific portfolio management measures are discussed in Chapter 202 (see Setting Financial Goals: The Risk/Return Profile, page 202-2).

The framework for a corporate's investment portfolio management process includes:

1. the board establishes a risk tolerance threshold (e.g., Net Economic Value (NEV) limit);
2. the board periodically approves a risk target (a benchmark) for management to meet that is within the risk limits, and
3. management optimizes portfolio performance consistent with the risk target and level of liquidity demands in light of market conditions.

The traditional perspective is that spreads must be sufficient to cover the cost of operations and provide capital enhancement. Value-based measures of performance, like NEV, have gained increasing acceptance in recent years. By focusing on total return, institutions manage for long-term value, rather than managing to short-term accounting results.

Many institutions historically focused on earnings-oriented measures of return without adjusting for risk. For example, it was common for corporate portfolios to be managed and evaluated *only* by current net interest spread without relating the risk to equity -- that portion of capital required to support risk between the funding source and the portfolio's assets. Best practice requires all portfolios to have specific capital allocated in light of the portfolio's NEV. A summary of the measures of return performance discussed in Chapter 202 are included below in Table 1.

Table 1

Measures of Return Performance

A. Earnings-oriented measures
   1. Net interest margin
   2. Core income
   3. Net income
   4. Return on assets
   5. Return on equity

B. Market value-oriented measures
   1. Market capitalization
   2. Liquidation value
   3. Going-concern value
   4. Net economic value

C. Both – Total Return

Book of Business Approach

Consistent with an earnings-oriented measure, many corporates allocate investments into discreet portfolios and target net interest spreads. These portfolios will usually have defined parameters on maturity and/or cash-flow behavior and are commonly referred to as "books of business."

The typical strategy focuses on acquiring a discrete pool of investment assets with similar maturity and/or payment characteristics to those of a discrete pool of liabilities.

The terms "matched" and "managed" are used to further describe these portfolios. The term matched generally means a portfolio's assets and liabilities have virtually the same cashflow characteristics and maturity. The term managed generally means a portfolio's assets and liabilities are not required to have identical cashflow characteristics or maturities.

Corporates calculate the net interest margin, or "spread," associated with these books of business by measuring the accounting income from interest bearing assets and subtracting the cost of interest bearing liabilities. This calculation is usually computed for each book and reconciled to total net interest income.

Common books of business may include:

1. Overnight (or Liquidity) Book. Overnight and core shares are used to fund primarily overnight assets. It is not unusual for a corporate to run an intentional maturity mismatch on a small portion of the overnight portfolio by including term assets with floating rate coupons or fixed-rate money market transactions of about 90 days or less.

2. Term Book. Term share certificates are used to fund term investments of substantially similar maturity and payment characteristics. A term book is generally comprised of fully matched transactions with little or no risk to the book's net interest margin.

3. Variable Rate Book. Adjustable-rate share certificates (term) are used to fund a combination of floating and/or adjustable rate assets. The rate paid on the shares is adjustable on a daily, monthly or other periodic setting and is typically set on an ability-to-pay basis. Many variable rate certificates may be linked to a specific index (e.g., LIBOR, Fed Funds Effective, or T-Bills) rather than an administratively determined payout rate. A variable rate book is not necessarily a matched portfolio.

Portfolio parameters may permit material basis, embedded option and/or maturity mismatches.

4. Membership Capital Book. Member contributed capital is typically a non-maturity instrument. Assets allocated to this book of business vary, reflecting the risk tolerance of the corporate, and often have a combination of short to intermediate maturities. The rate paid on membership shares is generally administered and set on an ability-to-pay basis.

5. Capital Book. The reserves of the corporate are matched against all interest bearing assets not allocated to other books of business. Since reserves and undivided earnings are not interest bearing, the spread on the capital book is typically expressed as the dollar weighted yield on the assets.

Note: Corporates are permitted to issue paid in capital shares (PIC). The terms and conditions of PIC are unique factors determined at the time of issuance. As this is a newly authorized form of capital issuance, it is uncertain how PIC will be deployed in a book of business framework.

A book of business approach can provide an intuitive way to segment total net interest income into individual portfolios. It does not; however, provide a market-value or future-earnings-at-risk perspective unless NEV is incorporated.

Best practice for performance measurement is on a risk-adjusted basis. Examiners need to encourage that performance reports for spread management strategies include risk adjustments that reflect NEV exposure. This will permit senior management and officials to comprehend the risk-reward tradeoff that has been achieved.

Balance Sheet Risk Measurement

The interest rate risk associated with individual investments and the aggregate interest rate risk associated with an entire portfolio are captured in NII and NEV. It is essential that the portfolio risk be adequately modeled and monitored against pre-established NEV limits. Best practice would require that investment policies and

procedures include limits and performance standards for each portfolio.

Examiners should review the established risk targets (NEV and liquidity parameters) for each portfolio and determine whether funds are invested accordingly. If portfolio risk significantly varies from the target, it implies that the board has granted management the discretionary authority to establish its own benchmark. This makes relative performance an increasingly subjective measure for the board to evaluate. It makes more sense for the board to:

1. establish the level of risk with which it is comfortable (the limits);
2. periodically approve management's risk target within those limits; and
3. evaluate the portfolio's performance in light of those targets.

Regardless of the portfolio management approach taken, corporate staff should periodically review the performance and effectiveness of investment portfolio strategies. The review should be conducted no less than quarterly. Corporates with large or highly complex investment portfolios should conduct this review more frequently. The review should evaluate the extent to which the corporate's investments and derivatives are meeting the various objectives, risk tolerance, and guidelines established by corporate policies. Investment reporting prepared for ALCO and the board should include periodic results (risk and return) compared to established performance benchmarks.

Risks Associated With Investment Transactions

The three basic risks assumed by corporates in the investment portfolio are market, liquidity and credit.

The board of directors has the ultimate responsibility for the level of risk taken by the corporate. Accordingly, the board should approve overall business strategies and significant policies that govern risk-taking, including those involving investment and derivative contracts.

The board should actively monitor the performance and risk profile of the corporate. These reviews should be conducted at least quarterly and more frequently when the corporate holds significant amounts of complex investments. In addition, the board should periodically reevaluate the corporate's business strategies and significant risk-management policies and procedures, placing special emphasis on the corporate's financial objectives and risk tolerances.

The process of measuring, monitoring, and controlling risk within a corporate should be reasonably independent from those individuals who have the authority to initiate transactions.

The nature and degree of this independence should be scaled to the size and complexity of a corporate's investment and derivative activities. Corporates with large and complex balance sheets, or with significant portfolios of complex investments, are expected to have risk managers or risk management functions fully independent of individuals who have the authority to conduct transactions. Conversely, corporates with less complex investments should ensure that there is a mechanism for independently reviewing both the level of risk exposures created by investment and derivative holdings and the adequacy of the process used in managing those exposures. Depending on the size and nature of the corporate, this review function may be carried out by either management or a board committee.

Regardless of the size and sophistication, corporates should ensure that back-office, settlement, and transaction-reconciliation responsibilities are conducted and managed by personnel who are truly independent of those initiating risk-taking positions.

Interest rate and liquidity risk are defined and discussed in the section of Chapter 202 entitled "Measuring Risk Exposure"(page 202-6). Credit risk is discussed below. These risks must be evaluated on-going in order to establish and maintain a sound risk-management system.

Credit Risk of Investments

Corporates are somewhat unique as depository institutions because the overwhelming percentage of assets are comprised of investments with only a nominal level of activity in loans. Part 704 restricts rated investments to the top of the investment-grade scale and thus limits the risk of speculative credit exposure. Though credit risk is relatively lower for corporates, it is still significant and requires formal consideration in the risk management process.

Definition of Credit Risk[1]

> (1) Exposure to loss as a result of default on a debt, swap or some other counterparty instrument. (2) Exposure to loss as a result of a decline in market value stemming from a credit downgrade of an issuer or counterparty. (3) A component of return variability resulting from the possibility of an event of default. (4) A change in the market's perception of the probability of an event of default (affecting spreads).

NCUA Interpretive Ruling and Policy Statement (IRPS) 98-2[2]

NCUA adopted key elements of the Federal Financial Institution Examination Counsel (FFIEC) proposed supervisory policy statement on investment securities and derivatives. Some of the key elements of the IRPS are:

1. The institution should not acquire investments or enter into derivative controls without assessing the creditworthiness of the issuer or counterparty.

2. The credit risk arising from these positions should be incorporated into the overall credit risk profile of the institution as comprehensively as practicable.

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[1] The Dictionary of Financial Risk Management, Gary L. Gastineau and Mark P. Kritzman, Frank J. Fabozzi Associates, 1996. Page 78.
[2] The NCUA Board passed IRPS 98-2 on April 7, 1998 with an effective date of October 1, 1998.

3. Institutions should be legally required to meet certain quality standards (i.e. investment grade) for security purchases.

4. Institutions should maintain and update ratings reports from one of the major rating services.

5. Institutions should be required to establish limits on individual counterparty exposures. Such limits should define concentrations relating to a single or related issuer or counterparty, a geographical area, or obligations with similar characteristics.

6. In managing credit risk, institutions should consider settlement and presettlement risk. These risks are the possibility that a counterparty will fail to honor its obligation at or before the time of settlement. The selection of dealers, investment bankers, and brokers is particularly important in effectively managing these risks.

7. The approval process for banks, broker/dealers, and other counterparties should include a review of each firm's financial statements and an evaluation of its ability to honor its commitments.

8. An inquiry into the general reputation of the broker/dealer is also appropriate. This includes review of information from state or federal securities regulators and industry self-regulatory organizations such as the National Association of Securities Dealers concerning any formal enforcement actions against the dealer, its affiliates, or associated personnel.

9. The board of directors is responsible for supervision and oversight of the investment portfolio and end-user derivative activities, including the approval and periodic review of policies that govern relations with securities dealers.

10. Sound credit risk management requires that credit limits be developed by personnel who are as independent as practicable of the acquisition function.

11. In authorizing issuer and counterparty credit lines, these personnel should use standards that are consistent with those used for other activities conducted within the institution and with the organization's over-all risk management policies and consolidated exposures.

Effective risk management addresses risks across all types of instruments on an investment portfolio basis and ideally, across the entire institution. Corporates need to recognize the inherent credit risk associated with investment and lending activities and integrate credit risk management with that of market risk and liquidity risk. The basic steps set forth by this FFIEC policy statement will help to promote a more effective identification, measurement, monitoring, reporting, and control of the institutions' credit risk.

Sources of Credit Risk

Investments have varying degrees of credit risk depending upon:

1. the risk of the obligor/counterparty; and
2. the structure of the transaction (level of subordination and/or credit enhancements).

Corporates should devote credit analysis resources proportional to the amount of credit risk inherent in the activities authorized by the board. For example, when assessing the risk of default, an unsecured transaction with a lower potential collection rate (like commercial paper or federal funds) should receive more timely credit reviews than a highly secured transaction (like repurchase agreements or asset-backed securities). However, this does not mean that transactions with lower credit risk should receive any less attention from the standpoint of market risk and liquidity risk.

The frequency and depth of credit reviews done by corporates should be driven by the relative degree of credit risk. Credit risk exposure has traditionally been measured by the face or par amount of a transaction since that often is viewed as the total potential loss. However, the actual recovery rate in the event of default will vary from one instrument to the next based upon the priority of the holder's claim and the amount of credit support (enhancements) in the structure. For example, a $10 million repurchase agreement fully secured by U.S. Treasury securities has less credit risk than a $10 million bank Time Deposit ($100,000 FDIC insurance notwithstanding).

Corporates need to make sure that each source of credit risk is properly identified, measured, aggregated and reported. Complex investment structures, such as mortgage-backed and asset-backed securities, may involve numerous components of credit exposure that need to be tracked on a global basis to ensure that all concentrations are identified.

Corporates need to have a clear and consistent methodology for measuring the relative amounts of credit risk inherent in each transaction and make sure that these risk measures are aggregated across all transaction types for each entity concerned. Some forms of credit enhancement provided by a single entity, such as private insurance or a letter of credit, may exist in various different securities within the same portfolio.

For example, at the base and base-plus levels, concentration limits are established in Part 704. Part I and Part II authorities permit the corporate to set its own limits on certain transaction types. In establishing expanded authority limits that exceed the base level of authority, it is particularly important that increasingly sophisticated methodologies be used for credit risk measurement.

Table 2 on the next page details instruments, obligors and relative quality (degree of enhancement).

Table 2

Instrument	Obligor/ Counterparty	Maturity	Quality
Sale of Fed Funds	Banks, some Government Sponsored Enterprises (GSEs) (i.e., FHLB)	Typically 1 day.	Unsecured obligations of banks
Negotiable CDs	Banks	Typically 1-6 mo's, minimum 14 days	Deposits up to $100 K insured by FDIC
Deposit Notes	Banks	Typically 18 months to 5 years	Deposits up to $100 K insured by FDIC
Eurodollars Non-negotiable time deposits Negotiable CDs	Banks: Foreign branches of U.S. banks or foreign banks	Overnight - 5 yrs 1 year or less	Unsecured obligations of banks
Securities Purchased under Agreement to Resell and Securities Sold under Agreement to Repurchase	Broker/dealers, banks	Majority is overnight Typically 1 day to 1 month. Terms may exceed 1 year.	Secured by securities and cash Securities "sold" typically exceed value of cash received
Securities Lending	Broker/dealers, banks	Typically 1 day to 1 month.	Secured by securities and cash
Commercial Paper	Corporations, including bank holding companies, and broker/dealers.	270 days or less	Unsecured obligations of corporations
Corporate Debentures Notes, Bonds	Corporations	Range from 1 to 30+ years	Unsecured obligations of corporations
MBS and ABS	Corporations, including GSEs, finance companies, bank holding companies, broker/dealers, bankruptcy remote trusts, and special purpose companies	Original maturities of 1 to 30 years (amortizing assets have WAL < than stated maturity)	Obligations of corporations collateralized by assets including mortgages, real property and receivables
Mutual Funds	Investment company	Open-ended	Pro rata interest in the assets of the fund
U.S. Treasury Securities Bills, Notes, & Bonds	U.S. Government obligation	Up to 1 year 2 to 10 years Over 10 to 30 years	Regarded to be free of default risk
Sovereign Debt	Foreign government obligations	Typically 3 months - 10 years	Highly rated sovereign debt has little or no default risk; very remote cross-border risk (balance of payment problems)
Foreign Bank Deposits	Non-domestic banks	see Eurodollars	Unsecured obligations of banks. Also includes cross-border and center risk (economic/political)

Additional types of instruments, obligors and relative quality (degree of enhancement) are included in Table 3 below.

Table 3

Instrument (cont. from Table 2)	Obligor/ Counterparty	Maturity	Quality
Swaps, Options, Forwards	Typically broker/dealer or bank; may be a special purpose company	Typically 1 month to 5 years (longer expirations exist)	Can be collateralized
Exchange Traded Futures	Organized exchange	1 month to 10 years	Performance bond (margin) and daily mark-to-market
Transaction Risk Purchases/Sales	Broker/dealers, banks	Exposed between trade & settlement	Potential market risk (replacement cost)
Extension of Credit to Members	Natural Person Credit Unions	Typically short-term	Can be collateralized by securities or cash
Settlement Risk	Broker/dealers, banks	Short, not delivery vs. payment (DVP)	Counterparty can declare bankruptcy prior to completing payment

Credit Risk, NEV, and Liquidity

There is a danger that corporates may focus upon high credit ratings and simply consider the probability of default (the higher the rating the less the probability of default). This view relates to the first definition of credit risk on page 201-10. Failing to recognize the impact on NEV of credit events other than an event of default ignores a major component of risk. This concept relates to definitions 2 and 4 on page 201-10.

Corporates need to consider credit risk in a mark-to-market framework in order to understand the implications for NEV and liquidity. The volatility of value due to credit events (i.e., defaults, downgrades, or other negative news) can have an adverse affect on a corporate's NEV. As NEV declines, the ability to meet potential liquidity demands is also diminished.

Regardless of the accounting treatment, corporates should be cognizant of the effect that a change in obligor credit quality (also termed a "migration") will have on fair value. Since corporates have a substantial obligation to address contingent liquidity demands, the impact that a change in value has upon liquidity is significant. This is

true whether the change in value is driven by either market or credit events (or both).

There is an integral relationship between market and credit risk that makes it difficult to fully separate these into independently managed components. As securities migrate down the rating scale (one rating downgrade followed by another), the tendency is for price volatility to increase (risk rises geometrically). Prudent risk managers seek to monitor this potential in order to timely immunize or rebalance the portfolio when credit and market risk exposures exceed acceptable targets or limits.

Corporates need to consider how they will quantify and control concentrations (obligor, industry, type of instrument, etc.) of credit risk and how the risk will change when market and/or credit conditions change. Thus, understanding how changes in credit quality affect value is an important part of managing the corporate's targeted NEV and liquidity levels.

Credit Risk Management

Credit Risk Policies

Credit risk policies may be integrated with a corporate's overall ALM and investment policies. It is not imperative that credit risk policies be stand-alone, but corporates with increasing levels of expanded authority are likely to establish more elaborate guidelines. Section 704.6(a) requires that any policy must address, at a minimum:

1. The approval process associated with credit limits**.** This implies that a formal management process is adopted to develop and ratify any appropriate limits incorporated into policy. The approval process need not be elaborate, but it should be supported with written procedures. Furthermore, the process should be addressed in the scope of the audit and periodically evaluated for compliance purposes.

2. Due diligence analysis requirements**.** Different transactions represent different levels of complexity as well as varying

degrees of risk. Corporates will need to develop standards and requirements commensurate with exposures. Resource allocation should ensure that credit risk evaluations are sufficiently in-depth and timely for each type of material credit risk exposure taken.

3. Maximum credit limits with each obligor and transaction counterparty, set as a percentage of the sum of reserves, undivided earnings, and paid-in-capital**.** The selection of - and establishment of lines to -broker/dealers, banks, and counterparties is particularly important in effectively managing credit risk. A corporate's policy should identify criteria for selecting these organizations and should list all approved firms. The approval process, at the minimum, should include a documented review of each firms' financial statement and an evaluation of its ability to honor commitments. These reviews should be updated periodically.

4. Concentrations of credit risk (i.e., industry type, sector type, and geographic). Part 704 establishes maximum concentration limits per counterparty and obligor. However, management should still consider its own limits based upon the preferences and risk tolerance of the board. A corporate's credit policy should also include guidelines on the quality and quantity of each type of investment that may be held. It should provide credit-risk diversification and concentration limits. Such limits may define concentrations as those of a single or related issuer or counterparty, in a geographical area, or obligations with analogous characteristics. Policies should include procedures for addressing deterioration in credit quality, such as increased monitoring and stop-loss limits.

The policies of the corporate should recognize credit risk as a risk posed by investment and derivative activities. As such, the corporate must operate under a credit risk management policy that is commensurate with the investment and lending risks and activities it undertakes.

Sound credit-risk management requires that credit analysis be conducted by personnel who are independent of the acquisition function.

Analysis and Approval

The process of evaluating credit instruments should be guided by caution. The cost of approving a mistake may outweigh the opportunity loss of rejecting a "good" credit. The introduction of credit risk to the balance sheet should be undertaken with the same care and diligence as all other portfolio risks (commensurate with the exposure).

The credit analysis and approval process should involve substantive and timely information. Prudent due diligence requires sufficient, in-depth analysis be conducted for obligors and counterparties ("credits") considered for approval. The minimum credit ratings and maximum concentration limits set for base and base-plus corporates in Part 704 reflect a recognition of existing resource constraints within some corporates. Where best practice for credit risk management cannot or will not be employed, exposure to credit risk should be limited accordingly.

The more complex the credit or the greater the potential exposure, the more analysis required. Common sources of information that an analyst may utilize include financial statements, press releases, rating agency analyses, discussions with company officers and/or rating agency analysts, fixed income and equity research from securities firms and stories in trade publications. Most of these resources will be maintained in the credit file and Part 704 requires that information remain in a corporate's possession for at least as long as an instrument is in portfolio and until the next examination (if purchased and matured between examination reviews).

Examiners should sample credit files to determine the resources used. Information should be reasonably current. There should be evidence that the analyst(s) is keeping abreast of new developments and that critical developments are shared in the reporting process. Reaction to credit news (also termed "credit

events”) should be evidenced in the minutes of ALCO discussion and included in management’s risk reports.

The content of credit analysis does not necessarily need to be formal or elaborate. Many analysts make notes directly on the resource materials held in file. Best practice requires that an analyst prepare a formal summarization of a credit, with a rationale for its initial approval or reaffirmation, which is signed by the personnel or committee which makes the approval/disapproval decision.

Approval authority should not be superficial. Some institutions simply adopt regulatory limits on types, ratings, and concentrations, and make little effort to consider the appropriateness of establishing different limits. A good manager will set limits tighter than regulatory constraints if such limits express the preference and risk tolerance adopted by the board. This recognizes that legality is not an automatic acceptance criterion. Examiners should encourage management not to automatically approve counterparties, obligors, and limits based solely upon prevailing minimum regulatory requirements.

Credit Ratings

A credit rating is an opinion of the general creditworthiness of an obligor, or the creditworthiness of an obligor with respect to a particular debt security or other debt obligation, based upon certain risk factors. Rating agencies provide ratings and research that serve as a valuable tool for investors. However, ratings are not a substitute for prudent due diligence and should only be considered as one factor in an investment decision.

Firms that are recognized by the SEC are called Nationally Recognized Statistical Rating Organizations (NRSROs). Part 704 requires that all debt instruments have a credit rating from at least one NRSRO. The NRSRO used at the time of purchase serves as the source to verify any change in rating (compliance with the minimum regulatory ratings). If management decides to change the NRSRO(s) it uses for monitoring its ratings, it should document this decision and report it to the ALCO.

NRSROs typically issue different ratings for short-term instruments than for long-term instruments. The long-term ratings are the measure of credit quality that is emphasized by most risk managers. Table 4 below includes some rating agencies and the description of long-term ratings.

Table 4 Long Term Ratings - Industry Definitions

Rating Agency					
S&P	Fitch	Moody's	Duff & Phelps	IBCA	Description of Long-term Rating*
AAA**	AAA**	AAa**	AAA**	AAA**	Highest credit quality. The risk factors are negligible, being only slightly more than for risk-free U.S. Treasury debt.
AA	AA	Aa	AA	AA	High credit quality. Protection factors are strong. Risk is modest but may vary slightly from time to time because of economic factors.
A	A	A	A	A	Protection factors are average but adequate. However, risk factors are more variable and greater in periods of economic stress.
Gradation Quality					
+	+	1	+	+	These symbols used to provide more detailed gradation of quality
		2			
-	-	3	-	-	
AA-CCC	AA-C	Aa-B	AA-B	AAA-C	Range of ratings for which quality gradations are provided.

* Descriptions are from Duff & Phelps. Rating agencies tend to use similar definitions, though disagreements can occur on an individual rating.

** ABS must be rated no lower than AAA (or equivalent) at time of purchase.

The long-term ratings described in Table 5 below are below the minimum ratings permitted in Part 704 for any level of authority for any corporate.

Table 5 Long-Term Ratings - Industry Definitions

	Rating Agency					
	S&P	Fitch	Moody's	Duff & Phelps	IBCA	Description of Long-term Rating*
BBB- represents the bottom of "investment grade"	BBB	BBB	Baa	BBB	BBB	Below average protection factors but still considered sufficient for prudent investment. Considerable variability in risk during economic cycles.
Speculative grade begins with BB+	BB	BB	Ba	BB	BB	Below investment-grade but deemed likely to meet obligations when due. Present or prospective financial protection factors fluctuate according to industry conditions or company fortunes
	B	B	B	B	B	Below investment-grade and possessing risk that obligations will not be met when due. Financial protection factors will fluctuate widely according to economic cycles, industry conditions, and/or company fortunes.
	CCC	CCC	Caa	CCC	CCC	Well below investment-grade securities. Considerable uncertainty exists as to timely payment of principal, interest, or preferred dividends. Protection factors are narrow and risk can be substantial with unfavorable economic/industry conditions, and/or with unfavorable company developments.
	D	DDD		DD	C	Defaulted debt obligations.

*Descriptions are from Duff & Phelps. Rating agencies tend to use similar definitions, though disagreements can occur on an individual rating.

Short term ratings are described in Table 6 on the following page.

Table 6 Short-Term Ratings

	Rating Agency					
	S&P	Fitch	Moody's	Bank Watch	IBCA	Description of Short-term Rating**
Permissible minimum investment grade (Part 704)	A-1+	F-1+			A1+	The obligor's capacity to meet its financial commitment on the obligation is extremely strong.
	A-1	F-1	P-1	TBW-1	A1	The obligor's capacity to meet its financial commitment on the obligation is strong.
Not permissible.	A-2	F-2	P-2	TBW-2	A2	Somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher rating categories. Obligor's capacity to meet its financial commitment on the obligation is satisfactory.
	A-3	F-3	P-3	TBW-3	B1	Adequate protection parameters. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation.
	B	B	NP (not prime)	TBW-4	B2	Significant speculative characteristics. The obligor currently has the capacity to meet its financial commitment on the obligation; however, it faces major ongoing uncertainties which could lead to the obligor's inadequate capacity to meet its financial commitment on the obligation.
	C	C			C1	Currently vulnerable to nonpayment and is dependent upon favorable business, financial and economic conditions for the obligor to meet its financial commitment on the obligation.
	D	D			D1	In payment default.

**These descriptions are from Standard and Poor's corporate ratings criteria.

Corporates should maintain and update ratings reports from one of the major rating services. Individual ratings are usually publicly available, but research reports and news releases are generally obtained through a paid subscription. It is critical that information be obtained as timely as practicable. The ratings and other opinions issued by ratings agencies are not recommendations to buy securities and there is not a warranty on the accuracy, timelines, completeness, or fitness of the information provided. It is simply one tool to assist an investor in making investment decisions.

Management may use, but is not required, to use multiple rating agencies. Management should have procedures in place addressing instruments that receive different credit quality ratings from different NRSROs ("split ratings"). Good credit managers will seek to discover reasons behind split ratings on instruments they hold or consider for purchase. Many corporates consider a split rating on a security a criterion for placing it on the credit watchlist. It can signal either a warning (possible deterioration) or an opportunity (possible improvement). Experienced portfolio managers know that both circumstances are significant.

Examiners should be sensitive to whether a corporate is subscribing to multiple rating agencies in order to "shop" for a favorable rating. If the corporate's designated NRSRO is different for each bond being purchased, this may indicate that ratings are cherry picked. A review of the supporting analysis should help determine if the analyst is mimicking the most favorable research or if independent judgment is really exercised. Analysts are not expected to possess greater insights than rating agencies, but they are expected to understand the implications and conclusions of the research and form an independent judgment.

Some rating agencies have been slow to alter their credit outlook on an issuer, industry, or region which eventually resulted in substantial credit quality changes (more than one gradation change in credit ratings at one time). Because corporates are limited to the top investment grade scale, large changes in credit quality are a concern since they generally trigger regulatory requirements

(divestiture plans). Credit risk managers must be mindful of the risk that lags in credit-rating changes.

Measuring and Monitoring Risk

The credit exposures inherent in corporates' investment activities have multiplied and become more complex as new instruments and debt structures have come to market. Financial products are increasingly complex in part because of the proliferation of credit enhancement mechanisms supporting these instruments. These include, but are not necessarily limited to: third-party guarantees, posted collateral, margin arrangements, credit derivatives, and netting.

With this growth there is an increasing need for more sophisticated risk measurement techniques. The name of an instrument and the par amount of a transaction do not provide a quantitative measure of inherent credit risk. Credit analysts and portfolio managers alike must track the credit features on both a transactional and portfolio basis in order to aggregate and control the various levels of credit exposure to any one obligor, counterparty, insurer, and/or guarantor.

In order for corporates to properly ensure that policies and regulations governing credit risk are adhered, quantitative measures of exposure must be established, measured, monitored, and enforced. Prudent practice dictates that this process must be as independent from the personnel initiating the investment transactions as practical.

Reporting and Documentation

The reporting of credit risk exposures and the supporting documentation (for approvals and monitoring) are key elements of credit risk management. The board, senior management, and other oversight authorities depend upon the quality of reporting to make determinations about the magnitude, compliance, and appropriateness of credit risk exposure. Management and the board cannot fulfill their respective control and oversight responsibilities absent meaningful risk reporting.

The more clear and valid the documentation, the more timely board and senior management can assess the risk and make strategic decisions. The methodologies for measuring credit risk and the formats for reporting credit risk information should be clearly documented in policies and procedures.

Personnel reporting lines are also important. The credit analyst is responsible for tracking the exposures of the corporate, monitoring limits, and reacting to changes in creditworthiness. Senior management is responsible for managing the overall risk posture of the institution; this includes management of aggregate risk exposures. The ALCO and board of directors have a fiduciary responsibility to be aware of the risk assumed by management and be assured that management is actively managing the risk.

The corporate should have strong internal control procedures that ensure the integrity of credit risk information. The degree of information that is automated and the ability of an analyst to maintain current evaluations are other factors that may affect the quality of the credit risk information.

Reacting to Change

One of the reasons that a corporate should develop its methodologies for measuring credit risk exposures and set consistent risk-based limits is to engender a risk management culture that appropriately reacts to change. In order for corporates to best manage credit risk exposure, management should be predisposed to take rational and timely steps towards rebalancing or reducing credit risk in the portfolio as needed.

Credit downgrades result in volatility in instruments' value and liquidity. Management must be able and willing to take corrective action when adverse developments occur. Most institutions buy instruments with the intent and ability to hold them to maturity. This strategy is valid in most cases, but it should not automatically preclude the consideration of selling assets. Other than divestiture, there are few alternatives available to mitigate deterioration in credit quality.

Administration

Minimum regulatory limits on permissible investments (permissible to buy or hold as collateral) are restricted to high credit quality. A number of these transactions have high credit ratings only because they are supported by collateral or other credit enhancements.

In some cases, the risk of the counterparty would not be acceptable without added credit risk protection. That means managers must closely evaluate and monitor the aspects of the transaction that provide the credit quality. Typical credit enhancement features like collateral, performance margin, or a third-party guarantee are features that should be monitored as part of standard operating procedure. An ongoing review of these enhancements is necessary to identify, measure, monitor and control credit risk.

Collateral administration involves checking the market value, legality and control (perfected security interest) of securities accepted as collateral in investment and borrowing transactions. The integrity of the credit risk measurement process rests, in part, on determining the mark-to-market value of collateral and repurchase securities.

Repurchase securities accepted in a repo or securities lending transaction should be independently valued by the corporate or an agent separate from the counterparty. Collateral should be checked on an ongoing basis to confirm that it meets policy and repurchase agreement requirements. (Note: This could be required as often as daily depending on agreements and degree of risk to the portfolio.)

Additionally, monitoring of securities that have inherent credit enhancements is important. For example, surveillance of the underlying receivables on MBS and ABS investments is the responsibility of the credit risk management function. Credit personnel should not view collateral or other structural enhancements as an excuse to ignore the amount of inherent credit risk in a transaction. Despite the fact that credit enhancements increase the potential for a higher rate of collection in an event of

default, it also requires more sophisticated measurement and monitoring processes.

An increasingly diverse array of credit features is available to enhance credit quality. Credit managers must actively track these enhancements across the entire portfolio and regularly monitor the amount of exposure to ensure that the credit risk policies of the board are followed.

Investment Products and Practices

Section 704.5(c) of the NCUA Rules and Regulations outlines various investment activities in which corporates may engage. Those investments must be U.S. dollar denominated and subject to the credit policy restrictions set forth in Section 704.6.

In a quality oriented investment culture, investment managers typically view the portfolio selection process as one of exclusion and rejection rather than search and acceptance. These investment managers realize that the penalty of mistakenly rejecting an investment offering probably would not be significant. However, the acceptance of an unsound investment could be costly and may be devastating.

Investment managers with quality oriented investment cultures typically have programs for obtaining and evaluating current information on potential/existing securities in their investment portfolios. Also, these managers only purchase securities from reputable and financially secure dealers.

Table 6 Minimum Credit Ratings On Investments

Authorities for Base & Base Plus	Minimum Credit Rating	
Instrument	**Short**	**Long**
Asset-Backed Securities	A-1	AAA
Bankers' Acceptances	A-1	AA
Bank Deposits	A-1	AA
Bank Notes	A-1	AA
Certificates of Deposit[1]	A-1	AA
CMOs/REMICS	A-1	AA
Commercial Paper	A-1	n.a.
Corporate Credit Union Shares	n.a.	n.a.
Corporate Credit Union Service Organizations (CUSO)	n.a.	n.a.
Corporate Debt (Debentures)	A-1	AA
Deposit Notes[1]	A-1	AA
Eurodollars (Off-shore domestic TDs and CDs)	A-1	AA
Federal Funds	A-1	n.a.
Mortgage-Backed Securities (Pass-throughs, CMOs, REMICs)	A-1	AA
Municipal Securities	A-1	AA
Mutual Funds [2]		
Repurchase & Reverse Repurchase Agreements [2]		
Securities Loan Agreements [2]		
U.S. Treasury and Federal Agency Securities	n.a.	n.a.
Government Sponsored Enterprise Securities	n.a.	n.a.
Wholesale Corporate Credit Union Shares	n.a.	n.a.

[1] The regulation does not specify a minimum entity-rating .

[2] Assets must be 704-permissible.

The above investment products are discussed further in Reference 1, Comptroller of the Currency's Examiner's Guide to Investment Products and Practices.

Financial Derivatives (Expanded Authority)

Financial Derivatives are broadly defined as instruments that derive their value from the performance of underlying assets, interest or currency exchange rates, or indices.

Since managing financial risks (e.g., market, liquidity, credit, etc.) has become more important to corporates due to the advent of more sophisticated investment products, the use of off-balance sheet products will continue to grow. This section outlines some commonly known off-balance sheet derivative products.

Options

The owner of an option contract has the right to buy or sell a specific asset, at a specific price, on or before a specified date. The party granting the right is referred to as the option seller, or writer, and the party receiving the option is called the option buyer or holder. The seller is obligated to perform on the contract, whereas the purchaser has a right, but not an obligation, to perform on the contract.

A call option gives the buyer the right to purchase the underlying instrument. A put option gives the buyer the right to sell the underlying instrument. Purchasing an option is considered a long position, since the buyer holds the right to exercise. The seller of an option holds a short option position, since the right to exercise has been sold. (See table 7).

The purchaser of a call option expects to profit from the price of the underlying instrument exceeding the strike price, or exercise price, within the life of the contract. The purchase of a put option expects to profit from the price of the underlying instrument declining below the exercise price of the contract just as the short-seller of the underlying benefits from a price decline. The exercise price (or strike price) is the price at which the contract owner has the right to buy or sell the underlying instrument.

Table 7

	Buyer/ Purchaser	Seller/ Writer
CALL	Long Call = Long exposure to the underlying security	Short Call = Short exposure to the underlying security
PUT	Long Put = Short exposure to underlying security	Short Put = Long exposure to the underlying security

Swaps

A swap generally is a contract between two counterparties to exchange net cash flows on agreed upon dates, for a specific period of time, on an established notional principal. The payment to one or the other counterparty is the difference between the two cash flows. The contracts are entered into by a swap dealer and a customer (corporate), rather than two customers.

Although swaps are over-the-counter instruments (not traded on the organized exchange), there is a degree of standardization in the contracts since the advent of the International Swap and Derivatives Association (ISDA). Counterparties often form a master swap agreement that establishes the basic language of a swap agreement. However, counterparties may change the master agreement as needed.

The most common type of swap used by corporates is the interest-rate swap. This swap can be broken down into two categories: coupon swap and basis swap. A coupon swap exchanges an interest payment stream of one configuration for another on the same notional principal (e.g., fixed rate for floating rate). A basis swap figures payments on two floating rate indices (e.g., LIBOR for Prime). An interest-rate swap also can be used to lower the corporate's cost of funds by taking advantage of the credit spreads between the fixed and floating rate markets. While it may reduce interest rate risk, a measure of credit and liquidity risk is introduced (its not likely to be a riskless transaction).

Futures

A futures contract is an obligation to deliver or receive a specified amount of a commodity or financial instrument at a specified price on a specific date in the future. No cash is passed between the buyer and seller at the inception of the contract. Also, futures contracts rarely settle by actual delivery of the underlying; instead, they are offset or cash settled.

Futures contracts are traded on several exchanges in the U.S. and abroad and are available on financial instruments such as government securities and Eurodollar time deposits. The typical use of a futures contract is to hedge the risk of a particular security, portfolio of securities, or as an asset/liability tool to hedge overall balance sheet exposure.

Forwards

A forward contract is a customized obligation to receive or deliver a specified amount of a commodity or security, at a specified price, on a specific date in the future. The terms of the contract are negotiated directly by the counterparties and can be terminated only with the consent of both parties. The contract is sold or bought immediately, but not paid until some future date. This feature, along with the lack of an exchange acting as an intermediary, gives forward contracts credit risk which is not evident in futures contracts.

The most common types of forwards are interest rate forwards and/or forward rate agreements (FRAs). These are contracts to pay or receive a specified interest rate, at a specified date in the future. An FRA is a single period interest rate swap.

Financial derivatives are discussed in greater detail in Chapter 202, Appendix B, entitled "Derivative Instruments."

Investment and Risk Management Reporting

An accurate, informative, and timely management information system is essential. Examiners should evaluate the adequacy of a corporate's monitoring and reporting of risks, returns, and overall performance of investment and derivative activities to senior management and the board of directors.

Investment reports are typically an integral part of the ALM reporting process since investments represent most of the corporates' assets.

The frequency of reporting should provide responsible individuals with adequate information to judge the changing nature of the corporate's risk profile, and to evaluate compliance with stated policy objectives and restraints.

A clear, concise executive summary format is the best means for communicating complex information in a compressed time setting. Management reports should translate measured risk from technical and quantitative formats to those that can be easily read and understood by senior managers and directors.

The corporate should have a common conceptual framework for measuring and limiting risks in reports to senior managers and directors. These reports should concisely assess and report the performance of investments and portfolios in meeting the corporate's stated objectives.

Security Safekeeping

Listed below are the assignment programs currently in use by corporate credit unions. These programs periodically change. Therefore, the list should not be considered all-inclusive.

The Security Safekeeping Program (SSP):

1. Provides safekeeping services to participating credit unions holding United States Government and Federal Agency Securities.

2. Covers traditional custodial services such as monthly safekeeping reports, coupon and principal collection, and other maintenance services.

Security Liquidity Program (SLP):

Provides participating credit unions a line of credit in an amount which approximates the market value of eligible securities available to the program.

The Reverse Repurchase Transactions (RRT) Program:

1. Involves a reverse repurchase transaction which represents the sale of a security for a "price" with a simultaneous commitment by the seller to repurchase the security at a future date at a specified "price."

2. Invests the interest earned from the proceeds in a corporate or certificate account of equal amount and maturity.

3. Requires Generally Accepted Accounting Principles (GAAP) presentation of income and expense transactions at gross amounts (netting is not permitted).

The Collateral Investments (CI) Program:

1. Allows credit unions to secure their investments in the corporate with United States Government and Federal Agency Securities.

2. "Sells" securities to the investing credit union via a repurchase transaction.

Security Safekeeping Policy: The corporate's investment policy should explicitly detail all authorized methods for safekeeping securities in-house or with other institutions. Safekeeping controls should be strengthened by the presence of specific procedures which have been designed and implemented to ensure adequate separation of duties and controls. Access control limitations should be similar to systems employed in the wire transfers area.

Safekeeping policies and procedures should be written with risk assessment in mind. "Prevention control" rather than "discovery" should be the underlying theme and objective.

Security Safekeeping Environment: Corporates safekeep their own investments, as well as those of member credit unions through various service programs.

The “liability limitations” specified in the safekeeping contract and the qualifications of the safekeeping institution (such as its safekeeping experience, financial strength, and internal control strength) are key elements considered when assessing a safekeeping arrangement. Corporates typically safekeep investments through U.S. Central Credit Union (U.S. Central). However, they often have other arrangements with banks, other safekeeping facilities, or the Federal Reserve. While assessing the internal controls of the safekeeping institution is important, evaluating the corporate’s assessment of its safekeeping institutions is equally as critical. The impact of an unauthorized security transfer could be similar to that of an unauthorized wire transfer by exposing the corporate to financial and credibility losses. The examiner should ensure compliance with Part 703, NCUA Rules and Regulations.

Internal Risk: Corporates typically attempt to minimize their risk by acting as a “pass through” to outside safekeeping institutions. Contracts, bailment for hire agreements, and procedures for member credit unions are often initiated to control the risk of potential legal liability or loss from a breach of security occurring outside the corporate's walls.

Securities held in street name are more easily transferred and converted to cash. Controls surrounding access to these securities need to be functionally equivalent to wire transfers. Similar to cash, many investments can be transferred using the Fedline II system (wire transfer) or through correspondent banking arrangements.

Other Programs

In addition to corporate network developed programs, the examiner may encounter "non-network" developed programs. Such programs may be developed in-house, by other corporates, or other outside financial entities.

Separation of Duties: Written procedures should describe the securities transfer process and individual responsibilities. Segregation of duties in the movement of securities is a key internal control element. Examiners should ensure adequate

segregation of duties are in place over the transfer of corporate and member securities.

The majority of security transfers are effected via U.S. Central. The Corporate Credit Union Network (CCUN) system does not allow for the same level of control as the Fedline system. Like the Fedline II system, requests for securities movement are initiated by electronic means. Access to the CCUN system and its input/ transfer screen (DCHT) is password controlled. The examiner should determine that the CCUN verification function is not disabled.

A corporate utilizing security safekeeping systems should perform ongoing reconciliations (routine and random) throughout the day.

Account Reconciliation: At any time during the day, the corporate should have the ability to identify and document the location of its securities (as well as those of its participating members). The corporate should have the capability of reconciling its position (i.e., inventory/activity, including updated input from the custodian) at any point during the day. Safekeeping policies and procedures should require that a reconciliation of the safekeeping account be performed daily and that all securities in safekeeping (both corporate and member) be reconciled at least monthly to a master data base.

Re-establishment of Controls: The potential risk associated with the lack of control in the safekeeping process is material and immediate. The priority of establishing or reestablishing control of this area must also be immediate.

Summary

The growth and complexity of investment and financial products has changed the risk characteristics within the corporate credit union system. As a result, examiners and credit union personnel must have a thorough understanding and knowledge of the risks within a corporate's investment portfolio. To meet this objective, corporates must have a sound investment portfolio management process in place. This process must include, but not be limited to, sound investment policies and procedures to guide the process, strong management information systems for measuring, monitoring

and reporting risk, adequately trained staff, and an independent testing of the overall process for compliance.

Examination Objectives

Investment Review Objectives:

1. Determine if policies, procedures, practices, and internal controls are adequate.

2. Determine if corporate staff is operating according to established guidelines.

3. Determine the scope and adequacy of the audit functions.

4. Determine the overall quality of the investment portfolio and how that quality relates to the soundness of the corporate.

5. Determine if the corporate is in compliance with applicable laws and regulations.

6. Determine if investments are properly recorded and classified.

7. Initiate corrective action when policies, procedures, practices, and internal controls are deficient, the investment portfolio represents an unacceptable risk to the corporate and/or the National Credit Union Share Insurance Fund,or when violations of laws and/or regulations have been noted.

Examination Procedures

See Corporate Examination Procedures - Investments (OCCU 201P).

Examination Questionnaire

See Corporate Examination Questionnaire - Investments (OCCU 201Q).

References

1. NCUA Rules and Regulations

2. FFIEC Supervisory Policy Statement on Investment Securities and End-User Derivatives Activities (1997 Statement)

3. Controller's Handbook on Risk Management of Financial Derivatives

4. Commercial Bank Examination Guide

5. Office of Thrift Supervision Regulatory Handbook

6. The Dictionary of Financial Risk Management, Gary L. Gastineau and Mark P. Kritzman, Frank J. Fabozzi Associates, 1996

7. The Encyclopedia of Banking & Finance, Tenth Edition, Charles J. Woelfel, Irwin Professional Publishing, 1994

8. "Standard & Poor's Corporate Ratings Criteria", Standard and Poor's, The McGraw Hill Companies, N.Y., New York. 1996

9. Duff & Phelps

10. NCUA Interpretive Ruling and Policy Statement (IRPS) 98-2

11. Comptroller of the Currency's Examiner's Guide to Investment Products and Practices

Chapter 202

ASSET AND LIABILITY MANAGEMENT (ALM)

Introduction

Asset/Liability Management (ALM) is the process of managing the composition and pricing of a corporate credit union's (corporate's) assets, liabilities, and off-balance-sheet instruments. It also encompasses controlling exposure to financial risk with the goal of maximizing the efficiency of capital over the long term. ALM therefore encompasses the processes by which an institution: (1) manages and prices its funds, (2) controls its exposure to financial risk, and (3) manages its net interest margin and net economic value.

ALM centralizes management oversight of the above functions to ensure the common goal of achieving the corporate's financial objectives. ALM recognizes that no individual asset, liability, or off-balance-sheet portfolio exists in a vacuum. Rather, ALM explicitly considers each portfolio to be a critical link in the integrated and dynamic process of balance sheet management, and an integral part of the corporate's overall risk/return profile.

The ALM process includes both the decision-making processes and analytical systems involved in managing a corporate's risk/return profile. The decision making process should be comprehensive, and should include the Asset/Liability Committee (ALCO), policies, procedures, and controls to support the ALM function. Analytical systems (i.e., asset/liability models) should provide for comprehensive, timely, and accurate analyses of an institution's global risk/return profile, as well as those of potential strategies.

In assessing an institution's ALM, the examiner's general focus should be to:

1. Ascertain whether the ALM decision-making framework (ALCO, policies, procedure, controls, etc.) is sufficient to guide the major financial functions (listed above).

2. Verify that the analytical systems and instruments available to management are used appropriately in managing the institution's risk/return profile.

Setting Financial Goals: The Risk/Return Profile

A corporate's overall financial return objectives are generally stated in terms of earnings (net interest margin) or value (net economic value) maximization, within the constraints imposed by risks from external and internal factors. Risk is generally characterized as the variability of returns. The greater the risk embedded in individual assets, portfolios, or the overall institution, the greater may be the variability of returns over time.

Management is constantly faced with the fact that, at any given point in time, higher returns (earnings or value) are expected if the corporate takes on greater risk; this is the risk/return tradeoff. Whether to position for a higher expected return at the risk of greater variance in realized return is the issue that confronts the management of each of the financial functions that are overseen by ALM.

For example, when the Treasury yield curve is relatively steep, a corporate can enhance current and expected earnings by borrowing short-term funds and investing in longer term assets. However, rising yields will immediately reduce net economic value and will result in reduced realized earnings over time (all other things being equal). If a corporate has derivative authority, it may choose to reduce its overall interest-rate-risk exposure by synthetically extending its liability duration with a pay-fixed interest-rate swap; in this case, the reduced risk will lower the expected return and the expected variance of returns.

This tradeoff between risk and return heightens the difficulty of consistently achieving overall financial goals. Short-term earnings targets may be met by accepting greater risk, but long-term earnings objectives may be compromised. As a result, a rational decision-making process for determining a corporate's optimal risk/return profile and analyzing the impact of numerous risk/return tradeoffs is crucial to successful financial management. This process is called the ALM decision making process.

ALM is therefore a process of "optimization," in which the risk/return tradeoffs of potential strategies are analyzed, and only those that most efficiently support the achievement of the institution's overall financial objectives are implemented.

Measures of Return

An institution's overall financial objectives with respect to return are usually stated in terms of earnings or market value maximization. In specifying these goals, a number of specific measurement gauges may be appropriate, either individually or in combination. These include both earnings-based and market value-based performance measures, as shown in Table 1.

In general, corporates have traditionally specified financial objectives in terms of earnings-oriented performance measures. Market value-oriented measures have not been widely used until recently.

Table 1

Measures of Return Performance

A. Earnings-oriented measures
   1. Net interest margin
   2. Core income
   3. Net income
   4. Return on assets
   5. Return on equity

B. Market value-oriented measures
   1. Market capitalization
   2. Liquidation value
   3. Going-concern value
   4. Net economic value

C. Both--Total Return

Earnings-Based Measures

Net Interest Income (NII). - NII is interest income minus interest expense. NII is the primary source of income for a corporate and a key indicator of earnings performance and stability. This measure makes no adjustment for assets that earn no interest or liabilities that bear no explicit interest cost.

Net Interest Margin (NIM). - Net interest income is called NIM when expressed as an annualized percent of moving daily average net assets (DANA). A corporate can optimize its net interest margin by effectively allocating resources among earning and non-earning assets,

maintaining low levels of non-performing assets, providing adequate liquidity funding, and maintaining a strong capital position. In a volatile interest rate environment, large changes in NIM may indicate a significant exposure to interest rate risk and potential risk management concerns.

Core Income. - Core income includes net interest income and fee-based income less operating expenses. It excludes non-recurring income and expense items so that a measure of the institution's fundamental current earning power can be attained.

Net income. - Net income is still the performance measure most utilized by investors, even though it is one of the least meaningful. It is very short term in focus and can be easily manipulated to generate the appearance of favorable earnings trends. For example, nonrecurring gains can be recognized to inflate earnings or to mask the impact of negative underlying developments. Reliance on these gains will negatively affect future earnings (all other things being equal).

Return on assets (ROA). - ROA is net income divided by average assets. To the extent the numerator is distorted by the shortcomings noted above, this measure should be used cautiously or adjusted to account for nonrecurring items. As a ratio measure, the ROA is convenient for other comparative analysis, as is the return on equity measure (below).

Return on equity (ROE). - ROE is net income divided by average equity. The usefulness of this measure is also dependent on the accuracy of the numerator. The ROE is widely used by institutional investors as the key measure of performance.

Value-Based Measures

The measures of return discussed so far are based on reported earnings (i.e., accounting data). In contrast, the market value measures reflect economic value.

Market Capitalization. - Market capitalization is the equity shares outstanding times the price per share. Since corporates are mutual organizations, this measure is not applicable.

Net Economic Value (NEV). - NEV is equal to the difference between the market values of assets and liabilities, plus the termination value (mark-to-mark value) of off-balance-sheet instruments. This net economic value may be computed under different assumptions. NEV

represents, in effect, the present value of long-term earnings streams. By focusing on stabilizing its market value, a corporate will also stabilize its long-term earnings. For this reason, market value measures have gained acceptance in recent years in many financial institutions.

The overriding management objective is the efficient use of capital. The more efficiently capital is employed by a corporate, the greater the value-added to members in terms of dividend rates, services and protection from adverse events. Optimization of NEV is a management goal that serves the members' demand for a satisfactory return on their investment (ownership in the corporate). Return on capital flows directly to the members in the form of dividends on shares and indirectly in the form of NEV increases and services (to the extent that they are offered at or below the member's alternative cost).

A corporate computes NEV using its own assumptions, models, and methodologies. The corporate examiner (examiner) should review this process for reasonableness. NEV must be produced at least quarterly, and as frequently as monthly, depending on the level of authorities and/or amount of unmatched embedded options in the balance sheet. NEV is measured for a base case as well as a series of permanent, instantaneous and parallel shifts of the Treasury yield curve. This analysis of the sensitivity of NEV is an invaluable tool in the assessment of interest-rate-risk exposure.

Liquidation Value. - Liquidation value is the residual value that would remain if all assets, liabilities, and off-balance-sheet instruments were sold, terminated, or offset today (or in the short term). Current market prices are used to value all asset, liabilities, and off-balance-sheet instruments for which market prices are available. If prices are not readily available for certain items, then the value is computed based on a discounted cash flow analysis.

Liquidation value is the "bottom line" to an insurance fund, such as the National Credit Union Share Insurance Fund (NCUSIF), because to the extent the proceeds from asset sales are not sufficient to cover the balance of deposits, the fund will experience losses.

On-going Concern Value. - The going-concern value generally assumes that an institution must value not only its existing portfolios, but also those additions to the portfolio that can be expected as growth occurs or run-off is reinvested. In other words, the institution can be assumed to be a "going-concern," as opposed to being liquidated on a one-time basis.

Total Return

Total return has long been the accepted measure of performance for investment securities, but it has only recently gained acceptance in the depository institution industry as a performance measure. Total return incorporates earnings and market value appreciation in the assessment of performance. The total return concept thus considers both short-term and long-term earnings levels and stability.

Selecting a Measure for Returns

Each corporate must determine the relative merits of each performance measurement, then clearly state and internally communicate the return objectives for the overall institution, as well as each financial function. Just as importantly, the institution must clearly enumerate the constraints (risks) within which those return objectives must be achieved. In this regard, the framework for identifying and measuring risk exposure also must be determined.

Measuring Risk Exposure

Sources of Risk Exposure

The most significant sources of risk to a corporate are interest-rate, liquidity and credit risks. Interest rate and liquidity risks are most relevant to the ALM process. Other risks include operational risk, fraud, and the risk of disasters or catastrophes. Since the measurement of these risks are discussed in more detail in other Guide sections, they are only briefly described here.

Interest-rate risk. - Interest-rate risk is the primary focus of the ALCO and the ALM decision-making process. It arises from three primary sources: (1) the mismatch between the maturities or durations of assets, liabilities, and off-balance-sheet instruments; (2) option risk including, the risk that asset/liability durations will change as interest rates change; and (3) basis risk, the risk that asset and funding/hedging rate spread relationships will change.

Mismatch risk is the most prevalent source of interest-rate risk. Option risk arises from the prepayment, cap, floor, and other options embedded in underlying mortgages, CMO tranches, adjustable-rate loans, term deposits, and other products. These options heighten the difficulty of hedging interest-rate risk because they contribute to the volatility of underlying asset and liability durations.

Basis risk occurs when unhedged or unhedgeable changes in interest-rate spread relationships (between assets and liabilities or hedges) contribute to the instability of net interest earnings or value. For a typical corporate, this risk usually arises when it buys assets indexed to LIBOR, PRIME or COFI and issues liabilities to members based upon Treasuries or Fed Funds. Basis risk tends to have less of an impact on corporates than changes in the general level of interest rates.

These three sources of interest-rate risk, and the measurement and management of interest-rate risk, are discussed in the Interest-Rate-Risk Management section of this chapter (Page 202-30).

Liquidity Risk. - Liquidity risk is the risk that funds may not be available to meet cash outflows when they arise. This may arise because of insufficient cash flow or because the assets designated as cash equivalents are not able to be sold quickly without causing a large decline in the market value. Liquidity risk also can become significant if the financial condition of an institution is deteriorating and members and creditors begin to withdraw or demand payment of their funds. Section 704.9 requires corporates to regularly monitor sources of internal and external liquidity and to model projected liquidity through a series of successively deteriorating scenarios. No explicit liquidity ratios or measures are specified in the regulation.

A corporate should strive to maintain an amount of liquidity that is most efficient given its overall economic situation which in turn reflects the anticipated funding demands of its members. As a practical matter, corporates should maintain liquidity in excess of their projected day-to-day requirements. The maintenance of minimum liquidity levels represents a constraint on ALM. These and other aspects of liquidity management are discussed later in this chapter (Page 202-39).

Credit Risk. Credit risk is the exposure to loss as a result of default on a debt, swap, or some other counterparty instrument. Credit risk includes the exposure to loss as a result of a decline in market value stemming from a downgrade of an issuer or counterparty, or a change in the perception of the probability of default.

The impact that credit risk can have on market value affects NEV and liquidity. Therefore, it is important that the credit risk management process be reviewed by the Asset/Liability Committee (ALCO). This process includes: asset quality review (including credit ratings, level of subordination, credit enhancements, etc.); underwriting policies and

guidelines; restructurings/workouts; and reserving levels. Credit risk of investments is discussed further in Chapter 201, Investments.

Other Risks. - Operational risk, fraud, and disaster risks are generally not managed or overseen by the asset/liability manager or the ALCO, but they must be considered within the ALM function. To illustrate, since the ALM function will direct the corporate wide flow of funds, adequate procedures and controls must be installed to avoid inefficiency and fraud. Also, ALM systems must be backed up frequently and stored in an off-site location to enable the continuation of ALM operation in the event of a fire or natural disaster. Thus, the ALCO must have reasonable assurance that management responsibilities, internal controls, and information systems are adequate to provide clear guidance and control in the execution of balance sheet strategies.

Quantifying Risk Exposure

The risk of a given ALM strategy is typically quantified through the use of asset/liability models to perform simulation or sensitivity analyses. Important assumptions used in the projection of earnings or valuation of assets and liabilities are altered, and the change in expected returns (earnings or value) is determined. Asset/liability modeling is discussed in more detail later in this Section under "Asset/liability Modeling and Analysis" (Page 202-14).

Recent advances in computer technology have made risk quantification practicable for virtually any individual portfolio or balance sheet. Of course, risk analysis can only be as good as the data and assumptions (including those not subjected to the sensitivity analysis) used in the model. Examiners must therefore review and critique the risk quantification methodology used by the corporate. At a minimum, all corporates are required to conduct a fair value assessment of the balance sheet (NEV) as well as an income simulation (NII and NI) for a variety of rate scenarios. Alternative methodologies may be used in addition to these measures.

Once a methodology has been developed for measuring the risks in a corporate's balance sheet, limits for risk exposure must be established. Then management can concentrate on identifying and executing the most "efficient" strategies. Efficient strategies are those that best support the achievement of the institution's optimal risk/return profile. This may be done on a total balance sheet or it may be done for discreet portfolios, sometimes termed "books of business."

Optimization: Achieving an Efficient Risk/Return Profile

Once the return objectives and risk constraints have been established for the institution, management must select those strategies that most efficiently support the attainment of the goals. This is called optimization.

The best optimization framework results in the selection of strategies with the highest return for the same (or similar) level of risk. Since the expected returns are quantifiable, and the variability of expected returns (risk) can be quantified through sensitivity analysis, a relatively objective selection framework results. Out of two strategies with the same quantified risk exposure, the strategy with the higher return is considered most "efficient," or that with the highest "risk-adjusted return." By adjusting expected returns for the level of anticipated risk (variability of expected returns), this framework puts all the alternatives on a common measurement basis to facilitate decision making.

Optimization leads to the risk/return profile most desired by the board and management. The optimization framework is at the top of the ALM decision making process, which includes the ALCO, ALM policies, and related procedures and controls.

The cornerstone of a successful ALM/ALCO process is a technically rigorous asset/liability model that allows management to quantify risk/return tradeoffs.

The ALM Decision-Making Process

The ALM decision-making process consists of:

1. the ALM policy framework;
2. the Asset/Liability Committee;
3. a comprehensive asset/liability model; and
4. related procedures and controls.

A shortfall in any of these process components can potentially disrupt the entire ALM function. If, on the other hand, these components are well designed and utilized, an institution will most likely attain its desired risk/return profile and overall financial objectives.

Examiners should review the ALM policies and asset/liability modeling process. It is usually very instructive to observe an ALCO

meeting during the examination, since this is the core of the ALM decision-making process.

The ALM Policy Framework

The board policy and delegated authorities are crucial to the ALCO and the ALM function. Hence, virtually every portfolio in the corporate will be affected by the ALM process, and each decision will have an impact on both current and future profitability. Elements of an acceptable ALM policy are outlined in Table 2.

Table 2

General Outline of Asset/Liability Management Policy

I. Objectives of ALM
   A. Implement Board-Approved Policies
   B. Integrate the Financial Functions
   C. Determine Desired Risk/Return Profile
   D. Analyze Risk/Return Tradeoffs of ALM Proposals

II. Delegation of Authority from Board of Directors

III. The ALCO

IV. Asset/Liability Management Functions
   A. ALCO Support
   B. Asset/Liability Modeling and Analysis
   C. Execution of ALM Strategies

V. Risk Limitations
   A. Interest-Rate Risk
   B. Liquidity Risk
   C. Credit Risk
   D. Other Risks

VI. Internal Controls/Guidelines
   A. Internal Controls (position limits, transaction authority, authorized dealers, etc.)
   B. Guidelines (approved security/instrument types, transaction/position limits, etc.)

The ALM policy legitimizes the ALM function within a corporate and provides a formal framework for its operation. Therefore, examiners should review the ALM policy of every corporate. The policy may

exist under another name, such as the Investment Policy or Funds Management Policy.

Examiners should determine whether (1) the policy limits are reasonable given the corporate's financial condition, (2) management is complying with the board-approved policies, and (3) periodic reports to the board are adequate.

The Asset/Liability Committee

The ALCO is at the core of an integrated, centralized ALM process. The objectives of the ALCO are to:

1. Implement board-approved policy.

2. Oversee and integrate the financial functions, and to ensure a centralized approach to funds management, risk management, and earnings/capital management.

3. Set overall return objectives and to quantify risk constraints, thereby defining the institution's risk/return profile.

4. Review the risk/return tradeoffs of potential ALM strategies to ensure that they most efficiently support the achievement of the desired risk/return profile.

The ALCO decision-making process is just as important for small corporates as large ones. Relative to asset size, many asset/liability decisions in small corporates frequently have a greater impact on funds availability and earnings than those of their larger counterparts. The larger corporates tend to have a greater depth of personnel to staff an ALCO, but small corporates must rely on a few key managers to carry out this critical function.

Part 704 of the NCUA Rules and Regulations (Part 704) requires corporates to have a formal ALCO. The committee should comprise key managers and must include at least one director. A typical ALCO will include the CEO, the CFO, the investment personnel (risk takers), the asset/liability and credit risk managers (risk monitors), and any other senior managers who routinely participate in the financial activities and strategies of the corporate.

The ALCO structure should be assessed by the examiner on a case-by-case basis, and recommendations should be made if it becomes evident during an examination that decision making is hampered or the representation on the committee is not adequate. The ideal size and composition of the ALCO will depend upon the strategic direction of a corporate and the relative size or importance of various portfolios.

Sometimes a committee that is too large is more of an impediment than a benefit to the decision-making process.

In some large corporates, the ALCO is further broken down into an internal or management ALCO and a board ALCO. By having a management ALCO, a corporate can have more frequent and technical discussions regarding the execution of strategies approved by the board ALCO. Board ALCO meetings tend to coincide with the monthly board meetings and permit officials who are not formal members of the committee to attend. This dual structure can permit the board to expeditiously review and challenge ALM reports without having to wade through technical details not directly related to strategic goals and risk oversight.

ALCO Meetings

A management ALCO should meet at least weekly and it should also be able to meet on short notice to respond to financial market developments. A board ALCO should meet at least monthly. Attendance should be mandatory and a quorum set to facilitate decision making in the absence of one or more members. Participation on the ALCO is a major commitment to the institution. Examiners should verify that appropriate emphasis is placed on the ALCO decision-making process.

For example, if the CEO often fails to attend the ALCO meetings, or if the ALCO is otherwise relegated to a secondary status, the committee is unlikely to achieve its objectives. This situation may occur even if the corporate has a well-structured ALCO, good ALM policies, and a proficient modeling capability. *The ALCO should function as a risk management body and not as an investment committee simply dedicated to analyzing perceived market opportunities.*

Training for ALCO (and board) members is an important component of a strong ALCO process. Periodic training is necessary to keep abreast of market trends, products, and contemporary best practices in risk management. Training may be conducted by the staff of the corporate but should be augmented from time to time with professionals from outside the company who are known or regarded experts on the topic presented.

ALCO Functions

The functions of the typical ALCO are presented below. Depending on the size of the institution, complexity of its portfolio, and its asset/liability mix, the ALCO process may vary. The following functions should be considered.

1. Receive and facilitate oversight by the board of directors. Provide periodic reports to the board regarding policy compliance, such as interest-rate-risk exposure reports, earnings/capital projections and analysis, etc. Periodically review ALM policy and recommend changes to the board.

2. Determine financial objectives and establish policy for each of the financial functions.

3. Coordinate funding of investments, lending (if any), and other activities. Project and review, at each meeting, the funding surplus/deficit with comprehensive short-term and long-term cash flow forecasts. Optimize cash resources, investment of liquid funds, and access to borrowed funds.

4. Coordinate product pricing. Oversee product-pricing mechanisms to ensure that spread requirements are achieved and maintained. Set product prices on an incremental basis in conjunction with funding costs.

5. Direct the analysis of proposed ALM strategies or transactions through technically rigorous simulation and scenario analysis.

6. Direct computation and monitoring of NEV. Reconcile NEV calculations to book value, and review economic and earnings effects of ALM decisions.

7. Set limits with regard to interest-rate-risk exposure, both in the context of NEV and NII sensitivity. Identify measurement methodologies for the quantification of interest rate risk.

8. Oversee investment portfolio management activities. Ensure that excess liquid funds are optimally invested in securities that complement the institution's overall risk/return profile.

9. Monitor economic and interest-rate environment, including regional and national economic conditions, prepayment trends, volatility, related regulatory developments, and more.

10. Direct hedging operations (if any), including hedge analytics, related policy development, and integration with the overall risk/return profile. Specify the range of instruments that can be used to hedge the various kinds of risk exposures.

11. Direct capital market activities, including capital raising, debt issuance, dividend policies, and merger/acquisition analysis. Ensure that these activities are integrated with the management of the overall risk/return profile.

12. Ensure that product development activities support the institution's overall risk/return objectives.

Examiners should review the ALCO's performance. It is important that the ALCO function be centralized. A lack of centralization weakens the control of risk. Thus, the responsibilities detailed above should not be managed outside of this process by staff whose authority supersedes the ALCO.

Asset/Liability Modeling and Analysis

Asset/Liability (A/L) Modeling

The ALM decision-making process should be centered around quantified measurements of the institution's overall risk/return profile and those of potential ALM strategies and instruments. Management should use a reliable asset/liability model in its ALM operations. An institution's asset/liability model should allow the asset/liability manager and the ALCO to identify and further analyze efficient ALM strategies. The model serves both strategic and risk monitoring objectives.

A model must be able to:

1. accept a wide variety, and potentially a large volume, of data input and assumptions;
2. perform sensitivity and simulation analyses (described below) under different scenarios;
3. generate summary reports that are concise and decision-oriented;
4. allow for quick turnaround of "what if" analyses; and

5. accommodate new instruments and products.

Examiners should review the ALM modeling process to determine whether the corporate's model (if any) is capable of performing the above tasks. Management should maintain its asset/liability model(s) commensurate with the scope and complexity of their activities.

Most A/L models have the same general design. Data concerning the institution's current balance sheet position (and off-balance-sheet items) are entered (either manually or on an automated basis) with the key earnings and value parameters for each portfolio. For example, the earnings parameters for fixed-rate mortgage related securities include the expected cash run-off (determined using a prepayment assumption) in each forecast period, the weighted-average coupon, and expected incremental activity in the portfolio.

Next, assumptions concerning future interest rates, prepayment conditions, spreads, and incremental activity are entered. Many of these assumptions are "shocked," or altered by certain amounts to enable the corporates to view their impact on earnings and net economic value. Then, decision-oriented reports are generated to support the ALCO function and ALM decision making.

A/L models are used to perform sensitivity and simulation analyses in the measurement of interest-rate-risk exposure and the analysis of proposed strategies. Sensitivity analyses are used to study the impact of strategies and assumptions on NEV in different environments. Simulation analyses review the impact of different strategies and assumptions on earnings. Ideally, a corporate's A/L model will be capable of quickly generating numerous sensitivity and simulation analyses. Such models allow for the analysis of both risk and return, within the context of both market value and accounting earnings. This kind of comprehensive analysis best facilitates the identification of the desired risk/return profile, and the analysis of risk/return tradeoffs.

Some corporates perform A/L modeling only to meet regulatory requirements pertaining to interest-rate-risk measurement, rather than to support management analysis and decision making. Others have limited ability to model dynamic assets with embedded options yet they are inclined to buy such instruments. Also, many institutions do not have an adequate process in place to check or edit the model after manual data entries have been made (discussed earlier). These shortcomings should be noted in the examination report.

Another frequent problem in the A/L modeling area is that unnecessarily cumbersome reports are generated for the ALCO, rather than summary-level analytical reports. The ALCO reports must contain useful information, not unintelligible reams of data. Sometimes, the computers used to run A/L software are too slow to support iterative sensitivity or simulation analysis. In such cases, the ALCO gets only a limited analysis, and may limit its requests for additional analysis, due to the lack of sufficient computer power. The need for and benefits of comprehensive analysis should drive the analytical process. Therefore, management should be made aware of computer power or report generation limitations that needlessly impede ALM analytics. In such cases, management should be encouraged to upgrade its capabilities. Examiners should be concerned when the ALCO has an appetite for risk-taking strategies, but is unwilling to implement an adequate model for cost or other reasons.

Other problems that become evident in the examination of the A/L modeling function include:

1. over-reliance on outside consultants;
2. use of overly simplistic assumptions (example: basing all liability pricing off one key or index rate);
3. over-reliance on manual data entry;
4. overly complex or overly condensed chart of accounts in A/L model (aggregation of instruments); and
5. inexperienced personnel in modeling function.

<u>Other Modeling/Analytical Requirements</u>

In addition to the A/L model, which is used to measure institution-wide interest-rate risk and the impact of traditional balance sheet ALM strategies, other models will likely be necessary to value specific instruments or to project assumptions for the A/L model or other purposes.

Those models may include:

1. mortgage-derivative analysis (e.g., Bloomberg);
2. off-balance-sheet derivatives:
    a. interest-rate swaps;
    b. options;
    c. futures contracts; and
    d. forward agreements;
3. mortgage (or other) prepayment forecasting;

4. hedge analytics (hedge ratio calculations, regression analysis);
5. interest-rate projection (forward Treasury yield curve analysis, cost-of-funds index projection);
6. secondary marketing analysis (net exposure calculations, fallout projection);
7. trading portfolio (technical analysis, charting, program trading);
8. product profitability (transfer pricing, functional cost analysis); and
9. budgeting.

Examiners will need to review most, if not all of these models, especially if they have a material impact on the ALM function. The review process should basically be the same as the review of the A/L model. In many cases, institutions rely on outside vendors, brokers, or consultants to perform analyses or calculations. Generally speaking, the over-reliance on an outside party for analysis used in an institution's key decision-making processes should be considered an unsafe and unsound practice.

If the output from outside models is used in conjunction with the corporate's A/L model, the structure of the model and the assumptions used in it must be consistent with the A/L model. Otherwise, management will be comparing apples with oranges.

Models of Interest-Rate Risk

Measures of IRR require reliable information on the amount and timing of the cash flows generated by an institution's assets, liabilities, and off-balance-sheet instruments. Because this information is not always known with certainty, assumptions must be made to perform the analysis. Depending on the type of analysis, these assumptions may include: (1) how market interest rates will change (over the period of analysis); (2) how instruments with rate dependent cash flows vary with interest-rate changes; (3) how management will administer interest rates that are under its control (such as rates on shares and membership capital), when the general level of interest rates changes; and (4) in NII models, how management will reinvest interest and principal cash flows.

Two types of models are commonly used by depository institutions to estimate the interest-rate sensitivity of NII: maturity gap models and NII simulation models. Likewise, there are two types of models commonly used to estimate the sensitivity of NEV: duration gap models, and NEV simulation models.

Maturity gap and simple duration gap models are similar in that they implicitly make assumptions about the way interest rates and cash flows behave. Perhaps the most serious shortcoming of these models is that they assume cash flows do not change in response to interest-rate changes. For example, the model assumes that adjustable-rate loans do not reprice again after their next reset and that mortgage prepayment rates and share decay rates do not vary. The result is that the estimated change in NII or the change in the NEV of the institution is the same for a given increase in rates as it is for an equivalent decrease. However, in reality, the prepayment option embedded in mortgage assets results in asymmetric price changes for mortgages. That is, price increases when rates fall tend to be less than price declines when rates rise. The value of most corporate balance sheets shows a similar sensitivity. This sensitivity cannot be accurately estimated by gap and duration models that assume that cash flows are the same in all interest-rate environments.

NII and NEV simulation models, on the other hand, permit these assumptions to vary, but necessarily rely more heavily on the analyst to make choices about certain behavioral relationships incorporated into the model. Even though they rely more heavily on parameters set by analysts, NII and NEV simulation models can be much more accurate than their less sophisticated counterparts if appropriate assumptions are used.

When assessing any measure of IRR of a corporate, the examiner should be careful to evaluate the reasonableness of the assumptions used in the analysis.

Maturity Gap Models

Maturity gaps are relatively easy to calculate compared to other measures of IRR, and during the 1980s were the most commonly used measures of IRR in depository institutions.

Maturity gap analysis measures the difference, or “gap,” between the dollar value of assets and liabilities maturing or repricing during a given time period. The dollar gap is often expressed as a percentage of assets. When multiplied by a hypothetical change in interest rates, the dollar maturity gap gives a rough estimate of the effect of such a rate change on NII.

To calculate the maturity gap, principal balances of interest-earning assets and interest-bearing liabilities are categorized by maturity/repricing intervals or “buckets” (e.g., under one year, one to

three years), depending on when the principal cash flows will be received or when their interest rate will next be adjusted. In more sophisticated gap models, the timing of the principal cash flows is adjusted by incorporating the effects of asset amortization, mortgage prepayments, core share decay, and the effects of off-balance-sheet hedging instruments.

As an example of a maturity gap calculation, assume a corporate with $10 million in asset estimates that $3 million will "reprice" during the next year (by having principal mature, prepay, amortize, or having the coupon adjust). Further, it is estimated that $6 million of liabilities will reprice during this time. This institution is said to have a "one-year gap" equal to negative 30 percent [($3m-$6m) /$10m].

$$\text{GAP} = \frac{(\$\text{Asset Repricing}) - (\$\text{Liabilities Repricing})}{\$\text{Total Assets}}$$

To estimate the effect a change in interest rates has on an institution's interest margin, the gap as percent of assets is multiplied by the hypothetical rate change. For example, the estimated effect of a 1 percent rise in interest rates on NII over the next year would be approximately 0.30 percent or 30 basis points (1.0 percent x -30 percent = -0.30 percent). Given assets of $10 million, this decrease in interest margin would translate to a reduction in NII of $30,000 over this period.

Although maturity gaps are relatively easy to measure and do provide a rough measure of NII sensitivity, they have a number of well-known shortcomings including the following:

1. Maturity gap models typically focus exclusively on near-term NII. This focus hides the risk to NII of longer-term repricing mismatches. This ignores potentially adverse effects on not only earnings but also liquidity.

2. The repricing intervals chosen for analysis are arbitrary and there may be significant mismatches within a repricing interval that will be ignored in the analysis. The most common repricing interval analyzed by depository institutions is the one-year gap and the one to three-year gap. A cash flow to be received in one year should have a different effect on interest-rate exposure of an institution than an identical cash flow to be received in two and one-half years. Yet the one to three-year gap model would treat these two cash flows as equivalent in terms of their effect on the IRR of the institution.

3. Using maturity gaps to estimate the change in NII resulting from a change in interest rates assumes all interest rates change by the same amount--an unlikely occurrence. When the general level of interest rates increases by 1 percent for example, some interest rates, such as those paid on short-term transaction accounts, typically increase by a smaller amount, if at all.

4. It is not possible to properly incorporate the effect of exchange-traded options or the options embedded in many financial instruments such as early withdrawal options on share certificates, the caps and floors in ARMs, and mortgage prepayment options. These options have a significant effect on the rate sensitivity of a financial instrument; neglecting to incorporate them into the analysis will misstate the IRR of an institution.

NII Simulation Models

NII simulation models project interest-related cash flows of all assets, liabilities, and off-balance-sheet instruments in an institution's balance sheet in order to estimate future net interest earnings over some chosen period of time. They are often referred to as "dynamic" NII simulation models because changes in operating strategies, relative interest rates, early withdrawal of shares, and prepayments can be built into the model.

NII sensitivity is calculated as follows. First, "base case" NII is projected for the current interest-rate environment. Cash flows for each instrument are projected using assumptions about amortization characteristics, prepayment rates on mortgages, and share decay rates. Assumptions must be made regarding how the principal and interest cash flows received during the period of analysis will be reinvested.

Next, various simulations are done under alternative interest-rate scenarios. For example, many models estimate the value of NII over the next year if interest rates were to increase or decrease by 100, 200, or 300 basis points. As in the base-case scenario, interest cash flows are projected over the period of analysis, and will depend on assumed share decay rates, prepayment rates, and on how rates on adjustable-rate assets and shares are assumed to change in each interest-rate scenario. (To project how the coupons on adjustable-rate assets will change, information on the time to first reset, reset frequency, and the presence of any rate caps or floors is needed.)

The larger the differences in projected earnings between the base case and the alternative interest-rate scenarios, the higher the level of IRR.

NII Simulation offers the following advantages:

1. NII simulation models can provide more accurate estimates of the effect of changing interest rates on the future interest income of instruments with embedded options by varying prepayment rates according to the interest-rate scenario being simulated. The value of other embedded option (e.g., lifetime caps on ARMs) and off-balance-sheet instruments in institutions' balance sheets can be similarly assessed.

2. Interest rates on different instruments can be assumed to change by different amounts when there is a change in the general level of interest rates. For example, changes in rates on core shares can be assumed to lag behind changes in other rates.

Simulation analysis also has a disadvantage. Like gap analysis, NII simulation models typically measure the effect of a change in interest rates over only short periods of time such as one year. Models that do project NII over longer periods of time sometimes aggregate these future cash flows in a manner that implies that cash flows received in the distant future are as valuable as those received in the near future. For example, a model may indicate that if rates increase by 100 basis points, an institution will lose $100 during the next year but will gain $100 in year two of the analysis. In fact, the present value of the $100 received in two years is less than the value of $100 received in year one. NII models that project NII over long periods should take the time value of money into account.

Analysis of the Sensitivity of Net Economic Value

The net economic value "N" equals the estimated present value (or "economic value") of assets "A," less the present value of liabilities "L," plus or minus the present value of all off-balance-sheet items "O." Thus,

$$N = A - L + O$$

Two types of models are commonly used to analyze the sensitivity of NEV: the duration gap model and the NEV sensitivity model. Both models require detailed information on the amount and timing of all future cash flows deriving from all financial instruments in the balance sheet as well as the specification of appropriate discount rates.

Duration Gap Analysis

Duration gap is the difference between the weighted-average duration of assets and liabilities, adjusted for the net duration of all off-balance-sheet instruments. It is a measure of the percentage change in the NEV that would be expected if interest rates were to change by 100 basis points. This measure is a "point" estimate and is accurate for only small changes in interest rates.

To calculate the duration gap, the duration of each item in the balance sheet is separately calculated. The duration "D" of each instrument is weighted by the ratio of its market value to the net value of the balance sheet, and the weighted durations of all assets, liabilities, and off-balance-sheet instruments are netted as follows.

$$D_N=D_A(A/N)-D_L(L/N)+D_O(O/N)$$

There are several different forms of the duration measure including simple (or Macaulay) duration and modified duration. Modified duration is the measure most often used to calculate the duration gap, and because it requires calculation of simple duration, both measures are described below.

Simple Duration

Simple duration was developed to provide a measure of the average time to receipt of the cash flows of a financial instrument. It measures the weighted average time until payments are received, where the weights are the proportion of the total present value of the instrument received in each period.

Calculation of the simple duration of an instrument requires three steps. First, calculate the present value of each cash flow (principal and interest) by discounting them by the instrument's required yield. (The sum of these present values equals the estimated price or market value of the instrument.) Second, multiply each present value by the number of years until it occurs, and sum these time-weighted present values. Third, divide the sum of the time-weighted present values from step two by the sum of the unweighted present values from step one.

Modified Duration

Modified duration is a measure of the interest-rate sensitivity of an instrument and is obtained by multiplying simple duration by -1/(1+Y periodic/CPY) where Y periodic = nominal annual yield and CPY = number of compounding periods per year (e.g., if Y period is a bond equivalent yield, then CPY = 2). Modified duration indicates the expected percentage change in an instrument's price for a given change in the required yield of the instrument.

$$\%\blacktriangle P=(-D/1+\underline{r})x\blacktriangle r,$$
$$2$$

where D=duration of the instrument,
P=price of the instrument,
r=required yield of the instrument, and
▲=represents "the change in."

For example, if a liability had a modified duration of -4, the price of the liability could be expected to decline by .04 percent (.0004) for each basis-point increase in interest rates. After the duration of each item in the balance sheet has been calculated, each instrument's duration is weighted by the ratio of the market value of that instrument to the NEV, and netted.

One difficulty in calculating the duration gap lies in obtaining economic values for each instrument. If market price quotes cannot be obtained, the economic values may be calculated using present value analysis as described in the next section on the NEV sensitivity model. Book values are sometimes used to calculate the duration gap when market values are not available or not easily estimated. When economic values diverge significantly from book values, the use of book values may result in significant error in the estimation of the interest-rate sensitivity of balance sheet value. Other drawbacks of duration gap analysis are listed below.

1. Duration gap analysis provides accurate estimates of price sensitivities of instruments only for small changes in interest rates, say, less than 100 basis points. Modified duration assumes the percentage price change due to a rate change of a given magnitude will be the same when rates rise or fall (although opposite in sign). This is not, however, true when rates change by a large amount. For a simple bond with no embedded options (such as a noncallable Treasury security), a large decrease in rates will result in a larger percentage increase in price than the percentage

decrease in price that would result from an equal increase in rate (this phenomenon is known as convexity). The analysis is further complicated when analyzing financial instruments with embedded options such as mortgage loans. Because borrowers tend to prepay their loans when refinancing rates fall below the coupon on the loans, the value of the loan will not rise as much as it would have had borrowers not prepaid (negative convexity).

2. Duration does not take the shape of the yield curve into account. The present values in the modified duration computation are usually calculated using the same discount rate (the required yield) for each future cash flow irrespective of when that cash flow will occur. This causes long maturity cash flows to be overvalued and short maturity cash flows to be undervalued, biasing the estimated duration.

NEV Sensitivity Analysis

The measure of IRR deemed most important by NCUA is the sensitivity of the NEV to changes in interest rates. A corporate's NEV is defined as the present value of assets minus the present value of liabilities plus the net market value of off-balance-sheet contracts. The sensitivity of NEV is the change in a corporate's NEV that would result from a shift, or shock, in the term structure of interest rates, say, by plus or minus 100 basis points.

Unlike simple duration gap, this measure may be used to estimate the change in economic value for substantial changes in interest rates, like 100 or 200 basis points or more. These larger changes in interest rates allow the measure of IRR to depict the corporate's economic exposure across a wider range of possible outcomes.

The remainder of this section is devoted to a brief overview of NEV sensitivity analysis. In particular, two methods of measuring the economic value of financial instruments are discussed.

Measuring NEV: Static Discounted Cash Flow Approach

The value of a financial instrument can be estimated by projecting the amount and timing of the future net cash flows generated by the instrument, and discounting those cash flows by appropriate discount rates. This procedure is commonly referred to as discounted cash flow analysis, or present value analysis.

The basic formula for the present value of a financial instrument is as follows:

$$PV = CF_1/(1+i_1) + CF_2/(1+i_2)^2 + \ldots + Cf_m/(1+i_m)^m,$$

where CF_1 is the estimated amount of the first cash flow generated and i_1 is its discount rate. The discount rate used for each projected cash flow is the yield currently available to investors from cash flows resulting from alternative instruments of comparable risk and duration.

The accuracy of any valuation derived from the discounted cash flow analysis depends on the accuracy of both the cash flow estimates and the discount rates used. These cash flows and discount rates must be estimated not only for the current scenario, but for each of the alternate interest-rate scenarios being estimated.

1. Estimating Cash Flows

Under each interest-rate scenario, a single path of future interest rates is assumed, based on future rates implied by the current term structure of interest rates. (In fact, this analysis is referred to as "static" cash flow analysis because each scenario depicts a single hypothetical path of interest rates, as opposed to the numerous paths used in the OAS analysis described below.) Cash flows are calculated within each scenario based upon the assumed path of interest rates depicted in that scenario.

Cash flows may differ across scenarios for two reasons. First, mortgage prepayments and share attrition rates will differ since mortgage holders and share holders can be expected to make different decisions about these actions under different interest-rate environments. Such differences in behavior are modeled by specifying a relationship between the interest-rate scenario and the rates of prepayment and attrition, thereby changing the magnitude and timing of principal and interest cash flows. Second, the magnitude of interest cash flows differs across scenarios as adjustable-rate instruments (such as ARMs or demand accounts) reprice in future periods and receive different future coupon rates under different scenarios.

2. Discount Rates

The rate used to discount a cash flow should represent the yield obtainable in the market for a cash flow of similar maturity and risk.

There are two common methods for arriving at the discount rates for a particular instrument. The simpler method is to discount every projected cash flow by the yield of comparable instruments. In this case, each of the "i's" in the above equation would equal the current market yield of the instrument for which cash flows are being discounted.

A more complex, and more accurate method is to use non-constant discount rates based on the yields of zero-coupon instruments with maturities equal to those of each respective cash flow. In practice, this is done by calculating for each cash flow a discount rate that has two components: a risk-free component, which is represented by the zero-coupon Treasury yield for the same maturity, and a fixed spread, which compensates investors for prepayment, credit, and liquidity risk. This fixed spread is calculated as that increment to each of the risk-free components that causes the sum of the discounted cash flows to equal the observed market price of the instrument.

For either of the methods used, the discount rates in the alternate interest-rate scenarios are typically adjusted by adding or subtracting the amount of the interest-rate shock (e.g., for a plus 100-basis-point scenario, add 100 basis points to each discount rate).

Measuring NEV: Option-Based Pricing

An option-based pricing approach is a more sophisticated approach to valuing assets (and, less frequently, liabilities) that contain embedded options.

The most important options in corporates' balance sheets are the prepayment options in mortgage securities and the caps and floors in adjustable-rate mortgage securities. When mortgage rates fall, mortgage prepayments typically accelerate, forcing corporates to reinvest the proceeds at lower yields. Interest-rate caps and floors prevent the coupon rates of adjustable-rate assets from moving above or below a certain level when interest rates change. Both of these types of options can have a significant effect on the interest-rate sensitivity of the instruments in which they are embedded.

In large part, the values of these options depend on the volatility of interest rates. When mortgage rate volatility increases, there is a greater chance that mortgage rates will fall sufficiently below the rates on existing mortgages so as to induce prepayment. Likewise, the greater the volatility of the index on which adjustable-rate loans are based, the more likely that the coupon will be constrained by any rate cap or floor.

Option-based pricing models, also known as option-adjusted spread (OAS) models, use an interest-rate simulation program to generate numerous (hundreds or thousands) random interest-rate paths that, in conjunction with a prepayment model, are used to estimate mortgage cash flows along each path. These cash flows are then discounted and averaged to arrive at a single mortgage price.

OAS models provide more accurate estimates of the value of these embedded options (and, therefore, of the mortgages themselves) than static discounted cash flow models. In a static cash flow analysis, the option has no value unless it is "in the money" (i.e., the prepayment option is exercised because rates have fallen and the homeowner chooses to refinance, or the rate cap or floor is effective). In fact, like exchange-traded options, these options have value even when they are not in the money, because it is possible they will be in the money at some future date. Market participants will, therefore, pay more or less for the instrument containing the option depending on the likelihood of exercise.

The sensitivity of NEV is a valuable measure of IRR because it estimates how the economic value of an institution changes when interest rates change. In addition, the results are easy to interpret. However, it is a complex measure that requires extensive modeling, and, as with any measure of IRR, the results are sensitive to the assumptions used.

Procedures and Controls

To ensure the integrity of the ALM decision-making process, internal procedures and controls must provide for efficient data flows. This is especially important because of the need to receive and input cash flow data from every major department in the corporate, and to make coordinated decisions affecting the entire institution based on the analysis of that data. The size of the corporate and the volume of transactions should be taken into consideration by examiners.

If the ALM process is not functioning properly, examiners should focus on the related operating procedures and internal controls. In a large institution, the documented procedures typically will need to be quite extensive to accommodate a large volume of data flow from numerous functional areas to the asset/liability manager.

Internal Procedures

Procedures must be documented and in place that allow for the smooth and timely flow of data to the A/L modeling function, the ALCO, and other areas. Flow charts documenting this physical flow of data from all departments are usually very informative. If such flow charts do not exist, management should be encouraged to develop them.

Procedures also must be installed to verify data entry required in the asset/liability modeling, cash flow forecasting, pricing analysis, and other key computational ALM operations. Required analytical processes for certain strategies, such as hedge ratio calculations or mortgage-derivative analytics, should also be documented. Processes should be in place to confirm that individual strategies or transactions are not in violation of NCUA Regulations and those of other agencies.

Other procedures are necessary to accommodate the ALM function at certain institutions. These should be assessed on a case-by-case basis.

Internal Controls

In small corporates, the lack of adequate internal controls may be more of an area of concern because an individual often performs multiple functions. Examiners should take exception where management does not provide for sufficient segregation of duties. For example a senior manager may not only be involved in ALCO decisions, but may also execute transactions, oversee the disbursement of cash, and authorize the related accounting entries. These duties must be segregated or conducted with sufficient compensating controls (i.e., internal audit) to ensure adequate internal control.

Examiners should also verify that internal controls in the ALM function are adequate in the following areas: transaction authorizations - both internal (officers authorized to transact business) and external (approved dealers, for example); position/transaction limits; regulatory requirements or limits; and other guidelines. The policies and procedures for the individual financial functions usually elaborate on these control features.

Executing ALM Strategies & Decisions: The Financial Functions

Structured appropriately, the ALM decision-making process should result in effective strategies to guide an institution toward achieving its overall financial objectives. These strategies are then implemented by the financial functions, which are the portfolio-level operations that carry out three elements of the ALM process: (1) funds management and pricing; (2) risk management; and (3) earnings/value management.

Examiners should review the procedures for communicating actionable decisions to the functional areas, and the reports generated for the board, which summarize the nature and purpose of each major transaction. Additionally, examiners should look to the policies and procedures in each of the functional operations to verify that the strategies selected by the ALCO have been executed efficiently.

The Three Elements of the ALM Process

Funds Management and Pricing.

This element consists of the functions involved in the origination, purchase, sale, maturity, and/or other activities involving the flow of funds. Therefore, investment and liability management fall into this category. To ensure the most efficient and profitable movement of funds, cash management and liquidity management fall into this area.

The pricing of assets and liabilities is an integral part of funds management. Share and loan products are generally priced by management, while investments and borrowed funds are dictated by the market, hence, not controlled by management. As a result, the above pricing affects the management of funds in all portfolios (books of business), and the increase or decrease in the net funds flow.

The primary purpose of the ALM function is to coordinate funding and pricing decisions in order to optimize the integration of the financial functions. These decisions will then pave the way for the maximization of capital and the control of risk exposure.

Risk Management.

The attributes of the asset, liability, and off-balance-sheet portfolios will have a direct bearing on an institution's overall risk exposure. The maturity and pricing characteristics of each portfolio affect overall interest-rate-risk exposure, while earnings and capital strength impact liquidity risk.

Interest rate and liquidity risks are the primary risk management concerns of the ALCO. The measurement of interest-rate-risk is discussed in the Interest-Rate-Risk Management section (below). Hedging and/or derivatives can be used to offset interest-rate-risk exposure.

Earnings/Value Management.

A corporate's financial objectives are met by achieving desired returns, as measured by earnings or economic value, and by minimizing the variability of those returns. In the ALM context, earnings management primarily entails the management of the net interest margin (also called spread management), and value management refers to the management and stabilization of net economic value. The risk/return tradeoffs constantly facing management will have different implications for earnings and NEV.

Earnings and NEV management are closely related to pricing and risk management (discussed above). If, for example, the ALCO chooses to invest in only short-term Treasuries, these assets will be less profitable than more risky alternatives. However, the limited credit risk associated with this strategy will promote the stability of earnings and value. Another example, if the ALCO chooses a strategy that results in greater interest-rate-risk exposure, then future earnings variability will be heightened.

The spread management function is designed to maintain the net interest margin requirements of the institution. In this regard, it is crucial that the share pricing committee is under the purview of the ALM function. Finally, the management of capital markets activities and the computation of net economic value are crucial to the management and monitoring of an institution's overall NEV.

Interest Rate Risk Management

Introduction

Interest-rate risk is defined as the sensitivity of a depository institution's earnings and NEV to changes in interest rates. IRR results from the differences in the way the value of assets, liabilities, and off-balance-sheet instruments are affected by interest-rate changes.

The interest-rate sensitivity of a corporate's balance sheet depends on the characteristics of the financial instruments that make up the balance sheet. Corporates' share liabilities include a large percentage of overnight shares. Since shares typically reprice faster than investment assets, most corporates are exposed to rising interest rates. This means that their NEV and earnings decline when interest rates rise and increase when interest rates fall. However, there are some institutions that experience decreased earnings and declining net worth when interest rates fall, due to their balance sheet composition.

The interest-rate sensitivity of a financial instrument depends on many factors including: (1) maturity (generally, of two otherwise identical instruments, the one with the longer maturity will be more interest-rate sensitive); (2) repricing characteristics (instruments such as adjustable-rate bonds that reprice frequently to market interest rates are typically less interest-rate sensitive than fixed-rate instruments); and (3) the presence of embedded options, such as prepayments, interest-rate caps, and deposit withdrawal options that affect the timing of the cash flows generated by the instruments.

To properly evaluate the IRR exposure of a corporate, the effect of interest-rate changes on the entire balance sheet must be analyzed. It can be extremely misleading to conclude that an institution is highly exposed to IRR on the basis of a few very rate-sensitive instruments. In fact, the interest-rate sensitivity of those instruments may be offset by other instruments in the balance sheet that are less rate-sensitive, or are inversely affected by rate changes. Corporate investments may have a corresponding liability that has substantially similar characteristics and this permits the risks associated with the asset to be transferred to the holder of the liability (a "matched" transaction).

Both the board of directors and management of a corporate are responsible for the management of IRR.

In general, IRR management involves the following steps: choosing target measures (e.g., NII and NEV) for IRR management; setting limits on acceptable levels of interest-rate exposure for each target measure; estimating the interest-rate sensitivity of each target measure; and restructuring or hedging the balance sheet if the estimated interest-rate sensitivity exceeds the established exposure limits.

Summary of Part 704.8 (Limits on IRR)

The objective of IRR management is to control an institution's exposure to changes in interest rates to maintain adequate levels of earnings and capital over a range of possible interest-rate environments. Requirements for the management of IRR are established in 704.8(d). The board of directors is responsible for the development of a policy for controlling IRR. It is management's responsibility to ensure that the policy is successfully implemented by establishing adequate guidelines and procedures. Further, management is responsible for reporting the implementation and monitoring of such policy to the board on a periodic basis (at least quarterly for base case). The board shall review the results of operations and make adjustments to the policy as needed.

It is important to understand the responsibilities of management and the board of directors regarding the measurement and management of IRR. The following sections summarize those responsibilities.

Policy Statement

The board's policy statement shall include established limits on the institution's IRR exposure, identify the contents of reports to be made by management to the board, and specify the frequency the directors will review IRR management (at least quarterly per Section 704.8(d)). The delegation of responsibility for managing the institution's exposure to IRR should be clearly defined in the board's policy statement. Specific authorizations and restrictions should be provided regarding the institution's investment and trading activities (if any), the use of derivatives and synthetic instruments (corporates with Part IV authority), and hedging strategies.

Periodic Review

Periodic reports by management to the board of directors should demonstrate compliance with the exposure limits. Table 3 illustrates the type of interest-rate-sensitivity analysis that management should prepare to demonstrate compliance with its board's exposure limits. In columns [3] and [5], XYZ's management is reporting that neither NII nor NEV would be reduced by more than the percentages permitted by the board of directors, shown in columns [2] and [4], under any of the prescribed interest-rate environments. Finally, the levels of NII and NEV used as denominators in calculating columns [3] and [5] should be reported as memo items.

Measurements of the sensitivity of the institution's NII and NEV will be necessary for management to demonstrate compliance with the board of directors' limits on exposure (as in columns [3] and [5] of Table 3). A corporate should be able to explain the reasons for any large differences between their own NEV sensitivity estimates and those produced by a periodic independent third party review.

Table 3

Current Exposure of XYZ Corporate to Hypothetical Changes in Interest Rates

[1]	[2]	[3]	[4]	[5]
	Percentage Change			
Change In Interest Rates (in basis points)	Net Interest Income Board Limit	Projected Change	Net Economic Value Board Limit	Projected Change
+300	-75	-70	-50	-40
+200	-50	-30	-25	-15
+100	-20	-10	-10	-5
0	0	0	0	0
-100	-20	15	-10	10
-200	-50	35	-25	15
-300	-75	40	-50	15

Memo:
Net interest income projected under constant interest rates: $400
Net economic value under current interest rates: $1,000

Because any system of IRR management will rely on certain assumptions, management should document the assumptions underlying its interest-rate-sensitivity analysis and demonstrate to the board that they are reasonable. For example, management would need to explain how prepayments would be expected to behave under the various interest-rate scenarios and how they would affect the sensitivity measures. If more elaborate sensitivity analysis is used, the assumptions being made in that analysis should be discussed with the board and documented.

Requirements for NEV Models

This section describes the minimum requirements that NEV models used by institutions for regulatory compliance should meet. The requirements concern three general areas: (1) the items that are properly included in the NEV measure, (2) how cash flows are estimated in the base-case interest-rate environment and the alternate interest-rate environments, and (3) what discount rates should be used in the base-case and alternate-rate scenarios.

Items Included in NEV Measure

NEV should include the estimated present value (or "economic value") of all existing assets, liabilities, and off-balance-sheet items associated with the corporate's balance sheet. For example, the estimates will not include the value of new investments management projects it would make under the various interest-rate environments, or the value of new share accounts they believe the corporate will attract. It, however, should include the value of all off-balance-sheet instruments.

For their internal use, institutions may want to produce estimates of the interest-rate sensitivity of their balance sheets on a "going concern" basis, taking into account future business (e.g., interest rate "ramps"). For regulatory purposes, however, NEV should include only the value of existing instruments.

Estimation of Cash Flows

The cash flows of all instruments must be estimated separately for each interest-rate scenario. The cash flows of many financial instruments held by corporates change depending on the course of interest rates. It is not acceptable for institutions to estimate the cash flows of these instruments for the base case and assume those same cash flows would also be realized in the alternate interest-rate environments. NEV models should consider the fact that coupons on adjustable-rate investments and shares, mortgage prepayment rates, and core share decay rates will change depending on the interest-rate scenario. Institutions should document the mortgage prepayment rates and deposit decay rates assumed in each interest-rate scenario.

To the extent possible given their data systems, institutions should use disaggregated data to estimate the economic market value of their instruments. If sufficient information were available, each individual investment, share, etc., could be valued separately using information on amortization, coupon, maturity, and any options embedded in the instrument to estimate future cash flows. Corporates should disaggregate instruments to the extent practical, grouping similar instruments together.

For example, if not valued separately, fixed-rate mortgage backed pass-throughs, at a minimum, should be stratified into several coupon ranges (e.g., 7 to 8 percent, 8 to 9 percent, etc.). Adjustable-rate mortgage backed securities (ARMs) should be segregated by index type, adjustment frequency, and distance to the lifetime cap (for example, those close to their lifetime cap should be valued separately

from those with rates, say 2 percent from their cap). Shares should be segregated by type. This stratification permits the application of appropriate parameters (prepayment rates, decay rates, etc.) to each type of instrument and will result in more accurate economic value estimates.

Discount Rates

When estimating economic values, institutions should choose discount rates that reflect the risks of holding a particular instrument, including credit and liquidity risks. There are a number of possible methods of determining appropriate discount rates for financial instruments. The most common but least accurate method is to discount all future cash flows of a particular instrument by a constant discount rate that reflects the required yield of the instrument. For a typical upward-sloping term structure, this method overvalues long-term cash flows and undervalues short-term cash flows. A more accurate method involves discounting cash flows of different maturities by different discount rates. Under this method, the discount rate of any particular cash flow of a given maturity is equal to the estimated "risk-free" rate plus a fixed spread that compensates investors for the risk of holding the instrument. The risk-free rate for any given maturity cash flow is represented by the U.S. Treasury zero-coupon yield of the same maturity. The responsibility for choosing a particular discounting method resides with the institution. Like other assumptions necessary to calculate the NEV sensitivity estimates, the details of the method chosen and the rationale for choosing it should be documented by the institution.

Management Strategy

The board and management are responsible for the institution's IRR management strategy and its implementation. They must understand the strategy and its possible effects on the short- and long-term financial health of the institution.

In formulating an IRR strategy, the board and management should consider the level of expertise needed to implement the strategy. A prudent IRR management strategy should be within the scope of existing management expertise. The corporate should not rely on speculative plans to remedy an excessive IRR exposure; nor should it incur excessive credit or liquidity risk to do so.

Steps taken to manage IRR may conflict with other business goals. To ensure such conflicts are minimized, management's IRR strategy

should be developed in conjunction with the creation of a comprehensive business plan for the institution.

It may well be that the profitability, financial structure and IRR targets an institution would choose independently of one another are not attainable simultaneously. By developing these targets and the plans for achieving them as part of a single process, management can determine which combinations of targets are feasible and can make an informed choice among them.

Evaluating IRR Exposure

To be able to make meaningful judgments about the exposure of an institution to changes in interest rates, it is helpful to measure and compare its exposure with that of other institutions under a standardized framework. The framework adopted by NCUA for this purpose is to examine exposure in the context of how an institution's NEV would be affected by an instantaneous, adverse shift in interest rates of plus or minus 300 basis points. An adverse rate shock is defined as a 300-basis point increase or decrease in interest rates, whichever results in the larger decline in an institution's NEV.

The effect on NEV of an adverse rate shock is viewed relative to the size of the estimated present value of the institution's assets. An institution's "NEV ratio" is defined as its NEV divided by the present value of its assets (PVA), or:

$$\text{NEV Ratio} = \frac{\text{NEV}}{\text{PVA}}$$

Table 4

	Interest-Rate Scenario		
	-300 Basis Point Change	Base Case	+300 Basis Point Change
Present Value of Assets	$105	$100	$80
Present Value of Liabilities	-99	-95	-77
NEV	6	5	3

NEV ratio	5.7%	5%	3.8%

To detect excessive exposure, it is important to determine both the level to which an institution's NEV ratio is expected to decline as a result of an adverse change in interest rates as well as the magnitude of the decline in the ratio. This can be done through the use of two measures: an exposure measure, which is also referred to as the "Post-Shock NEV Ratio," and a sensitivity measure, which is the decline in the NEV Ratio due to shock.

Exposure Measure

The post-shock NEV ratio is simply an institution's NEV ratio in the aftermath of an adverse interest-rate shock.

$$\text{Post-Shock NEV Ratio} = \frac{\text{NEV after Shock}}{\text{PVA after Shock}}$$

$$= \frac{\text{NEV +300}}{\text{PVA +300}} \text{ or } \frac{\text{NEV -300}}{\text{PVA -300}} \text{ whichever is lower}$$

The calculation of the post-shock NEV ratio is illustrated in Table 4, which shows the estimated change in the present value of the assets, liabilities, and capital accounts of XYZ Corporate resulting from a 300-basis-point increase and decrease in interest rates.

In Table 4, the adverse scenario is the one in which rates increase 300 basis points. Under that scenario, XYZ's NEV ratio declines to 3.8 percent. Thus, XYZ's post-shock NEV ratio is 3.8 percent.

Again, the post-shock NEV ratio is simply the NEV ratio that results from the most adverse 300-basis-point shift in rates. This ratio measures the core capital "cushion" expected to be left in a corporate should an adverse change in interest rates occur.

The post-shock NEV ratio is a function of the sensitivity of NEV to changes in rates and the size of the NEV cushion in the base-case scenario. Thus, an institution's post-shock NEV ratio could be low either because its balance sheet is very sensitive to changes in interest rates, causing it to lose a large portion of its NEV in an adverse interest-rate move, or because its base case NEV is low. Thus, a low post-shock NEV ratio is not necessarily an indication of high IRR; it may merely indicate that the corporate's base case NEV ratio is low.

Sensitivity Measure

The decline in NEV ratio due to shock measures the magnitude of loss that an institution would suffer from a specified, adverse move in interest rates. More specifically, it is the absolute percentage point decline in the NEV ratio that would result from a hypothetical 300-basis point change in interest rates. In the example above, XYZ's NEV ratio declines from the base case level of 5.0 to 3.8 percent as a result of a 300-basis-point increase in rates, a decline of 120 basis points. The decline in the NEV ratio is simply the *difference*, expressed in basis points, between an institution's base case NEV ratio and its post-shock NEV ratio (e.g., its NEV ratio under the adverse 300-basis-point shift in rates).

Taken alone, a large decline in the NEV ratio is not necessarily indicative of excessive risk. An institution with a strong capital position could experience a sharp decline in its NEV ratio, as a result of a 300-basis-point rate shock, and still be left with a substantial capital cushion.

In summary, exposure analysis can be viewed as a two-dimensional problem that involves estimating both the level to which an institution's NEV ratio will decline as a result of an adverse rate shock, as well as the extent of the decline.

Methods to Reduce Interest-Rate Risk

Institutions that project declines in earnings and NEV when interest rates increase may lower exposure by increasing the duration of liabilities or decreasing the duration of assets. This can be accomplished through balance sheet restructuring or hedging. Examples of measures such institutions might undertake include the following:

1. sell securities;
2. increase the proportion of short-term and adjustable-rate assets on the balance sheet;
3. replace short-term funding with longer-term shares and borrowings;
4. retain core shares, which are typically less interest-rate sensitive than CDs; and
5. use derivative instruments (Part IV expanded authority), such as futures, options, interest-rate swaps, and caps, to lower exposure to IRR.

Although the majority of corporates are exposed to rising interest rates, there may be corporates that are exposed to falling rates. These institutions could lower their exposure by restructuring their balance sheets to lengthen the duration of their assets or decrease the duration of their liabilities.

Liquidity Risk Management and Contingency Funding

Asset/Liability Perspective

Prudent asset/liability management requires a corporate to monitor cash flow and to manage liquidity risk. Cash flow refers to the process by which a corporate obtains and allocates its cash over time. Liquidity risk is the probability that a corporate will be unable to honor member requests for share withdrawal, to meet lines of credit or commitments already approved for members, to fund forward purchase agreements, to pay bills when due, to repay maturing share and borrowed money liabilities, or to pledge additional collateral for borrowing money. Liquidity risk embraces assets, liabilities, commitments, and collateral.

Liquidity Requirements

Liquidity management is the process a corporate uses to allocate its assets and structure its liabilities to provide sufficient liquidity to meet its needs and its shareholders' demands.

Liquidity management provides the foundation for a corporate's asset/liability system. Corporates provide credit and share services to accommodate members. An illiquid corporate may lose the confidence of its members and the financial markets. Managers must analyze growth, cyclical, seasonal, random, competitive, and regulatory elements to ensure that the risk of illiquidity does not outweigh pro forma earnings. Regulators must evaluate how management measures, monitors, and plans its cash flow and liquidity.

Cash flow analysis is related to earnings, but the two are not the same. A corporate may be in a positive earnings status but not liquid, or it may be liquid but not in a positive earnings status. Accounting accruals do not necessarily coincide with cash flow as illustrated below.

1. First, a zero-coupon or original-issue discount security may have been purchased to generate a 10 percent yield. Although the accounting system may periodically accrete the discount to maturity as income, no cash is received. The corporate will generate substantial cash inflow at maturity from the same security

that is far in excess of that instrument's yield. Interest income and cash inflow are not synonymous.

2. Second, a corporate might pay 7 percent for savings and share certificates. If shareholders do not require the interest expense to be paid monthly because the interest is credited, the cash paid will be substantially less than interest expense accrued. The corporate will suffer a significantly greater cash outflow than interest expense when the shares are withdrawn. Interest expense and cash outflow are not necessarily synonymous.

3. Third, a corporate with Part IV authorities may hedge its assets or liabilities with a short position in interest-rate futures. If interest rates increase (decrease), the corporate will receive (pay) cash flow immediately, but must defer the gains (losses) over the life of the instrument hedged. Hedging does not necessarily generate cash flows that are the opposite of the targeted instrument for an IRR reduction.

From a financial perspective, management must provide an asset/liability structure that generates positive earnings based on accrual accounting and sufficient cash flow to meet the demands imposed by members, the financial markets, and regulations.

Cash flow is also related to IRR management. The two are not the same. The potential repricing of an asset or liability does not imply the instrument is maturing. Similar to cash flow and earnings, the two factors are partially related as illustrated below.

1. A corporate might purchase an MBS backed by adjustable-rate mortgages (ARMs) with a one-year repricing interval. If the ARMs' interest rate index increases, the monthly cash inflow from the loans will increase up to the ceiling imposed by annual and lifetime rate caps. However, the corporate still has its funds invested in ARMs and does not have the same asset flexibility as if the loans were paid off or called at the end of the year.

2. Most mortgage loans backing MBSs include a prepayment option. Mortgagors are much more (less) likely to exercise that option when interest rates decrease (increase). Consequently, corporates receive back relatively more cash when prepayment activity is high and reinvestment alternatives are poor, yet receive relatively less cash when prepayments slow down and reinvestment alternatives are good. Cash flow can move in a contrary direction from what is otherwise desired to manage IRR.

3. Fixed-rate shareholders are more likely to withdraw accounts and incur substantial early withdrawal penalties if interest rates have increased sufficiently to make it attractive to reinvest funds elsewhere. A fixed-rate, long-term account may become rate sensitive and require payout when a corporate least wants to locate another source of funds, in a high interest rate environment. By contrast, high-rate shares are rarely withdrawn early when rates drop.

4. Corporates with derivatives authority may hedge their IRR exposure by a variety of instruments. For example, a corporate might purchase a put option or an interest-rate cap. In either case, a corporate pays an initial fee in cash and may later receive cash back if interest rates increase sufficiently beyond a strike price or threshold level. The cash outflow precedes any later potential protection and cash inflow.

From a financial perspective, management must recognize that an asset/liability structure capable of controlling IRR does not necessarily generate an adequate cash flow.

Finally, cash flow relates to capital management. Corporates operating with significant levels of reserves and undivided earnings do not have the same cash flow pressure as highly leveraged corporates.

1. First, capital accounts generally do not have a stated maturity. No return of capital is required.

2. Second, dividend payments on contributed capital (member capital) and repurchase of member capital is discretionary. No return on member capital is specified (dividend is on an ability-to-pay basis). Paid-in capital may also be repurchased (called) on a discretionary basis but the dividend is more likely to be contractually specified.

These last statements cannot be interpreted to indicate that capital is a free source of funds. Management and shareholders expect capital to be used efficiently with good NEV appreciation and a satisfactory level of share dividends (remember that members receive their return on investment through dividends on their shares as well as growth in NEV). However, the return need not necessarily result in a cash outflow as needed to pay contractual interest on debt and to repay contractual principal at maturity. Some shareholders prefer that management retain earnings if the corporate is able to generate a high

return on equity (better rates and services may result from a stronger capital base). It should be obvious that cash flow and liquidity management are integrally affected by an corporate's asset/liability structure.

Members' Role in Liquidity Management

Almost all corporate business is member oriented. Consequently, the role of borrowers and shareholder must be understood clearly by a corporate if liquidity is to be managed. Examiners should recognize that the cash flow and liquidity requirements may differ among corporates based on the type of member relationships.

Corporates solicit shares from members and invest in high quality investments. The cheapest funds a corporate receives are often derived from short-term shares. When members initiate and control short-term share behavior, liquidity management becomes more difficult. A corporate must be prepared to respond to an immediate surge in member withdrawals and/or demand for borrowed funds since it specifically serves that fiduciary role for its members. Corporates can only obtain longer term liquidity by obtaining longer term liabilities from members and storing it in assets that have cash convertibility (may be sold or pledged as collateral). If corporates have only short-term funds subject to immediate withdrawal, liquidity management requires that assets be highly liquid.

While a corporate does not have to respond to the specific needs of each member, it must respond to aggregate shifts in which member adjustments do not cancel out. Differences in the rate of growth of shares and the structure of investments may precipitate liquidity problems.

When a corporate mismatches overnight funds with longer duration assets and experiences withdrawals, it must shift the burden of liquidity management to the investment and funding operations conducted in the open financial markets. The corporate must draw down cash, sell securities, or borrow money. These actions may reduce visible liquidity (i.e., cash and short-term marketable securities) and invisible liquidity (i.e., remaining borrowing capacity). By contrast, when shares are growing, a corporate is generating excess funds, cash may be replenished, securities may be invested, and borrowed money repaid.

Management's Responsibilities in Liquidity Management

A corporate must ensure sufficient liquidity is always available. Sufficient liquidity depends on the overall asset/liability structure of the corporate, the condition of the economy, the activities of financial service competitors, and the requirements of its own members.

An examiner must evaluate cash flow and liquidity management of a corporate to ensure that management has the following:

1. reports that measure the anticipated excess/deficient cash position of the corporate relative to member needs;
2. policies that address how a corporate expects to manage its visible and invisible liquidity position; and
3. pro forma financial statements that accompany a business plan that reflect that adequate liquidity will be available to effect strategic change.

Liquidity management requires that a corporate use sound financial and marketing techniques. The subsequent sections identify more fully the cash flow characteristics of assets, liabilities, and commitments within a corporate. The topics are addressed within a return/risk trade-off. These include:

1. relative maturity schedules of assets and liabilities;
2. options included in asset/liability products that complicate liquidity management;
3. off-balance-sheet commitments outstanding;
4. interest income/expense associated with assets and liability products of varying liquidity; and
5. operating expenses associated with products of varying liquidity.

A corporate needs cash and access to liquidity when needed, but not excessive cash or liquidity since earnings may be reduced.

Assets and Liquidity

Measurement

To maximize its net interest margin, a corporate should make adequate, but not excessive, liquidity provisions. Earnings and liquidity are often conflicting objectives. By making excessive provision for liquidity, management may forgo potential earnings. By making inadequate provision for liquidity, management could threaten the very existence of the corporate.

Liquidity is a relative quality. There is a wide spectrum of relative liquidity in both assets and in liabilities. Asset liquidity may be measured two ways. First, how easily can an asset be converted to cash by sale in a secondary market or by using it as collateral to borrow money? Second, what certain cash flow will assets generate?

Marketability

Marketability allows a corporate to obtain cash prior to an asset's maturity. The liquidity of an asset is characterized by the speed with which a security can be sold at a price near the last trade. Liquidity is influenced by the asset's market depth, breadth, and resiliency. Deep, broad, resilient markets are liquid.

1. Depth is illustrated by the existence of orders above and below the price at which a security is trading. A deep market also may be characterized by a large order size for the best bid and best offer.

2. Breadth is illustrated by the existence of a substantial volume of potential investors. Broad markets are more stable than markets dependent on a few key investors when transitory order imbalances occur.

3. Resiliency is illustrated by the speed with which new orders occur from a price change or order imbalance. Liquid markets are characterized by small price impacts as a large order is executed in sequential transactions.

Asset liquidity - that is, depth, breadth, and resiliency--is affected by the market in which it is bought and sold. Assets tend to be most liquid in auction and dealer markets, less liquid in broker markets, and least liquid in a direct-search market. Regulators should evaluate how management selects and monitors assets according to the market in which they trade.

Maturity and Duration

Maturity is a key attribute of relative liquidity of an asset. A short-term asset is inherently more liquid than a long one. The secondary market for U.S. Treasury securities is deep, broad, and resilient. But longer term U.S. Treasury Bonds carry a risk of a larger loss than short-term U.S. Treasury Bills when interest rates increase. A corporate may be reluctant to record an accounting loss in its financial statements. Therefore, long-term securities are less likely to be

converted to cash when interest rates increase, as they do during a period of economic expansion or inflation. Further, less cash is received from the sale of a long term bond after an interest-rate increase. Table 5, illustrates how the price of several bonds of different maturity might react to an interest-rate change. Short-term securities may be considered liquid because they either mature quickly or may be sold with little loss given a minimal increase in required yields.

The potential price change of a security is heavily influenced by maturity. However, the percentage price change of a security is more closely related to its duration than maturity. Duration measures the time weighted cash flows of a security where the weighting is provided by present value. Short duration assets, not simply short-maturity assets, generally are more liquid than long-duration assets. The duration of an asset is shorter with a short-term maturity, high periodic interest or principal receipts and frequent cash flows.

Table 5

Security Price Change and Interest-Rate Shift: Maturity

($1,000 Par, 8% Coupon Security)

Maturity	$ Price @ 8 %	$ Price @ 9 %	% Price Change
1 Year	$1,000	$990	1.0 %
5 Year	$1,000	$960	4.0 %
20 Years	$1,000	$908	9.2 %

Table 6 shows how the percentage price change of three bonds might react to a 1 percent increase in interest rates. The short-term maturity bond has the largest percentage price reaction because it has the longest duration. The maturity, the level of contract payments or coupon, and the payment frequency all affect asset liquidity. Duration provides a more comprehensive surrogate for cash flow than maturity. Either measure significantly affects the cash flow of assets. Examiners should evaluate how management measures and monitors the relative maturity and/or duration of assets.

Table 6

Security Price Change and Interest-Rate Shift: Duration ($1,000 Par)

Maturity	Coupon	$ Price @ 8 %	$ Price @ 9 %	% Price Change
7 Years	0 %	$ 534	$ 494	7.5 %
10 Years	8 %	1,000	935	6.5 %
12 Years	15 %	1,534	1,435	6.4 %

Credit Risk

Another factor affecting cash flow and liquidity management is the default risk of an asset. Assets with more certainty of return enhance liquidity. For this reason, default free securities, issued or guaranteed with the full faith and credit of the U.S. Treasury (e.g., U.S. Treasury bills, notes, and bonds and Government National Mortgage Association [GNMA] securities) are more liquid than similar securities that are privately issued. Next, securities issued or guaranteed by Government Sponsored Enterprises (GSEs) (e.g., Federal National Mortgage Association [FNMA], Federal Home Loan Mortgage Corporation [FHLMC], and Federal Home Loan Bank [FHLB]) are viewed as default remote).

Obligations of financial institutions (e.g., federal funds, certificates of deposit [CDs], and bankers acceptances), corporations (e.g., commercial paper or corporate bonds), and state and local governments (e.g., general obligation or revenue bonds) must be evaluated for credit risk.

An investment-grade bond suitable for providing liquidity means the security has low market and credit risk. As illustrated in Table 7, the top four letter grades assigned to corporate bonds by Moody's Investors Service and Standard & Poor's Corporation are defined to indicate a level of credit risk.

Table 7

Credit Quality and Rating Grades

Moody's	S&P	Credit Quality
Aaa	AAA	Prime Quality
Aa	AA	High Grade
A	A	Upper Medium
Baa	BBB	Medium Grade

The differential in yield and risk is most pronounced between the third and fourth grades. If a medium grade bond is downgraded to Ba or BB, the market no longer considers its investment quality. Corporates may not retain low-grade bonds and are limited to the most high grade instruments which afford the greatest relative liquidity within the credit risk spectrum.

Investment-grade corporate bonds do default. For example, Johns Manville, LTV, and Braniff, among many other issuers, have defaulted on their bonds even though they were each once assigned a single-A or better grade. There is a distinct difference in credit quality and yield between a prime quality bond (AAA or Aaa) and a medium-grade bond (BBB or Baa).

Liquidity from cash flow requires assets to have not only a short duration but low credit risk. Management must set limits on the credit-risk exposure of its assets. Securities with high credit risk are more likely to have cash flow problems. By definition, low-grade corporate bonds have a higher probability of default and, therefore, could suffer an interruption of cash flow.

Most corporates have some credit exposure that results from corporate bonds, commercial paper, asset-backed securities, federal funds sold, or certificates of deposit from insured banks. The FDIC periodically has favored a policy under which uninsured shareholders face losing a portion of their funds when a troubled bank is liquidated. Banks traditionally had a low rate of failure, compared with other industries, until the early 1980s. Although economic factors affect bank liquidation, variations in operating performance usually can be traced to management. Ratios that measure the financial condition and operations of a bank have been found to have limited predictive power to discriminate problem and failed banks from sound institutions.

Uneven earnings is a key factor indicating the riskiness of a commercial bank. An approved list of acceptable commercial banks should be based on financial ratios and should incorporate some analysis of the accompanying risks. A simple method of managing credit risk of banks by corporates is to restrict investment to the insured portion. Such a strategy may not be practical for larger corporates.

Each corporate with uninsured bank deposit exposure should establish, monitor, and update an approved list of accepted commercial banks. The approved list of accepted banks should include commercial banks displaying adequate capital, consistent earnings, acceptable credit quality, prudent growth, and multiple sources of liquidity. The list should be reviewed at least annually (quarterly for banks where large demand deposits, federal funds sold, or CD exposure exists).

Liquidity risk and credit risk are highly correlated. Examiners should see how management categorizes its assets according to credit risk and classification standards.

Prepayment

All corporate institutions investing, trading, or selling transactions with MBSs must be concerned with the anticipated life of such instruments. Prepayments affect the investment life, pricing, earnings, and value of loans. Prepayments also affect cash flow. Loans prepaying provide a cash flow earlier than scheduled amortization.

A mortgage may be prepaid due to a variety of factors, including:

1. seasoning - when mortgagors have paid their mortgage for several years and are more likely to seek a new home or to refinance;
2. refinancing - when mortgagors are able to obtain a new loan at least 150-200 basis points less than their existing contract rate;
3. default - which tends to remain high until a fixed payment loan is seasoned with three years or more of satisfactory payments; and
4. disaster - which may occur from destruction of the property by fire or flood, or from death or disability of the owner.

Prepayment experience also is affected by legal, geographic, and seasonal factors. For example, GNMA securities backed by FHA/VA loans tend to prepay more slowly than other agency pass-through securities because the FHA/VA mortgages historically are less mobile and the underlying loans are smaller; therefore, there is not as great a dollar incentive to refinance. Similarly, certain geographic areas that

experience growth, high professional employment mobility, or retirement migration patterns also prepay more quickly. Variations in a region's economic base can change prepayment activity. Finally, the peak housing activity during the spring and summer months translate directly to prepayment seasonality.

Long-term corporate bonds with embedded options are also subject to prepayments. A call option allows a bond's issuer to retire a bond prior to maturity. Calls are often exercised when interest rates have declined and allow the issuer to refinance the debt prior to maturity at a lower coupon than currently being paid. A put option allows an investor to resell the bond to the issuer, typically at par, prior to maturity should interest rates increase. Calls are very similar to prepayments of mortgage-backed securities (MBSs); a corporate receives back cash when it least wants to reinvest cash, that being a low-interest-rate environment.

As illustrated in Table 8, the relative cash flow and liquidity of assets vary according to a continuum. As management invests in more liquid assets, interest income tends to decline.

Table 8

Asset Liquidity Characteristics

Attribute	Most Liquid	Liquid	Least Liquid
Maturity	<1 Year	<5 Years	>Than 10 Yrs.
Coupon Payment	High	Low	0
Frequency	Monthly	Semiannual	No Coupons
Credit Risk	U.S. Treasury/ Agency	Top 4 Grade	Low Grade
Market	Auction/Dealer	Broker	Direct Search

Management Considerations

A corporate should increase its asset liquidity, short-term, default free or remote, and highly marketable securities when other parts of asset/liability structure are less liquid or place uncertain liquidity demands on the corporate. For example, strong financial arguments exist to increase the proportion of liquid assets when the amount of:

1. long-duration assets (e.g., zero-coupon bonds) increase;

2. fixed assets (e.g., equipment, furnishings, or real estate) increase;
3. assets trading in a broker market (e.g., derivative MBS) increase;
4. lines of credit or standby letters of credit issued increase;
5. assets available for pledging against a liability are few;
6. capital is low or negative and member confidence is threatened;
7. funding by short-term brokered CDs or uninsured CDs increases;
8. funding by repurchase agreements or dollar rolls increase;
9. funding by collateralized borrowed money increases;
10. hedging with interest-rate futures increases; or
11. interest-rate risk, as measured by NEV, increases.

Corporates should commit relatively more funds to highly liquid assets whenever the following occur:

1. a large portion of other assets are less marketable or have distant cash flows;
2. liabilities or shares are subject to disintermediation;
3. significant commitments to purchase securities or originate loans are outstanding;
4. little additional access to the financial markets is likely; or
5. market and member confidence is threatened.

More liquid assets may be used to balance the risk of other financial assets or financial liabilities that are designed to enhance earnings, yet carry more risk.

Such an investment strategy mitigates some of the liquidity pressure otherwise present. The earnings penalty incurred by investing in liquid assets often is offset by other illiquid assets with a long duration, little marketability, or high credit-risk exposure that carry higher yields. Further, short-term liabilities and wholesale shares often cost less than longer-term accounts and also may offset the earnings penalty from the additional investment in liquid assets.

Management need not only increase the proportion of short-term, default free assets to enhance liquidity. Liquidity carries a potential earnings penalty. The following are examples of how a corporate can enhance liquidity, while not increasing, its investment in short-term, default free instruments;

1. emphasize core member accounts and intermediate-term shares;
2. emphasize securities that have predictable, consistent, and homogeneous prepayment or call risk;
3. maintain assets suitable for pledging against a wholesale corporate advance or a reverse repurchase agreement;

4. maintain an unused line of credit with a wholesale corporate or a commercial bank;
5. emphasize securities that are similar to products trading in dealer markets (e.g., MBSs or public agencies); or
6. sell and lease back the corporate's office building.

Liquidity management allows a corporate to respond to anticipated or unanticipated cash flow deficiencies. Liquidity management must consider the entire asset/liability structure.

Liabilities and Liquidity

Measurement

Member-initiated sources and uses of funds provide the foundation for liquidity risk management. When loan demand exceeds normal share growth, management must rely on access to borrowed money or the sale of securities to raise needed cash. Similarly, corporates may reduce reliance on borrowed money and increase temporary investments when the reverse occurs.

A corporate has several alternatives to raise cash through liability management.

Like assets, maturity is a key to relative liquidity. However, reliance on short-term liabilities requires more liquidity than reliance on long-term liabilities. Members have the legal right to withdraw funds or force repayment at maturity. Liquidity risk is increased when management relies on three-month certificates rather than three-year certificates. Liquidity risk is also increased when management relies on short-term borrowing as opposed to longer term advances. Shorter-term liabilities increase liquidity risk. Such liabilities also tend to cost less since they should be priced off the short-term end of the yield curve.

Shares--Some share accounts may be withdrawn immediately, or on demand, yet do not necessarily cause an increase in liquidity risk. Although a specific member may withdraw funds immediately, another member may reinvest a like amount of funds. A corporate does not have to respond to the specific needs of each member; it must respond to net aggregate shifts in shares. Clearing accounts may provide a corporate with a very long-term source of funds because members must maintain constant balances to cover daily settlement activities. The account may be considered a core share. Core shares are extremely important when measuring liquidity risk. Core shares are

placed by members for reasons principally related to the financial services and the convenience offered by the corporate, rather than simply the interest rate paid. A corporate will lose core shares over time if services or dividend rates become non-competitive. In addition to clearing accounts, membership capital shares and paid-in-capital, a portion of regular overnight shares, and share certificates may be considered core shares if supported by proper analysis.

By contrast, other shares require more liquidity because investors have selected a specific account and a specific corporate for one reason, it offers the highest rate of interest. When management posts a lower rate, volatile, or wholesale funds disappear. Volatile liabilities increase liquidity risk. However, a corporate temporarily may meet liquidity needs by posting high interest rates. Management and examiners should distinguish core shares from volatile shares.

Many core share accounts carry high average operating expenses and low share balances. Corporates may more quickly raise desired amounts of funds through the wholesale share market or by borrowed money.

Each corporate must determine for itself whether the advantages of borrowed money exceed the attendant costs. One of the constraints that limits the advantage of borrowing funds is the minimum capital ratio (borrowed funds grow the balance sheet and increase the assets relative to capital). Examiners should review the corporate's related calculations.

Although most corporates choose not to borrow funds, borrowing can be an attractive funding alternative to regular shares. Even when the borrowed money carries higher interest rates than shares, the interest expense is limited to the incremental funds raised, not total funds. An arithmetic example illustrates the difference. Assume a corporate needs to quickly increase cash by 10 percent. In order to acquire the new funds, the corporate believes it must post higher interest rates for all of its share products by 1/8 of 1 percent. For each $10 million of total shares, interest expense thereby increases $12,500 annually. The incremental interest incurred amounts to 1.25 percent for the desired $1 million (10 percent of the $10 million shares). The desired growth could have been more cheaply obtained by borrowed money if its cost was no more expensive than 1.25 percent above the current share rate. Table 9, illustrates various combinations of incremental interest rates needed to attract share funds and targeted growth. The indicated values show how much extra a corporate could pay for borrowed money than shares and break even.

Table 9

Borrowed Money Break-Even Analysis

Incremental Share Rate Increase to Obtain Growth	Funding Growth 5%	10%	15%
1/8 of 1%	2.5%	1.25%	.83%
1/4 of 1%	5.00	2.50	1.67
1/2 of 1%	10.00	5.00	3.33

The interest rate differential that can be paid and still break even for borrowed money increases when the corporate otherwise needs to post a higher rate for all savings, or the amount of incremental growth is relatively small. Borrowed money is best viewed as a source of incremental funds to meet liquidity needs.

Management Considerations

Corporates may generate cash flow and manage liquidity through shares and borrowed money. The corporate system's ability to attract shares is also affected by factors external to the actions of a specific corporate. These include:

1. economic growth and regional booms (loan growth uses up excess liquidity);
2. decline in personal savings ratios for members of natural person credit unions;
3. perceived strengths and weaknesses of the System; and
4. competition from other financial institutions.

If management has a specific need for funds, corporates may need to borrow money to obtain cash.

There are a wide variety of specific liabilities corporates may use. Rather than describe each one, the following listing categorizes types of financings that may be used to generate cash.

1. Repurchase Agreements/Dollar Rolls: by selling securities through a reverse repurchase agreement or a dollar roll, the corporate sells a security and simultaneously agrees to purchase the same or a similar security at the end of the agreement e.g., a week or month.

2. Commercial paper: by issuing commercial paper, the corporate raises non-insured funds from investors with a maximum maturity of 270 days. Some corporates keep a constant amount of commercial paper issued to maintain a market presence.

3. Medium-Term Notes (MTNs): by issuing MTNs in the marketplace, the corporate raises funds from investors for several years.

More specialized securities provide for specific cash flows to appeal to certain investors. However, more specific cash flows limit the subsequent marketability of an issue unless information is easily available about the cash flows and the issue is similar to others. A corporate should be concerned with the secondary market of its liabilities because more marketable securities carry less risk to investors and thereby reduce the interest cost. For this reason, a $100 million liability issue may carry a five basis point lower cost than a $50 million issue. Management should have a plan for accessing borrowed money over time. Examiners should review the plans to ensure there is adequate liquidity, and that other risks affecting asset/liability structure are not exacerbated. Liquidity management is also affected by the existence of commitments and hedging instruments.

Commitments and Liquidity

Corporates often own assets and acquire shares with options that complicate cash flow planning. Table 10, illustrates the cash flow consequence of a change in interest rates for these accounts.

Rising interest rates affect assets and liabilities. Therefore, the corporate may have to search for more sources of cash when it is least desirable. (i.e., during a period of high rates). Options made available to members greatly complicate cash flow planning.

Hedging may partially offset IRR and some liquidity risk. Hedging does affect the cash flows of a corporate. Hedging may increase the perceived liquidity of an asset because the transaction reduces the corporate’s reluctance to sell an asset at a loss. The hedge should provide an approximate offsetting gain.

Table 10

Cash Flow and Interest-Rate Change*

Account	Option	Effect of Rising Rates	Effect of Falling Rates
Corporate Bond	Call Feature	No Call	Call (+)
Term Share	Early Withdrawal	Withdrawn(-)	No Change

*(+) Cash Inflow; (-) Cash Outflow

Asset/Liability Structure and Cash Flow

Cash Budgeting

Corporates should develop pro forma cash budgets to ensure cash or liquidity will be available in the future. The uncertainty created by mortgage backed security prepayments, fixed-rate commitments and share withdrawal reduce the confidence of a cash budget being realized. Therefore, examiners should determine how management anticipates cash flows in the future.

Section 704.8 (ALM): Interpretation and Examples

Prudent risk managers view regulatory requirements as a *minimum* standard. Examiners should expect corporates' risk managers to manage to best practices, not the regulation, so long as those practices do not contradict or ignore regulatory requirements. Where appropriate, a corporate will need to develop additional tests, methodologies, and procedures to manage its risk (additional means beyond the minimum requirements of regulation). Corporate management may fail its basic fiduciary responsibilities if it limits its risk management to only regulatory compliance.

ALM policies may be integrated with the investment policies (or vice versa). In addition, it is acceptable to have all financial risk policies combined into one source so long as the unique considerations of each area are addressed and the respective procedures are in place.

Section 704.8(a) addresses the ALM policy requirements for corporates. Note that it uses the term "at a minimum" in describing policy stipulations.

1. The purpose and objectives of the policy should be consistent with the risk tolerance and risk management philosophy of the organization. The examination review will need to consider if management's actions and performance are consistent with this statement.

2. The policy must address the "tests that will be used to evaluate instruments prior to purchase." This requirement is integral with the investment policy (prudent portfolio selection criteria would automatically require this discipline). Corporates have an obligation to develop appropriate criteria for investments. Testing can estimate the impact of a credit migration or default. Analysis of creditworthiness includes probability of default in various scenarios. Testing may also measure the relative liquidity for a type of transaction (depth of market and price risk). The type of tests required will be a function of an investment's complexity, structure, and/or acceptance in the general marketplace. Before a corporate can buy/sell a new investment type (new in the market or new to the corporate), it must develop appropriate analyses and test parameters and modify its ALM policy *before* engaging in the activity. The type of investments will determine the types of tests that are appropriate. For example, a shock test would not be expected for an overnight Fed Funds transaction although the credit analysis of the counterparty would be expected. Interest rate stress tests would be required for instruments such as structured share certificates or mortgage backed securities.

3. The policy must address "the maximum allowable percentage decline in NEV, compared to current NEV." Current NEV refers to the base case NEV at the time of the test. A simple example of how this information can be communicated is provided in Table 11 below.

Table 11

Change in Interest Rates (in basis points)	Maximum Permissible Change in: Net Economic Value (Board Limit)	Net Economic Value (Regulation)
+300	-15.0%	-18%
+200	-10.0%	-18%
+100	-5.0%	-18%
0	-	-
-100	-5.0%	-18%
-200	-10.0%	-18%
-300	-15.0%	-18%

almtbl01

4. The policy is required to include "the minimum allowable NEV ratio." Corporates are required in Section 704.8(d)(1)(ii) to maintain an NEV ratio that is 1 percent or higher for all test outcomes (between plus and minus 300 basis points). The board is expected to set its own limit independent of the regulation. An example of how this information might be presented is included in Table 12.

   The effect on NEV of an adverse change in market rates (measured with rate shocks) is measured relative to the size of the estimated present value of the corporate's assets. Thus, the NEV ratio is defined as NEV divided by the fair value of assets, or:

$$\text{NEV Ratio} = \frac{\text{NEV}}{\text{FV}_{\text{ASSETS}}}$$

Table 12
Interest Rate Scenario

	- 300 BP Change	Base Case	+ 300 BP Change
Present Value of Assets	$104	$100	$80
Present Value of Liabilities	-99	-97	-78
NEV	5	3	2
NEV Ratio	4.8%	3.0%	2.5%
Minimum NEV Ratio Policy Minimum	2.0%	2.0%	2.0%

5. Policy must address the maximum decline in net income, in percentage and dollar terms, compared to current net income. Corporates are obligated in Section 704.8(d)(1)(i) to measure changes in net interest income for shocks in the Treasury yield curve (same as for NEV). Corporates will have to compute an income simulation in order to obtain the income projections required to meet this requirement. The rule specifically states net income as opposed to NII to ensure that full consideration is given to costs not related to interest expense. Table 13 provides an example of how this information might be provided.

Table 13

	Net Income Risk Limits			Projected Net Income:		
Change in Interest Rates (in BP's)	Board Policy (Percent)	Policy (Dollars)	Implied Floor (NI)	Dollars	Percentage Change	Limit Violation
+300	-75%	($75)	$35	$22	-78%	-3%
+200	-50%	($50)	$50	$55	-45%	0%
+100	-20%	($20)	$80	$83	-17%	0%
$Base_0$	-	-	-	**$100**	0%	-
-100	-20%	($20)	$80	$105	5%	0%
-200	-50%	($50)	$50	$112	12%	0%
-300	-75%	($75)	$35	$117	17%	0%

Memo: Net Income projected under constant rates: $100
Maximum Dollar Limit Loss (all scenarios): $65

almtbl03

A board needs to look at losses in absolute dollar terms in addition to relative percentage change to consider the "headline shock" losses may have on member and public confidence. The dollar limit need not be analytical. A board may decide, for public relations purposes, that losses should not exceed some finite threshold. While the limits on the percentage decline in net income are generally static, it is expected that the board may periodically consider whether to adjust its absolute net-income-at-risk limit. Some corporates delegate the authority to change this limit to the ALCO and simply require that all changes be noted in the risk reporting and shared with the board at its next meeting. This is an acceptable approach.

6. The policy must address "limits and specific test parameters for the IRR simulation tests" set forth in Section 704-8(d) which deals with rate shock analysis on NEV, the NEV ratio and NII.

   These factors have already been addressed by 3, 4, and 5 above. However, corporates are also required by Section 704.8(d)(2) to conduct additional tests if the book amount of instruments with unmatched embedded options exceeds two times core capital (RUDE + PIC). The board must approve parameters and limits for such additional tests. The regulation stipulates these tests shall consider appropriate market factors. The factors should include, as appropriate, changes in the shape of the yield curve, changes in prepayment estimates (faster/slower than projected speeds), changes in market spreads and changes in volatility assumptions. The regulation does not establish any specific targets or even ranges for these extra tests. It is incumbent upon the board to decide how these tests should be conducted, the frequency of testing required, and the appropriate restrictions to place upon exposures to these particular market risks. Parallel, instantaneous and sustained shocks in the yield curve address a majority, but not all, potential market risks. Rate shocks do not capture the full spectrum of market risks and additional tests are intended to provide a more rigorous assessment. For example, a change in market volatility is not captured in a rate shock and significant value changes in options could therefore be missed.

The examination review of this area must consider the relevance and appropriate frequency of the additional tests and determine if the limits appear consistent with the overall board philosophy on risk. For example, if a corporate portfolio has no prepayment optionally to speak of, tests for prepayment changes would be meaningless. If, on the other hand, a corporate portfolio is heavily weighted in asset-backed securities (or some other non-Treasury "spread" product), the test for changes in market spreads will be essential.

7. Certain market indexes (e.g., LIBOR, PRIME, COFI and CMT) serve as references for computing periodic interest payments on structured share certificates and securities. When buying instruments that contain interest coupon payment formulas tied to market indexes, the corporate needs to obtain reasonable projections for future index levels. This is necessary to compute NEV for the various interest rate tests. Corporates are expected to place greater attention on projections of those indexes which are not market determined rates (such as PRIME and COFI). Correlation analyses which demonstrate the relationship between the non-market indexes and market rates is a major component of most index forecasts.

Mortgage-Backed Securities & Mortgage-Backed Derivative Products

Mortgage-backed securities (MBS) can represent a substantial portion of a corporate's investment portfolio due to their ease of trading and liquidity. Appendix 202A provides additional information on MBS and their use as derivative products.

Derivative Instruments

Appendix B to Part 704 authorizes corporates which apply for and receive Part IV Expanded Authority to engage in derivative activities. Appendix 202B provides additional background information on derivative products that may be used by corporates with this expanded authority.

ALM Examination Objectives

The objectives of the ALM review are to:

1. Determine if policies, procedures, and strategic plans regarding cash flow and liquidity management adequately address safety and soundness, earnings, and compliance with laws and regulations.

2. Determine if the corporate has complied with the regulatory liquidity measurement and monitoring requirements of Part 704. Determine that liquidity management evaluates: the potential liquidity needs of members; regularly monitors sources of internal and external liquidity; and sets accounting classification of securities consistent with the potential liquidity demands.

3. Determine if the contingency funding plan adequately addresses alternative funding strategies in successively deteriorating liquidity scenarios, and that assumptions utilized are reasonable and supportable.

4. Determine if reasonable parameters have been established for the corporate's NEV position, the corporate is operating within established parameters, and the parameters are reasonable.

5. Identify weaknesses in the IRR measurement systems, internal management reporting, or internal controls.

6. Evaluate plans for reducing excessive IRR, if applicable.

7. Evaluate the management of the corporate's assets and liabilities.

8. Determine if internal management reports provide the necessary information for informed funds management decisions and for monitoring the results of those decisions.

9. Initiate corrective action when ALM policies, procedures, practices, and internal controls are deficient.

MBS & MDP Examination Objectives

The objectives of the mortgage-backed securities and mortgage-derivative products review are to:

1. Determine that the investment and ALM policies and business plan adequately describe the type and level of investment in MBSs and MDPs and the rationale for the investments.

2. Determine that the board has approved the type of investments in MBSs or MDPs and that it has established reasonable limits on the level of MBSs or MDPs that can be retained in the portfolio.

3. Determine if management is operating in conformance with established policies and has the necessary expertise to execute the authorized strategies.

4. Determine if management has adequately analyzed its investment in MBSs and MDPs prior to purchase, and that these investments are appropriate based on the corporate's current portfolio, asset/liability structure, and capital position.

5. Determine if the corporate actively monitors its investment in MBSs and MDPs.

6. Determine management's compliance with Part 704.5.

7. Determine that transactions are recorded according to GAAP.

8. Determine if the corporate has incurred any significant interest-rate or prepayment risk from its investment in MBSs or MDPs.

9. Initiate corrective actions when policies, procedures, practices, and internal controls are deficient.

Derivative Instruments Examination Objectives

The objectives of the derivative instrument review are to:

1. Determine that ALM policies and the business plan adequately describe the type and level of derivative activities.

2. Determine if management is operating in conformance with established policies and has the necessary expertise to execute the derivative instruments.

3. Determine that management has adequately analyzed its derivative instruments prior to the transactions and assessed that they are appropriate based on the corporates portfolio, asset/liability structure, and capital position.

4. Determine that the corporate actively monitors and reports on its derivative instruments.

5. Determine if the corporate is in compliance with authotities granted under Part 704, Appendix B, Part IV.

6. Initiate corrective actions when policies, procedures, practices, and internal controls are deficient.

ALM Examination Procedures

See Corporate Examination Procedures - Asset/Liability Management (OCCU 202P).

MBS & MDP Examination Procedures

See Corporate Examination Procedures - Asset/Liability Management (OCCU 202Pa).

Derivative Instrument Examination Procedures

See Corporate Examination Procedures - Asset/Liability Management (OCCU 202Pb).

Corporate Examination Questionnaire

See Corporate Examination Questionnaire - Asset/Liability Management (OCCU 202Q).

Appendices

202A Mortgage-Backed Securities and Mortgage-Derivatives Products

202B Derivative Instruments

References

1. NCUA Rules and Regulations (Section 704.8)

2. Regulatory Handbook, Thrift Activities (OTC) Volume II

Appendix 202A

MORTGAGE-BACKED SECURITIES AND MORTGAGE-DERIVATIVE PRODUCTS

Introduction

The advantages of selling mortgages in securities have attracted a large number of mortgage lenders who have a wide range of objectives. The result is a variety of mortgage security types and an uncertainty about the differences between the securities and how they impact an investment portfolio.

History of Mortgage Security

Mortgage securities are not recent innovations. High rates of default on mortgage bonds during the depression inhibited widespread use of these instrument until the introduction of the Government National Mortgage Association (GNMA) pass through security in 1970. Even with the federal government guarantee, there was considerable skepticism about accepting mortgage securities in the investment community when GNMA first issued its securities.

The mortgage-backed securities (MBS) that were first introduced by GNMA in 1970 were limited to Federal Housing Administration (FHA) and Veteran's Administration (VA) mortgages. Conventional lenders had indirect access to the capital markets only through the Federal Home Loan Mortgage Corporation (FHLMC) beginning in 1971. Originators could sell mortgages to FHLMC at which point FHLMC pooled and sold the resulting securities as Participation Certificates (PCs).

In 1981, FHLMC began a swap program that allowed lenders to exchange conventional mortgages for pass-through securities. In the first FHLMC swap of mortgages for securities, no cash exchanged hands. The seller received payment in the form of PCs representing ownership in the mortgages sold. The lender, in this exchange or swap of assets, believed that its low-rate mortgages could be sold more easily and at a higher price in security form than in mortgage form.

The restructuring of mortgage portfolios that began in the early 1980s was the major factor in the rapid growth of conventional mortgage securities. FHLMC formalized its program in 1981 with its first swap program, Guarantor I, and the Federal National Mortgage Association (FNMA) soon followed with its Mortgage-Backed Security program. FNMA, FHLMC, and GNMA all collect a small guarantee fee throughout the life of the mortgages for the service.

As the mortgage securities market grew, lenders recognized that the swap programs provided an attractive alternative for mortgage sales. In addition, many lenders began to securitize their portfolio mortgages to add value and liquidity to their mortgage investment portfolios.

Types of Mortgage Securities

The term mortgage security describes a variety of mortgage-related instruments. Although characteristics can vary widely, there are only two basic types of mortgage securities:

1. A certificate representing ownership of an undivided interest in a proportionate share of each mortgage in a pool, referred to as a mortgage pass-through security or a mortgage-backed security (MBS); or

2. A debt obligation secured by a specified pool of mortgages, referred to as a mortgage-derivative product (MDP).

Within each type, variations have been designed to appeal to certain investor classes or to reduce the cost of security financing. These variations may be categorized according to the manner and terms of payments made to security holders.

Mortgage-Backed Securities (MBS)

The MBS is attractive to investors because of its high value relative to individual or pools of mortgages and because of its ease of trading or liquidity. The price advantages for MBSs are due to the guarantees FNMA, FHLMC, and GNMA place on their mortgage securities. Investors are willing to pay for these guarantees, and the higher prices cover the seller's costs of converting the mortgages to securities and the guarantee fee.

The structure of an MBS is determined by the following characteristics:

1. types of mortgages in the pool;
2. weighted average coupon (WAC) on the pool of underlying mortgages;
3. pass-through rate on the MBSs;
4. weighted average maturities (WAM) of the mortgages;
5. number and size of the mortgages; and
6. geographic distribution of mortgages.

The Pass-Through Rate. - The pass-through rate is the net interest rate passed to investors. The WAC of the mortgage pool is an important factor in determining the speed at which prepayments will occur. In general, the higher the WAC in relation to current mortgage rates, the higher the prepayment rate since homeowners could refinance at lower interest rates. The lower the WAC to current mortgage rates, the lower the prepayment rate since homeowners could not readily refinance at lower rates.

Interest rates on the mortgages underlying an MBS are typically greater than the coupon rate, or pass-through rate, with any excess over the coupon, guarantee fee, and servicing fee going to the servicer. Each issuer can set limits on the permissible range of interest rates in a pool within the limits established by the guarantor of the MBSs for each specific program.

The Weighted Average Maturity. - The WAM determines the rate of the scheduled repayment of principal. The longer the maturity, the more time over which the principal is amortized and, therefore, the less principal is scheduled to be passed through in the early years of the security. The maturity date of an MBS is generally stated to be the date on which the last mortgage in the pool is due to be repaid in full, but all of the mortgages need not mature on the same date. Each guarantor of an MBS sets limits on the permissible range of maturities for each specific program.

Geographic Distribution. - This is the location of the properties securing the mortgages. The location of the mortgages comprising the pool is important because it affects the likelihood and predictability of prepayments. Different areas of the country prepay at much different rates. Geographical diversity results in greater predictability of cash flows, since the total of the mortgages pooled would be less subject to local disasters or other kinds of local influences. In addition, the greater the number of mortgages in a given pool, the more regular and predictable its cash flow is expected to be.

Payments to Investors. - The payments for MBSs are designed to resemble mortgage payments but without delinquencies. Principal and interest payments, less guarantee and servicing fees, are passed through to the investor whether or not they are collected. Delinquencies are advanced by the servicer to the investor until the mortgage either becomes current or foreclosure is completed. Prepayments are passed through to the investor as received.

The servicer collects mortgage payments on a monthly basis from the mortgagor and remits those funds less its servicing fee to a central collection point, or directly to the investors for GNMA I. FNMA, FHLMC, and GNMA II collect their guarantee fee either directly from the payments that are passed through them or from the servicer.

MBS Guarantee. - FNMA and GNMA have always guaranteed the timely payment of both principal and interest to investors for their MBSs, requiring the servicer to advance its own funds to the investor to make up for delinquencies. FHLMC only guaranteed the timely payment of principal until their Gold PC was developed and now they, too, guarantee the timely payment of both principal and interest. These organizations, however, do not generally become involved in the payment process unless the servicer fails to remit all scheduled principal and interest.

MBS Yields and Prices

Calculating yields for MBSs requires present value analysis, which discounts the future cash flows of the mortgages by the required rate of return. This process calculates an MBS's present value or estimated market value. Alternately, given a market price, it is possible to determine the rate of return or yield that would cause the sum of the discounted cash flows to be equal to the market price. Two common measures of yield are described below; the cash flow yield and the option adjusted yield.

Cash Flow Yield. - The cash flow yield (also referred to as static yield) of an MBS will discount the sum of all future cash flows back to the current market price. To calculate the cash flow yield, the current market price of the security must be obtained and future cash flows must be projected. Because homeowners have the right to prepay their mortgages before their contractual maturity, the timing of future cash flows is uncertain and must be estimated. A prepayment rate estimate is usually made on the basis of the prepayment experience of a similar MBS and incorporated into the analysis.

The cash flow yield assumes the cash flows will occur as estimated. Actual prepayments may be greater or less than projected depending on many factors, most importantly, the future course of interest rates. Falling interest rates would induce homeowners to prepay their mortgages and refinance them at the new lower rate. Increasing interest rates would influence homeowners to hold onto their mortgages, which would then have below-market rates. The cash flow yield, however, does not take this uncertainty concerning the future course of interest rates, and therefore, prepayment rates, into account. Although the cash flow yield may be an adequate yield measure for many purposes, it may not be as accurate as the option-adjusted yield method described below.

Option-Adjusted Yield. - The option-adjusted yield method can provide a better yield estimate on an MBS than the cash flow yield because it usually better estimates the cost of the embedded prepayment option. Instead of relying on a single prepayment estimate, the option-adjusted yield is calculated by solving the yield equation many times, each time assuming a different rate of prepayment. The resulting yields are averaged to obtain a single yield estimate. Because it relies on an entire distribution of possible estimated prepayment rates instead of a single estimate, the option-adjusted yield is usually a superior measure of the yield of financial instruments with embedded prepayment options.

Stripped Mortgage-Backed Securities (SMBSs)

In 1986, FNMA issued the first SMBS which created two new classes of investors or security holders. Each class was entitled to a percentage of the principal and interest payments from either the MBS or whole mortgages that served as the underlying collateral. For example, one class of the SMBS may receive 99 percent of the interest payments and 1 percent of the principal payments from the underlying MBS. Investors in different classes (tranches) of SMBSs have purchased a derivative mortgage instrument

that has significantly different characteristics from the underlying mortgages or the MBSs.

In 1987, FNMA introduced an SMBS comprised of an interest only (IO) class and a principal only (PO) class. The holder of the IO was entitled to all of the interest payments from the underlying MBS while the holder of the PO was entitled to all of the principal payments. The I0s and POs quickly became the most widely used types of SMBSs and today represent the greatest percentage of the dollar value of SMBSs issued.

Investment bankers have also created their own version of SMBSs both through private placements and public offerings. The private placement is normally created through a participation agreement that entitles the holders to a certain predefined percentage of the principal and interest payments from the underlying mortgages or the MBS. These private placements are similar to the original FNMA SMBSs in that holders are entitled to varying percentages of the principal and interest payments rather than a percentage of all of the interest or principal. In addition, FHLMC issues its own version of I0s and POs using PCs rather than MBSs.

Mortgage-Backed Bonds

An earlier innovation that is not as prominent today are mortgage-backed bonds. A straight mortgage-backed bond is an obligation secured by a pool of mortgages. Similar to a secured corporate bond, the mortgage-backed bond has periodic interest payments and principal repayment at maturity. Bonds may also provide for sinking fund payments during the term to accumulate sufficient funds to pay off the bonds at maturity.

A standard mortgage-backed bond is secured by a lien against the mortgages in the pool. The holder looks first to the issuer for principal and interest payments and only to the collateral mortgages in the event of default. Because straight mortgage-backed bonds do not pay down like mortgages with a regular amortization of principal, but repay principal at maturity, the issuer is required to pledge collateral in excess of the face value of the bonds. This overcollateralization is necessary to protect against any decline in the market value of the mortgage collateral that may occur as a result of changing market conditions over the life of the bonds.

Pay-Through or Cash Flow Bonds

A pay-through or cash flow bond is a bond secured by the cash flows from a mortgage pool and, as such, does not represent an ownership interest in the mortgages. A pay-through bond may be viewed as a hybrid security, combining the features of a traditional mortgage-backed bond with those of a pass-through security. Pay-through bonds are designed to amortize in the same manner as mortgages, with principal and interest payments that mirror the actual collections on the collateral pool. The bonds mature as the mortgages in the pool repay unless the terms of the issue provide for a different maturity based on guarantees from the bond issuer.

A pay-through bond usually requires significantly less collateral per bond dollar than a straight mortgage-back bond because principal is paid to the investor as the underlying mortgages amortize. Pay-through bonds are structured so that the mortgage collateral will generate a sufficient cash flow to provide full and timely repayment of the bonds. Reliance on the cash flow of the collateral pool also substantially eliminates the need for the investor to look to the creditworthiness of the issuer. Pay-through bonds may be issued through limited purpose subsidiaries with no other significant assets apart from the pledged mortgages.

Collateralized Mortgage Obligations (CMOs)

Although standard pay-through bonds look much like pass-through securities in the schedule of payments, some variations have been developed to appeal to a broader range of investors. The most familiar type of pay-through bond is the CMO, first issued by FHLMC in 1983.

The CMO is actually a serial pay-through bond, combining a series of maximum bond maturities in a single issue. The advantage of a CMO is the prioritization of cash flows from the mortgage pool, which creates many classes of investors. This produces securities of several maturities and allows the issuer to attract investors who might not otherwise invest in a mortgage security.

Yield. - Like mortgage investors, CMO investors demand higher yields than other investments of similar quality and maturity because the actual life of the bond and, therefore, the actual yield to maturity is not accurately predictable. However, CMOs may offer more predictability of prepayments than mortgages or other types of mortgage-backed bonds because of the large collateral pools backing each type of issue and the prioritization of cash flows.

CMOs have large numbers of mortgages in each collateral pool and offer three or more investor classes, called tranches, of varying maturities and yields. Each investor class generally receives monthly interest payments on the outstanding principal balance of its class. In a “vanilla” sequential payment deal, principal payments are allocated to each investor class in the order of earliest maturity. The shortest outstanding maturity receives all principal payments until that class is fully retired, then holders of the second class begin to receive principal payments, and so forth. More complex deal structures, in which principal may be directed to one or more classes and in which payment priorities of tranches may change with changes in prepayment rates, are now common.

CMO yields and yield spreads over comparable Treasury securities are determined, in part, by the market’s assumption regarding the average life for each investor class. Thus, the weighted average term of the mortgages pooled significantly affects the assumed yield and the purchase price. As with mortgage investments, the actual prepayment of the mortgages will determine the actual yield to maturity.

Prepayment Rates. - Although CMOs are referred to as a generic group, the prepayment terms of CMO issues vary, as do the terms of other types of mortgage securities.

Most CMO issues have another feature that impacts the prioritization of cash flows. The compound interest or accrual class generally is the longest maturity and receives no interest or principal payments until all other investor classes have been retired. The accrual bond has a coupon rate that is compounded during the accrual phase and converts to an interest-paying instrument following retirement of all shorter maturity classes.

Planned Amortization Class. - A CMO innovation that became very popular in the late 1980s was the Planned Amortization Class (PAC). The PAC structure guarantees a pre-set payment stream. The increased certainty of these tranches causes other tranches in the issue to have more uncertain cash flows. The PAC class of tranche attracted many traditional bond investors into the mortgage security market.

Previous CMO Limitation. - A major initial drawback to widespread use of the CMO was the substantial size of the mortgage pool; $100 million or more, was necessary to support the cost of issuance. The advent of CMO conduits, however, made CMO issues feasible for smaller lenders. By pooling collateral supplied by a number of lenders, the conduit could achieve the economies of scale needed to make the issue cost effective for the lender. Only a few of the conduits have survived and, as a result, FNMA, FHLMC, GNMA, and investment bankers that all have access to large volumes of collateral dominate the list of issuers.

Issuers have become very innovative in designing new structures that respond to changing interest rate environments and cater to investor needs. CMOs are often a blend of the different maturities that characterize the traditional CMO with tranches that resemble stripped securities while other tranches create more bond-like classes.

Real Estate Mortgage Investment Conduits

Effective January 1, 1987, Real Estate Mortgage Investment Conduit (REMIC) legislation permitted various mortgage securities such as multiple class securities and regular pass-throughs to be treated as asset sales rather than as financing for accounting purposes. This allows issuers to show mortgage securities off the balance sheet which avoids the increasing financial statements normally caused by these securities. Thus, REMICs dramatically reduce capital needed to issue mortgage securities.

Adjustable-Rate MBSs

Issuing MBSs backed by adjustable-rate mortgages (ARMs) has provided an additional type of pass-through security in the secondary market. Normally, securities based on pools of ARMs have less interest-rate risk than securities based on fixed-rate mortgages. However, teaser rates and interest-rate and payment caps can make ARM securities less attractive for investors. Teaser rates are below-market interest rates that are offered to home buyers as an inducement to choose ARMs rather than fixed-rate mortgages.

ARMs often have periodic or lifetime interest-rate caps, or both. A typical ARM periodic cap with a coupon that adjusts annually would limit the increase or decrease in the coupon to no more than 2 percent per year. Lifetime caps are an upper limit to the level that an ARM coupon can reach at any time during the remaining life of the mortgage. In addition to interest rate caps, some ARMs have payment caps that limit the percentage change of mortgage payment changes at the reset date to no more than a given percentage.

Examiners should determine the extent to which corporates hold MBSs based on pools of ARMs with teaser rates, and interest-rate or payment caps resulting in below-market interest-rate loans. All future interest-rate adjustments are normally based upon the initial mortgage rate. If interest rates increase, an ARM would “cap out” (reach the maximum lifetime cap) at a lower interest rate than ARMs originated at current interest rates. For example, assume a 5 percent lifetime cap over the initial mortgage rate. If the market interest rate was 8 percent and loans were originated at 6 percent, the lifetime cap would be 11 percent rather than 13 percent. If a corporate has purchased a significant amount of adjustable-rate MBSs with teaser rates, profitability could be materially reduced.

To properly estimate the price sensitivity of adjustable-rate MBSs, the frequency of the interest-rate adjustment, the index, the initial interest rate, and the annual and lifetime caps must be considered. A corporate investing in adjustable-rate MBSs should determine the extent to which interest rates can increase before the cap is reached. Another consideration would be the index used. Cost of funds indexes tend to lag increases in interest rates. This lag could cause a serious decline in net interest income depending on how the securities were funded. For example, a corporate that had invested in adjustable-rate MBSs funded by reverse repurchase agreements would suffer in a rising rate environment, because the interest rates on the reverse repurchase agreements would adjust more rapidly that the interest rates on the adjustable-rate MBSs.

The prepayment experience of many adjustable-rate MBSs is high, since many mortgagors refinance into fixed rate mortgages with a small drop in interest rates. Prepayment is an especiallly important consideration when the securities were purchased at a premium (i.e., where a lagged adjustment of the index provides the investor with a yield higher than the current market yield).

Risks of Mortgage Securities

Each type of mortgage security allocates risk between issuer and investor in a different way. As a general rule, the more risk assumed by the investor, the closer the transaction is a transfer of ownership in the mortgage pool and the more compensation the investor will seek for the added risk. The more risk the issuer retains, the closer the security resembles debt financing.

The degree of market risk assumed by the issuer is directly related to the timing of principal remittances to investors. The more closely principal payments are tied to collections on the underlying mortgages, the less the issuer's reinvestment risk, while less frequent principal payments require the issuer to assume more reinvestment risk. Pass-through securities with minimal holding periods carry little reinvestment risk; however, straight bonds with principal payments at long intervals carry substantial reinvestment risk.

Pass-through securities transfer substantially all the risk and benefits of ownership of the underlying mortgages to the investor. Cash flows to the investor are advanced on virtually the same basis as collected, with minimal delays to allow for processing, reporting and related administrative functions. The investor is in substantially the same position as the mortgage holder with respect to uncertain prepayment rates.

The pass-through security carries an interest rate to the investor below the note rates in the underlying mortgage pool. The spread between the security rate and the mortgages provides the required fees to the servicer and to the agency that issues and guarantees the security. The issuer does not retain market interest-rate risk with pass-through securities because there are only small delays in the principal and interest cash flow to the investor. The risk of reinvestment passes to the investor of a pass-through security.

Under the terms of the FNMA and FHLMC mortgage swap programs and the GNMA II program, sellers can include mortgages with a specified range of note interest rates in a mortgage pool. Sellers can elect to pool mortgages with interest rates above the minimum required for the security and retain the excess as an additional monthly servicing fee. This additional servicing fee is called excess servicing. The servicer receives future excess servicing, but retains the corresponding risk that early prepayments will reduce its value.

Prepayment Risk

The most important characteristic in determining prepayment is the difference between the interest rates on the mortgages underlying the MBS and the prevailing mortgage interest rate. The more the underlying mortgage interest rate exceeds the prevailing mortgage interest rate, the greater the likelihood that refinancing will occur. If

prepayments occur rapidly due to lower market rates, those declining market rates will make it harder for the investor to reinvest the prepaid principal at rates similar to the original mortgage interest rates.

Other factors affecting prepayments include the demographics of the area, the state of local economies, assumability of the underlying mortgages, and the time of year. A mobile population may result in significant prepayments as the houses are sold and the mortgages are repaid. If the local economy of a particular area is distressed, there may be a large number of foreclosures, which are equivalent to prepayments for the MBS. Prepayments are greater in the spring as individuals relocate. In the winter months, when housing sales decrease, prepayments are likely to be slower. Also, if the property is sold or destroyed by fire, flood, or some other disaster, the mortgage may be paid off early. Other factors, such as the relative age of the population, also affect prepayment rates.

Measuring Prepayments

The timing of principal repayment, or prepayment rate, is termed "speed." There are a number of approaches to expressing prepayment speed estimates. Historically, Average Life Estimates or FHA Mortality Tables were used. Now, prepayment estimates are expressed in terms of constant prepayment rate or PSA speed.

Average Life Estimates. - The average life prepayment estimate assumes that all mortgages amortize exactly as scheduled with no prepayments for an average life (usually 12 or 10 years); and then all of the mortgages pay off at the same time. This approach was helpful in estimating yields, but not prepayments. The average life method of measuring prepayments has come to be viewed as extremely unrealistic and obsolete since the assumption of stable cash flows does not conform to the actual cash flows of the marketplace. Its use is generally discouraged.

FHA Mortality Tables. - The FHA experience method of measuring prepayment speed is based on the actual FHA prepayment experience. FHA Mortality Tables report the actual prepayments (both voluntary and as a result of foreclosure) during each year. Investors evaluate the performance of a particular pool relative to this FHA experience. The evaluation is expressed as a percentage of the FHA experience. For example, 0 percent FHA means no prepayments; 100 percent FHA means equal to FHA experience; and 200 percent FHA means the pool is paying twice as fast as FHA mortgages. The FHA experience for measuring prepayments works well for FHA and even VA mortgages; however, conventional mortgages prepay at different speeds and must be measured differently.

Constant Prepayment Rate (CPR)

The CPR was developed as a measurement that takes into account only principal payments in excess of those contractually required. The CPR method expresses annual prepayments as a ratio to the prior year's outstanding principal balance. It includes only

prepayments, not contractual amortization payments. Measurements of prepayments may also be expressed in terms of single monthly mortality (SMM), which reflects the percentage of outstanding principal balance prepaid each month.

Public Securities Association (PSA) Speed. The PSA formula is based on experience from conventional mortgages as tracked by the PSA. A 100 percent PSA speed means that prepayments are modeled as follows; .2 percent is prepaid in the first month of a mortgage, increasing by .2 CPR monthly to 6 percent CPR in month 30, and remaining at 6 percent thereafter through maturity. This is the basic PSA formula and prepayment speeds are expressed as a percent of PSA. Put differently, 100 percent PSA is substantially equivalent to 100 percent FHA experience or to 6 percent CPR (after the first 30 months), and 150 percent PSA is roughly equal to 9 percent CPR (after the first 30 months).

CMO Risks

CMOs, because they are structured to resemble either pass-through securities or pay-through bonds, may have risk characteristics similar to either, depending upon their particular terms. Generally, the CMO issuer assumes less interest-rate risk than the issuer of standard mortgage-backed bonds because remittance of both principal and interest payments is closely tied to the cash flows from the underlying mortgages.

The actual level of risk assumed by the issuer of a CMO will depend on two key characteristics of the security:

1. the frequency of principal and interest remittances to investors; and
2. guarantees, if any, as to the maximum maturity of each class of securities.

As with other pay-through bonds, delays in remittance to CMO investors subjects the issuer to reinvestment risk. To the extent earnings on the reinvested funds fall below expected yields, the overall cost to the issuer decreases. Guaranteed investment contracts can be arranged to lock in a reinvestment rate on the float income. This cash flow, since it is assured, can all be incorporated as interest to investors when structuring the CMO.

Maximum maturity guarantees for each investor class can establish shorter maturities for the bond than the underlying mortgages. This structure can result in the obligation to retire a class before its related mortgage principal is repaid. The issuer then must fund the retirement with new borrowings, which may be at a substantially higher rate than the CMO.

Portfolio Management

MBS portfolios can be managed by varying the composition of coupon rates as interest rates change. Investors which expect interest rates to increase may purchase an MBS with a coupon higher than the current coupon rate. This would result in paying a premium over the par value of the security. If interest rates increase, the prepayments on the underlying mortgages will slow, resulting in a slower write-off of the premium and a higher yield. Conversely, an investor may sell higher coupon rates and purchase lower coupon rate MBSs as interest rates decrease. Whenever the corporate acquires a significant dollar amount of lower coupon rate MBSs, this strategy should be closely reviewed to determine the interest-rate risk.

Some investors prefer to hold mostly current coupon rate MBSs in their portfolios. A current coupon MBS is one with a rate that is approximately 50 basis points less than the most prevalent interest rate quoted by lenders for fixed-rate mortgages. Current coupon MBSs are more actively traded and, therefore, more liquid. However, if the investor prefers to sell MBSs in its portfolio to acquire current coupon, the question of intent for investment versus trading may be raised. These strategies may add credence to the classification of a trading portfolio compared with an investment portfolio.

Mortgage Security Brokers

Corporates should solicit several price quotations for their transaction that involve brokers. This will help ensure that they are receiving market value for portfolio transactions. Some corporates may execute most or all of their transaction through a limited number of brokers. Should they not actively solicit comparable price quotes, corporates may be purchasing above or selling below the market. A substantial turnover in the portfolio could result in significant lost income. Therefore, corporates should actively solicit comparable market quotes from at least two brokers other than the broker through which transactions are executed. Even if a corporate does not have significant volume, comparable price quotes should be obtained.

Hedging MBS Portfolios

A number of approaches are available for hedging a portfolio of MBSs. Interest rate risk associated with holding MBSs can be reduce by entering into forward commitments to sell. The forward market allows for hedges customized by issuing organization, coupon, contract size, and settlement date. Management must have the requisite level of technical expertise and assess the risks of its hedging strategies prior to execution of the strategy. Derivative transactions are limited to corporates with Part IV Expanded Authority. More details on derivative activities are contained in Appendix 202B.

Monitoring Requirements

All documentation relating to the use of MDPs should be reviewed. In general, such documentation should include:

1. The policy, business plan, position limits, and internal controls and procedures applicable to MDPs.

2. The sensitivity or simulation analysis, performed prior to purchase and performed periodically thereafter.

3. The assumptions used in performing the sensitivity analysis;

4. Monthly updates of performance of the instruments showing actual versus projected performance; and

5. a list of personnel authorized to make investment decisions involving MDPs and a description of their qualifications.

The use of MDPs should commence only after the risks have been thoroughly evaluated and policies and procedures have been established and documented.

Appendix 202B

DERIVATIVE INSTRUMENTS

Introduction

A derivative is a financial contract with cash-flows based on the value or level of an underlying asset, index, or reference rate. The most common derivatives are swaps, futures, forwards, and options.

The market for derivative instruments has grown rapidly since the 1980's, reflecting a broad range of applications for these products as well as their wide acceptance by financial institutions, institutional investors, and corporate treasurers.

Derivative products are used primarily to manage and control risk. Corporates should use derivatives only consistent with authorities granted under Part IV.

The term "derivative security" is also used by some to cover securities with option-like characteristics and securities that are created by "tranching," or "stripping" other securities instruments. A discussion of mortgage derivative securities appears in Appendix 202A. The following section describes the most common types of off-balance-sheet derivative contracts.

Types of Derivative Instruments

Derivatives can be divided into two distinct groups (a) forward-based products and (b) option-based products. Forward-based products include futures, forward transactions, and swap products. Option-based products include puts, calls, caps, floors, collars, and swaptions. Some derivatives are traded on organized exchanges, while others are traded in the over-the-counter markets.

"Exchange-traded" derivatives are standardized contracts traded on the futures and options exchanges. Each exchange operates a corporation known as a "clearinghouse" through which all contracts are reconciled, guaranteed, and settled. The clearinghouse places itself between the buyer and seller of each contract, making itself the counterparty to each contract.

"Over-the-counter" (OTC) contracts, on the other hand, are agreements entered into through private negotiations. Parties seek each other out and negotiate a trade. A number of large securities firms and commercial banks "make a market" in derivatives and are known as "derivatives dealers." Swaps, forward agreements, options, caps, and floors are actively traded in the OTC market.

Interest-Rate Swaps

An interest-rate swap is an agreement between two parties to exchange a series of cash flows at specified intervals known as payment or settlement dates. The cash flows, or interest payment streams, are based on notional principal amounts. No actual principal amounts are exchanged. Interim payments are usually netted, with the net amount being paid to one party or the other.

Interest-rate swaps are used primarily to manage interest-rate exposure and to lower debt financing costs. Swaps provide a means to transform an existing cash flow stream into a more desirable cash flow stream. For example, a swap can be used to transform floating-rate liabilities into fixed-rate liabilities. Because swaps are negotiated agreements, virtually any kind of payment stream can be swapped. The most common type of swap is the "fixed/floating" interest-rate swap described below.

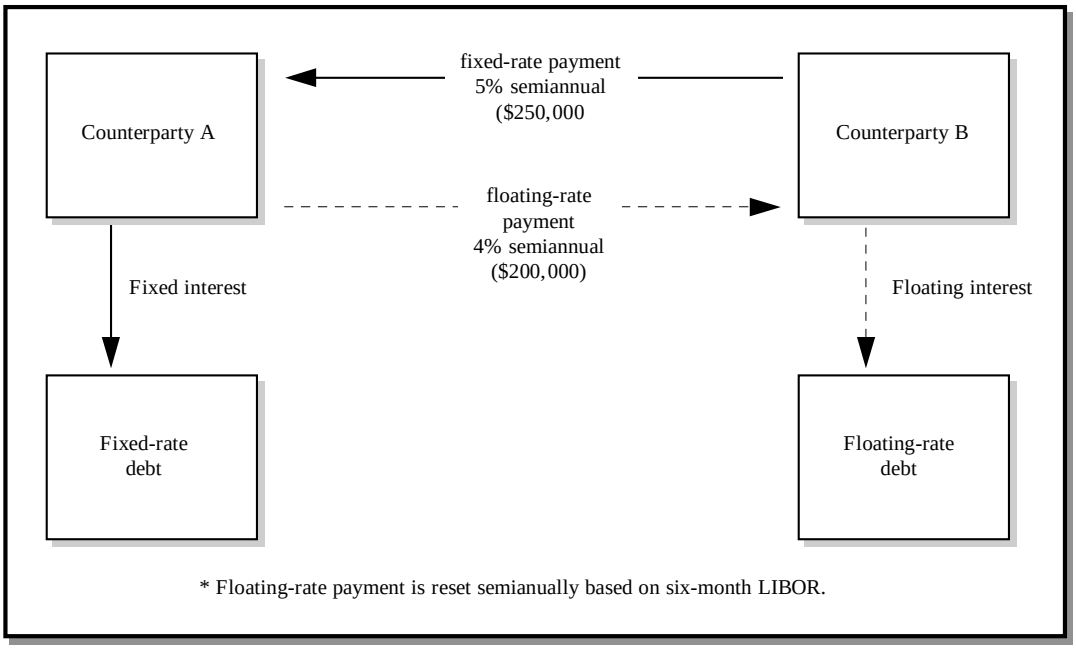
Fixed/Floating Interest-Rate Swap

A fixed-for-floating interest-rate swap is a swap in which a fixed interest payment stream is exchanged for a floating-rate payment stream. The party that agrees to make fixed-rate payments is known as the "fixed-rate payer," and the party that makes the floating-rate payments is known as the "floating-rate payer." In effect, a fixed-for-floating swap enables the fixed-rate payer to transform floating-rate instruments into fixed-rate instruments.

A basic example of a fixed-for-floating swap is shown in Figure 1. In the example, Counterparty A has $10 million of fixed-rate borrowings that it wants to convert into floating-rate borrowings, and Counterparty B has $10 million of floating-rate borrowings that it wants to convert into fixed-rate borrowings. Both parties agree to enter into an interest-rate swap with a notional amount of $10 million. The agreement requires Counterparty B to make semiannual payments to Counterparty A at a fixed rate of 5 percent for three years. In exchange, Counterparty A agrees to make floating-rate payments based on the six-month London Interbank Offered Rate (LIBOR) with an initial rate of 4 percent.

Counterparty B (the fixed-rate payer) will make a net payment of $50,000 to Counterparty A on the first semiannual payment date. On that date, the floating-rate for the next six months is reset based on the prevailing six month LIBOR. If LIBOR increases after the swap is initiated, Counterparty A's cost of funds will rise since it is obligated to make floating-rate payments to Counterparty B. Counterparty B, on the other hand, will benefit if rates rise, since it will receive higher floating-rate payments while its payments remain fixed at 5 percent of the notional amount. Corporates that are exposed to rising rates can reduce their exposure by entering into a fixed-for-floating swap as the fixed-rate payer.

Figure 1
Fixed-to-Floating Interest-Rate Swap



Basis Swaps

Basis swaps are swaps where each side of the swap is based on a different floating-rate index (e.g., one month LIBOR against one-month Average Federal Funds effective). Basis swaps are also known as "floating-to-floating swaps."

A "yield curve swap" is a type of basis swap. In a yield curve swap, the interest rate for each side is indexed to a different maturity point of the yield curve for a particular security, but one leg of the swap is tied to a long-term rate. For example, a yield curve swap may have the 10 year Treasury note yield as the index for one side and the three month Treasury bill yield as the index for the other side. The value will change in response to changes in the shape of the yield curve between payment dates. For example, if the short end of the yield curve increases (decreases) relative to the long end, the value of the swap will increase (decrease) to the counterparty that receives the three month Treasury rate.

Another common basis swap is a "COFI/LIBOR swap." Cost of Funds Index (COFI) represents the weighted average cost of funds at the savings institutions in the Eleventh District of the Federal Home Loan Bank System. Some institutions that offer adjustable rate mortgages (ARMs) indexed to COFI use COFI/LIBORS swaps to hedge their COFI-based ARMs. An institution that enters into a swap to pay COFI and receive LIBOR will convert the ARM portfolio from a COFI-based index to a LIBOR-based index. So long as movements of the LIBOR index closely match movements in the institution's actual cost of funds, the swap should lower the institution's interest-rate-risk exposure.

Swap Termination

A corporate that has entered into a swap may wish to reverse or terminate the swap prior to maturity. There are two ways to unwind a swap position. One way is to negotiate a termination settlement with the original counterparty. The other is to enter into a new swap that is a mirror image of the existing swap to offset the existing position.

Swap Variations

Most swaps have a specified maturity date and a fixed notional amount. Some swaps, however, have notional amounts that amortize over time. Swaps can also be callable, in which case the swap can be terminated at the option of the corporate if interest rates increase or decrease beyond the "strike rate." A "swaption" is an option to enter into a swap at a future date. A "forward swap" is a firm commitment to enter into a swap at a specified future date.

Accounting

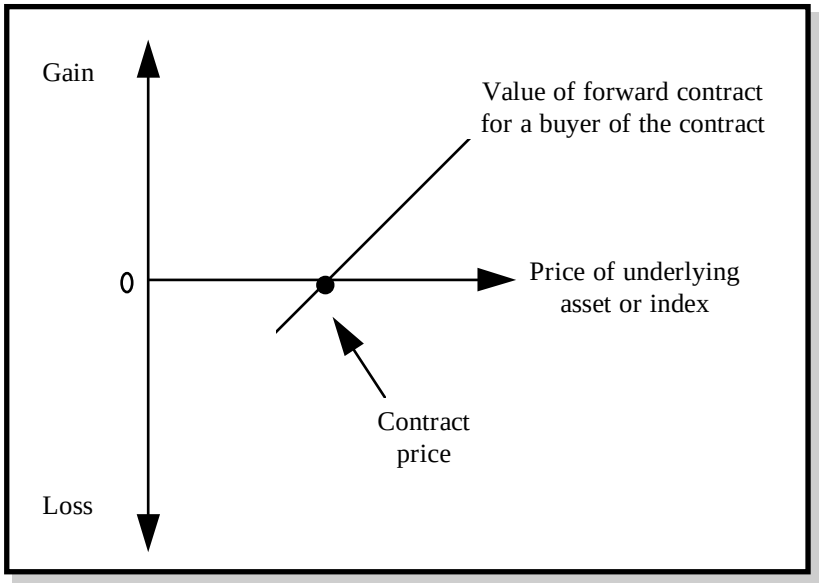
Interest-rate swaps are recorded using hedge accounting if the institution can demonstrate that the swap reduces exposure to interest-rate or cash-flow risk. See, Statement of Financial Accounting Standard No. 133. Since a swap typically has no initial market or book value on the transaction date, only the accrual of periodic net interest cash flows typically will flow through the income statement for highly effective hedges. If a swap is terminated prior to maturity, the gain or loss must be amortized over the remaining life of the swap. Swap positions that are not highly effective at reducing interest-rate or cash-flow risk must be marked-to-market, to the extent of ineffectiveness. Market value changes in the affected swaps will also flow through the financial statements. Examiners should analyze the characteristics and terms of each swap to determine whether the swap is being used to reduce risk.

Forward Contracts

A forward contract obligates one counterpary to buy, and the other to sell, a specific underlying financial instrument at a specific price, amount, and date in the future. Contracts specifying settlement in excess of the cash market practice for spot settlement are considered to be forward contracts. (Spot settlement for mortgages, for example, are once a month.) Forward contracts exist for a multitude of "underlyings," including currencies, commodities, and mortgages. Forward contracts are traded over-the-counter and are customized to fit the particular objectives of the counterparties.

Figure 2 shows the payoff profile of a forward contract. As shown, the change in the value of a forward contract is roughly proportional to the change in the value of the underlying asset or index. The value of the contract is conveyed at maturity through cash settlement or delivery. If the price of the underlying is higher than the contract price, then the buyer makes a profit. The gain to the buyer equals the loss to the seller.

Figure 2
Value of Forward Contract -- Long Position

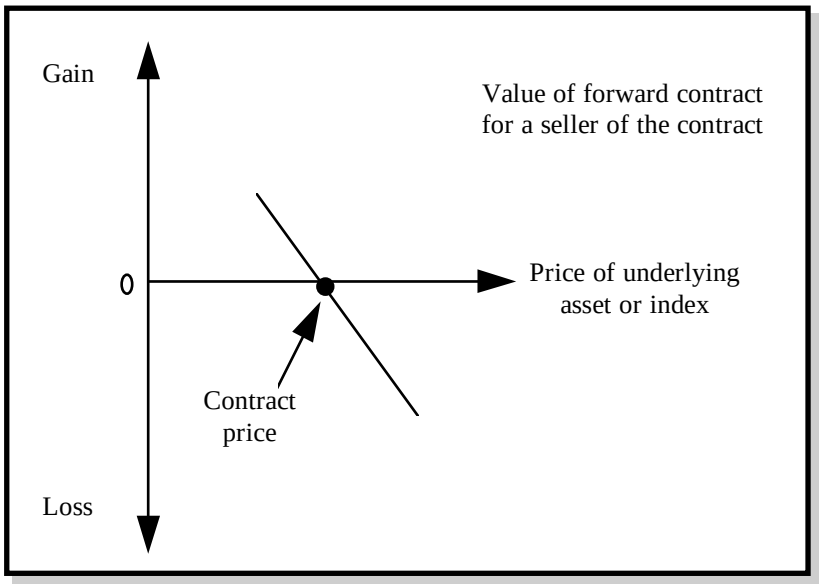


Forward contracts create two-way credit risk. The counterparty on the side of the contract that has a positive replacement value is exposed to credit risk of the other party. However, the market value of a contract can swing from a positive value to a negative value and vice versa. Therefore, each party must assess the creditworthiness of its counterparty since each side is exposed to a potential gain or loss. The value of the forward contract is conveyed on the maturity date of the contract. No payments are made at origination or during the life of the contract. The contract owner will either receive or make a payment at maturity depending on the price movement of the underlying asset or index.

Forward contracts are often used by mortgage bankers to hedge their operations. Institutions that originate mortgage loans for sale into the secondary market usually hedge the price risk of holding loans temporarily by arranging forward contracts to sell their loans. The forward sale of mortgage loans transfers the price risk of holding the mortgages in the “pipeline” to the counterparty. The payoff profile of a forward sale is shown in Figure 3. The seller of the forward contract is “short the underlying” and, therefore, gains if the value of the underlying asset declines.

Forward contracts to sell mortgage production can be “firm” or optional commitments. Firm commitments require both parties to perform on the contract (delivery of mortgages or cash settlement), regardless of market conditions. In contrast, optional commitments, such as “standbys,” require performance only at the option of the party that purchased the option.

Figure 3
Value of Forward Contract -- Short Position



Institutions typically attempt to match the terms of the forward agreement to the terms of the item giving rise to the risk exposure. For example, assume an institution originates 30 year fixed-rate mortgages and expects to close most loans within a 45 day period. As loan production accumulates, the institution enters into a firm forward commitment to sell 30 year loans with a settlement date 45 days in the future. For the portion of the pipeline that is uncertain as to closure, a standby agreement may be used to hedge the market risk.

In general, forward contracts to buy mortgages or MBS (i.e.., the “long position”) will increase the overall interest-rate-risk exposure of a typical corporate. Examiners should scrutinize long forward positions to determine if they are being used for speculative purposes.

Examiners also should look for “pairoffs,” in which forward positions are closed out prior to settlement with offsetting forward contracts, usually at a profit. Pair-off activity is considered presumptive of speculative intent.

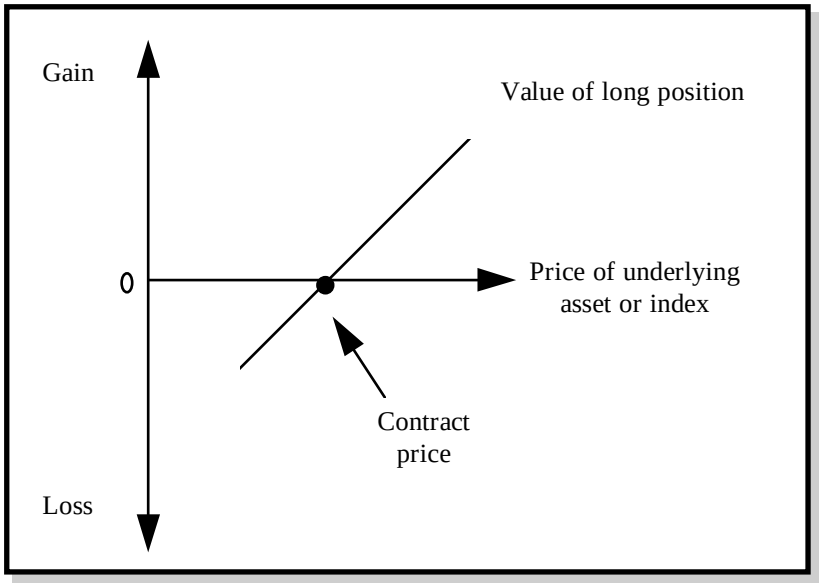
Futures Contracts

A futures contract is a legally binding agreement to make or take delivery of a standardized quantity and quality of a commodity or financial instrument on a specified date in the future. The value of a futures contract responds to changes in the price of the underlying commodity or financial instrument in much the same manner as the value of forward contracts. Futures contracts are traded on recognized exchanges, and the exchange clearinghouse is the counterparty to each trade.

Futures contracts based on a financial instrument or a financial index are known as financial futures. Financial futures include interest-rate futures, stock futures, and currency futures.

Financial futures can be an effective means of controlling interest-rate risk. The most commonly used interest-rate futures are those with Treasury bills, notes, and bonds, and Eurodollar time deposits as the underlying.

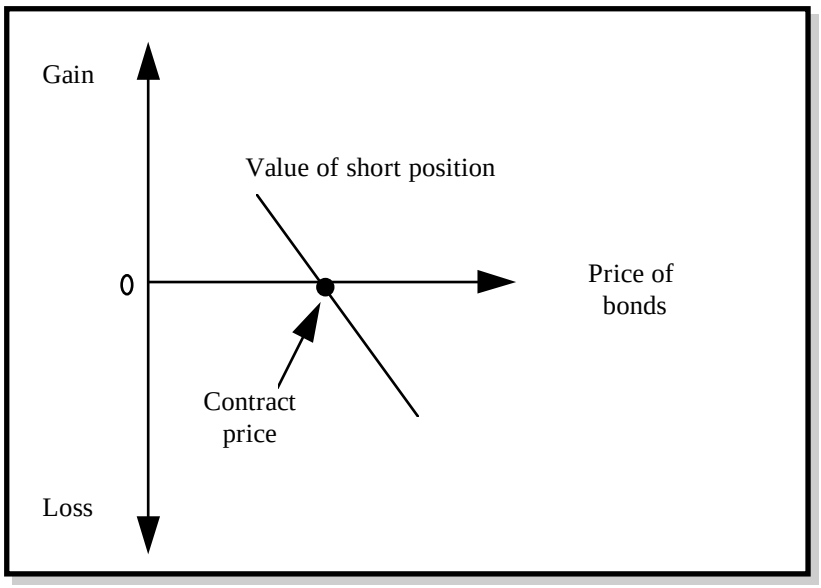
Figure 4
Value of Futures Contract -- Long Position



The buyer of a futures contract takes a “long position” in the market and is said to be “long the futures.” The contract can be sold at any time before settlement. In the case of an interest-rate futures contract, such as a Treasury bond contract, a long position will profit if interest rates decline. Lower interest rates mean higher contract prices because interest rates and bond prices are inversely related. Conversely, an increase in rates will produce a loss on the long position. For the payoff profile of a long futures contract, see Figure 4. Note that futures contracts obligate their owners to purchase a specified asset at a specified exercise price on a specified maturity date.

A seller of a futures contract takes a short position in the market. In essence, sellers promises to deliver a commodity or financial asset even though they may not own the asset. A short position in a Treasury bond contract will profit if Treasury bond prices decline (i.e., if Treasury bond interest rates increase). Selling a futures contract (a short position) is an example of a hedging strategy that can be used to reduce the interest-rate risk exposure of an institution that loses value when interest rate rise. The payoff profile of a short futures position in Treasury bonds is shown in Figure 5.

Figure 5
Value of Treasury Bond Futures Contract -- Short Position



Compared with swaps and forwards, the credit risk of futures contracts is minimal for three reasons. First, futures contracts are "marked-to-market" daily and any change in the value of the futures contract is conveyed, or "cash settled," at the end of each day. (In contrast, the value of a forward contract is conveyed in a single payment at maturity. With a swap contract, changes in value are conveyed periodically throughout the life of the swap on each settlement date.) Second, buyers and sellers of futures contracts are required to post a performance bond, which is known as the "margin," with their brokers. The initial margin account is established when the contract is opened, and gains and losses on the futures contract are added to or subtracted from the margin account at the end of each day. If losses cause the margin account to fall below a specified level, the customer is required to post additional margin or the account will be closed out. And third, an exchange clearinghouse is the counterparty to each futures transaction.

Examiners should review any deferred gains or losses related to futures activity. The related accounting documentation must demonstrate that a highly effective hedge has been achieved to justify hedge accounting.

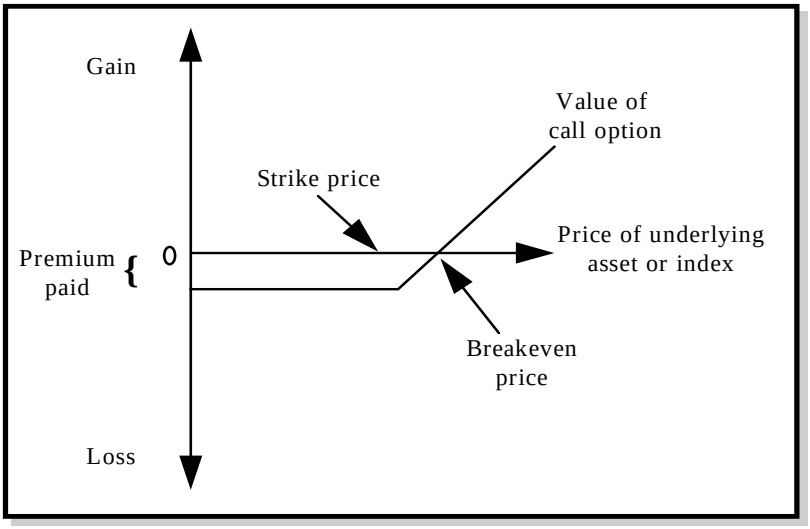
Options

An option gives the holder the right, but not the obligation, to buy or sell a designated asset or instrument at a specified price, called the "strike price," during a given period of time or on a specific date. The writer (or seller) of the option grants this right to the buyer in exchange for a sum of money that is referred to as the "option premium," or the option price. An "American option" may be exercised at any time during the life of the contract. A "European option" may only be exercised on the expiration date. Option contracts are traded on exchanges and in the OTC markets.

The buyer of any option is said to hold the "long position" and the seller (writer), the "short position." When the underlying asset is owned by the writer of the option, the position is "covered." When the writer does not own the underlying asset, the writer's position is said to be "naked."

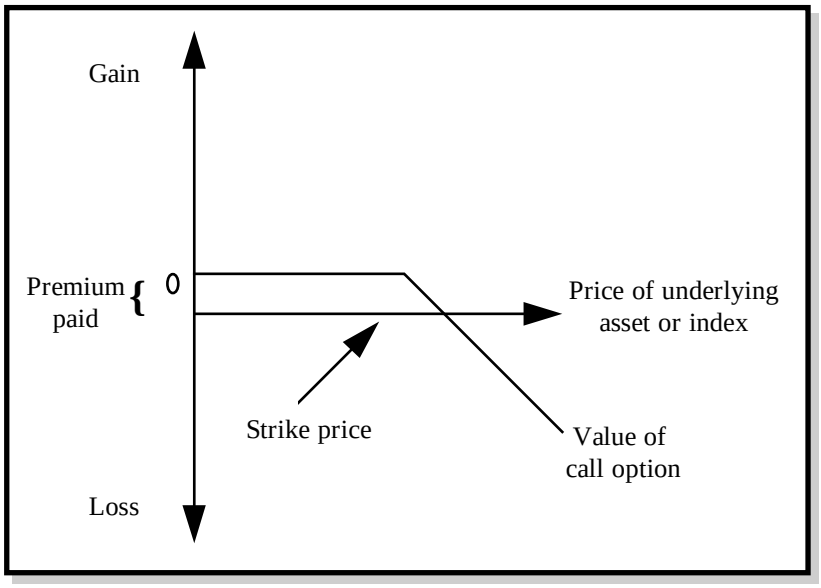
A "call option" gives the buyer (the "long" position) the right to buy the underlying asset at a predetermined "strike price" for a specified period of time. The buyer of a call option benefits if the price of the underlying asset rises above the strike price by an amount sufficient to cover the option premium. If the option is not exercised before expiration, the option will expire worthless. The profit potential of the long call position is substantial, while maximum loss on the option is limited to the option premium. The payoff profile of a long call position is shown in Figure 6.

Figure 6
Value of Call Option -- Long Position



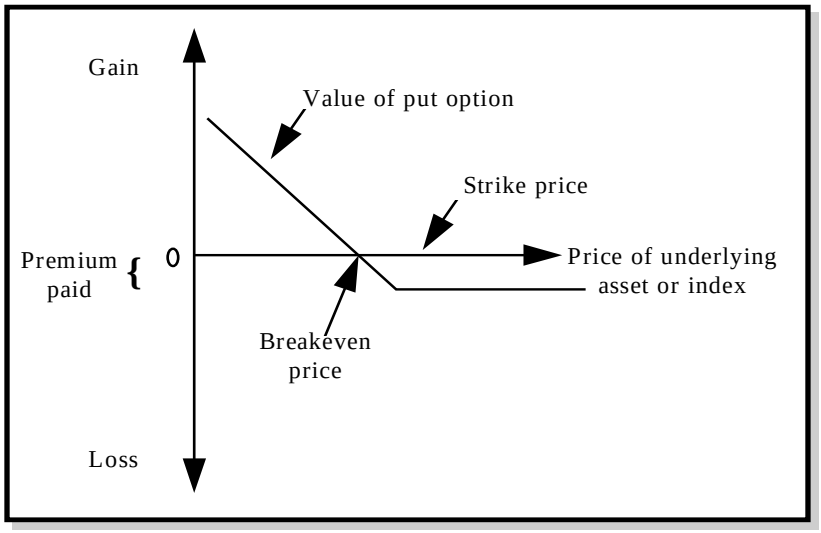
The payoff profile of the seller (the "short" position) is shown in Figure 7. Note that the profile of a short call option position is the opposite of a long call. Also, note that the profit potential of the short call position is limited to the amount of the option premium, while the loss potential is substantial.

Figure 7
Value of Call Option -- Short Position



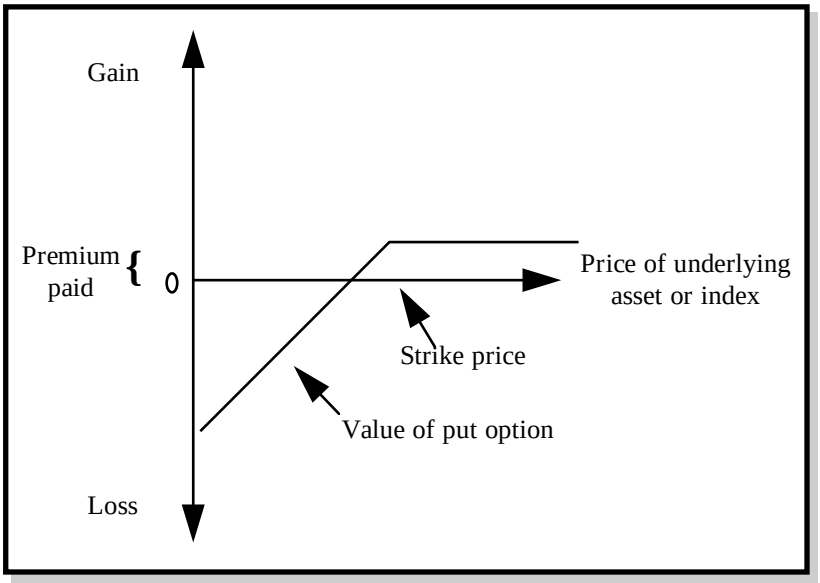
A "put option" gives the buyer (the long position) the right to sell a designated asset (or instrument) to the option writer at a specified price for a specified period of time. The buyer of a put option benefits if the price of the underlying declines sufficiently to cover the option premium. The payoff profile of a long put is shown in Figure 8.

Figure 8
Value of Put Option -- Long Position



The payoff profile of someone that is short a put option is shown in Figure 9. Just like a short call, the profit potential on a short put is limited to the premium received for writing the option, while the downside potential is substantial.

Figure 9
Value of Put Option -- Short Position



The value of an option is influenced by five factors:

1. strike price;
2. current price of the underlying instrument;
3. time to expiration of the contract;
4. expected volatility of yields (or prices) over the remaining life of the option; and
5. short-term risk-free interest rate over the life of the option.

Caps, Floors, and Collars

Interest-rate caps, floors, and collars are customized interest-rate options that can be used to manage interest-rate risk.

Cap. - A "cap" is a contract that provides the buyer with protection against a rise in interest rates above some specified rate. An underlying interest-rate index is specified in the contract. The most common index is LIBOR. The buyer pays a premium for the option. The contract will specify the notional amount of the contract, the maturity, the settlement frequency, the interest-rate index, and the level of protection (i.e., the strike rate of the cap). A cap can be used to synthetically set a maximum rate, or cap, on floating-rate borrowings. If rates rise above the cap rate, the buyer will receive a payment that will offset the increase in interest expense on the floating-rate borrowings above the cap rate. Thus, a cap can be used to fix the maximum rate that a borrower would pay out on a floating-rate obligation, while allowing the borrower to benefit from a decline in rates. (An institution can also sell a cap to generate income through receipt of a premium.)

Floor. - A "floor" is a contract that provides the buyer with protection against declining interest rates. A commercial bank with a relatively large portfolio of floating-rate loans might, for example, buy a floor to protect its net interest earnings against a decline in rates. For a premium, the buyer of a floor receives the difference between the strike rate (floor) and the actual rate on the index if the index falls below the floor. No payments exchange hands if the strike rate on a floor is greater than the current index rate. The seller of a floor receives a premium.

Collar. - A "collar" is a combination of the purchase of a cap at one rate and the sale of a floor at another rate. The cap and floor rates are usually set so that the cost of the cap equals the premium on the floor, resulting in a zero cost collar. For an institution that is exposed to rising rates, a collar provides protection if interest rates increase above the strike rate on the cap. But in exchange for that protection, the institution gives up the benefits of lower funding costs if rates fall below the strike rate on the floor.

Swaptions

A "swaption" (or swap option) is an option on a swap. It gives the buyer the right, but not the obligation, to enter into a specified swap at a future date.

Standby Agreements

A standby agreement is a put option (agreement to sell at a specified price) on mortgages or mortgage-backed securities. They are usually used by mortgage bankers to offset the risk of loans that would be expected to close if interest rates increase, but are otherwise uncertain as to closure. An institution pays a fee to purchase this protection.

Short standby positions (short puts) involve the receipt of a fee for taking on the risk of having to purchase loans in an adverse environment. Short puts are usually speculative. They should be viewed by examiners as speculative unless an institution can demonstrate otherwise.

Risks of Derivatives

The use of derivative instruments can be highly beneficial but, as with other types of financial products, their use entails certain risks. The primary risks include credit risk, market risk, and operational risk.

Credit Risk

Credit risk is the risk that a loss will occur if a counterpary defaults or otherwise fails to perform on a contract. The evaluation of credit risk is particularly important in the case of derivatives because the creditworthiness of counterparties can vary significantly. By comparison, counterparty risk on exchange-traded contracts is generally viewed as minimal because the exchanges guarantee the performance of each contract. In addition, credit exposures on exchange-traded options are minimized by margin requirements and daily settlement practices that are imposed by the exchanges.

The credit risk exposure of derivatives consists of two distinct elements: current exposure and potential exposure. Current exposure is the market value of the derivative at any point in time. The market value (or replacement value) of a derivative is equal to the net present value of the derivative's future cash flows. It is the cost of replacing the contract with a new one if the counterparty defaults. The current exposure can be either positive or negative. When the current exposure is positive, the contract represents an asset and the holder of the contract will suffer a loss if the counterparty defaults. When the market value of the contract is negative, the contract represents a liability; therefore, no credit loss will occur in the event of default since the contract has no value. (The current exposure on exchange-traded contracts is negligible since exchanges require daily settlement of gains and losses on contracts.)

The potential exposure of a derivative contract is the potential mark-to-market exposure that could occur if market conditions move in an adverse way. Potential exposure is only an estimate because future market conditions cannot be known with certainty. Market participants use various statistical techniques, such as Mount Carlo simulation, to estimate potential exposures.

For an audit loss to occur on a swap, two conditions must exist. First, the market value of the contract must be positive, and second, the counterparty must default on the contract. The same is not true for options contracts. With options, a counterparty default can result in a loss to the buyer of the option, even if its mark-to-market value is zero, since the buyer pays a premium to the seller when the contract is initiated. Obviously, the premium would be lost if the counterparty went out of business and would not perform on the contract.

Collateral arrangements are often used in derivative transactions to reduce exposure to counterparty risk. In swap transactions, collateral arrangements are subject to negotiation and can be unilateral or bilateral. Under a unilateral arrangement only the weaker counterparty is required to post collateral, while under a bilateral arrangement no collateral is posted initially, but either side may be required to post collateral if a "triggering" event occurs, such as a credit downgrading or a sharp movement in rates.

Netting arrangements are also used to reduce risk when a party has two or more swap transactions with the same counterparty. Typical netting arrangements call for all transactions with the same counterparty to be "netted" in the event of default, that is, all contracts between the two parties are marked-to-market and those with negative values are offset against those with positive values.

If netting does not apply, no offsetting occurs in the event of default. As a result, a practice known as "cherry picking" may occur. For example, a firm may have two swaps with the same counterparty, one with a positive replacement value and one with a negative replacement value. If the firm encounters bankruptcy it may attempt to seek relief from the swap that has a negative replacement value (a liability) and attempt to force the counterparty to continue to pay on the swap with a positive value.

Forward contracts to sell mortgage production can be "firm" or optional commitments. Firm commitments require both parties to perform on the contract (delivery of mortgages or cash settlement), regardless of market conditions. In contrast, optional commitments, such as "standbys," require performance only at the option of the party that purchased the option.

Market Risk

Market risk is the risk of loss on the value of the contract arising from changes in market conditions, including interest rates (interest-rate risk), supply and demand factors (liquidity risk), and other factors that affect the price of the contract. Sources of market risk differ for different types of derivatives. It is important for end-users to understand the forces that cause the market prices of the derivatives they use to change so that they can simulate the performance of the derivatives under different scenarios.

Operational Risk

Operational risk is the risk of losses occurring due of a failure of internal systems and controls, human error, or fraud.

Management Guidelines for Derivative Instruments

Corporates that use derivative products should do so only in accordance with safe and sound practices. Levels of activity should be reasonably related to the corporate's needs and financial sophistication. Management should evaluate the appropriateness of using derivatives in the context of its total portfolio risk. Such evaluations should assess the effect of the derivatives on the corporate's earnings and net economic value (i.e., the net present value of assets, liabilities, and off-balance sheet items). A corporate should consider the liquidity and price volatility of derivative products prior to use. In general, the use of derivatives should be limited to transactions and strategies that lower or do not increase an institution's overall exposure to interest-rate risk.

Corporates with Part IV Expanded Authority that use derivatives should adhere to the following guidelines:

Board of Directors' Approval

The board of directors should adopt, and vigorously enforce a written policy authorizing and governing the use of derivative products. The policy should (1) identify the authorized derivative products and (2) mandate recordkeeping systems that are sufficiently detailed to permit internal auditors to determine whether personnel have operated in accordance with the board's authorization.

Management should report periodically to the board regarding compliance with the board's policies on the use of derivative products.

Business Plan

Institutions are required to have a comprehensive business plan detailing their overall interest-rate risk management and investment strategy. That plan should include a description of the institution's derivative strategy and objectives.

Internal Controls

An institution should establish internal controls and procedures that include periodic reports to management, segregation of duties, and a program to ensure adherence to internal policies and procedures and to prevent unauthorized transactions and other abuses.

Segregation of Duties

Internal systems and procedures established to monitor derivative products should provide for segregation of duties among those responsible for execution, record-keeping, and verification. Management should designate who is authorized to commit the institution to derivatives transactions.

Position Limits

Management should establish specific position limits (expressed in terms of dollar amounts, or as a percentage of assets or capital) for each major type of derivative product. The limits should be consistent with the institution's intent, level of management expertise, the sophistication of its internal control and monitoring systems, its asset/liability structure, and its capacity to maintain liquidity and absorb losses out of capital. The board of directors, the asset/liability committee, or the internal auditors should review positions periodically to ascertain conformance with such limits. If the review is performed by the internal auditors, the auditors should report their findings to the board of directors or an appropriate committee of the board on a regular basis.

Aggregating Credit Exposures

Credit exposures on derivatives, and all other credit exposures to a counterparty, should be aggregated taking into consideration enforceable netting arrangements. Credit exposures should be calculated regularly and compared to credit limits.

Sensitivity Analysis (Stress Testing)

Prior to using derivatives a sensitivity or simulation analysis that demonstrates the effect of the derivative on the institution's net economic value should be performed under various interest-rate scenarios.

Depending on the nature and size of the transaction, the institution may wish to undertake a more comprehensive analysis to gain a better understanding of the expected performance under a wide range of interest-rate scenarios. A more comprehensive analysis might, for example, include an evaluation of the effects of non-parallel shifts in the yield curve, cyclical changes in interest rates, and changes in the spread between key short-term interest rates. With respect to mortgage-related derivative products, the analysis might also show the effect on earnings and net portfolio value of holding prepayment speeds constant over a range of interest rates, and holding interest rates constant over a range of prepayment speeds.

Marking-to-Market

Corporates should mark their derivatives positions to market, on a regular basis, for risk management purposes.

Professional Expertise

Corporates that use derivatives must ensure that their derivatives activities are undertaken by staff with the appropriate experience, skill levels, and degrees of specialization.

Institutions that retain investment advisors to assist in formulating portfolio strategies involving derivative products should not place undue reliance on, or delegate decision-making authority to, such advisors. Decisions made on the basis of recommendations of third parties should be documented.

Counterparty Credit Risk

To limit counterparty credit risk associated with over-the-counter derivative transactions, corporates should engage in transactions only with financially strong counterparties. Management should conduct a credit analysis of the counterparty prior to entering into a transaction. In addition, management should investigate the dealer's general reputation for fair and honest dealings with customers. Corporates should also conduct an inquiry of appropriate state or federal securities regulators and securities industry self-regulatory organizations concerning any formal enforcement actions against the dealer, its affiliates or associated personnel.

Corporates that use derivatives should assess both the benefits and costs of credit enhancement and related risk-reduction arrangements. Where it is proposed that credit downgrades would trigger early termination or collateral requirements, a corporate should carefully consider its own capacity and that of its counterparties to meet the potentially substantial funding needs that might result.

Legal Review

Management should carefully review all contractual and account documents related to derivative transactions, to ascertain the rights and obligations of all parties to the transactions, including margin and collateralization requirements, and the recourse available to each party. Management should thoroughly understand those rights and obligations to avoid possible misunderstandings.

Master Agreements

Corporates that use derivatives are encouraged to use one master agreement as widely as possible with each counterparty to document existing and future derivatives transactions, including options. Master agreements should provide for payments netting and close-out netting, using a full two-way payments approach.

Accounting Treatment

Derivative transactions must be accounted for and disclosed in accordance with generally accepted accounting principles (GAAP). Management should consult with its independent auditor to ensure compliance with GAAP. Where GAAP does not specifically address the accounting treatment for a particular derivative instrument, the accounting treatment employed by the institution should be documented and recorded and should include the basis for the adopted treatment.

Evaluation of Hedging Transactions

For hedging transactions, internal reports should show the market value of the derivative instruments and reconcile the gains and losses to the changes in the value of hedged balance sheet items. For example, if an institution purchased futures contracts to hedge the market value of a group of assets, the institution should compare the performance of the futures contracts in tandem with the performance of the hedged assets in order to evaluate the overall performance of a hedging program.

Chapter 203

LOAN REVIEW

Introduction

Corporate credit unions (corporates) were initially created to provide liquidity resources to the natural person credit union (credit union) industry. Over time corporates have come to offer a wider array of products and services; however, they are still the primary source of liquidity and wholesale funding for most credit unions. Historically, risk within corporate loan portfolios has been considered low due to the small percentage of overall assets that loans represent, and due to the unique deposit structure of member credit unions where debt is considered senior to share deposits. However, given the key role that corporates play as a liquidity resource to member credit unions, it is imperative that corporates have effective policies and practices in place to ensure that funding is available to the membership, and that it can be provided in a manner that limits credit and liquidity risks to the corporate.

Section 704.7 of the National Credit Union Administration (NCUA) Rules and Regulations provides corporates the authority to make loans to member credit unions and other credit union affiliated parties. Credit may be extended directly from the corporate to the borrower, or provided via pass-through and guaranteed loans from the Central Liquidity Facility (CLF) and the National Credit Union Share Insurance Fund (NCUSIF). In either circumstance, Section 704.7 sets forth specific limitations and responsibilities that corporates must be adhered to when making loans to member credit unions and other borrowers.

Regulatory Requirements.

Section 704.7(a) requires that all corporates operate according to a lending policy which addresses, at a minimum, the following items:

1. loan types and limits;
2. required documentation and collateral; and
3. analysis and monitoring standards.

Additionally, the Regulation sets forth the following limitations regarding corporate lending:

1. Loans to Member Credit Unions - Section 704.7(c). The maximum aggregate amount in unsecured loans and irrevocable lines of credit to any one credit union, excluding pass-through and guaranteed loans from the CLF and the NCUSIF, shall not exceed 50 percent of capital and 75 percent of the sum of RUDE & PIC, whichever is greater. The maximum aggregate amount in and irrevocable lines of credit to any one member credit union, excluding those secured by shares or marketable securities and member reverse repurchase transactions, will not exceed 100 percent of capital or 200 percent of RUDE & PIC, whichever is greater.

2. Loans to Members That are Not Credit Unions - Section 704.7(d). Any loan or irrevocable line of credit made to a member, other than a credit union or a corporate CUSO, must be made in compliance with Section 701.21 governing member business loans, unless such loan or line of credit is fully guaranteed by a credit union. The aggregate amount of loans and irrevocable lines of credit to members other than credit unions and corporate CUSOs shall not exceed 15 percent of the corporate's capital plus pledged shares.

3. Loans to Non-Member Credit Unions - Section 704.7(e). A loan to a credit union that is not a member of the corporate, other than through a loan participation with another corporate, is only permissible if the loan is for an overdraft related to the providing of correspondent services. Generally, such a loan would have a maturity of only one business day.

4. Loans to Corporate CUSOs - Section 704.7(f). The aggregate of all investments in and loans (including lines of credit) to member and non-member corporate CUSOs cannot exceed 15 percent of the corporate's capital. However, a corpoate may loan to corporate CUSOs and additional 15 percent of capital if collateralized by assets in which the corporate has perfected a secured interest under state law. (See Section 704.11(b)).

5. Participation Loans with Other Corporates - Section 704.7(g). Corporates may enter loan participations with other corporates, contingent that each corporate retain at least 5 percent interest in the face value of the loan.

6. When loans are issued to the corporate's natural person members, all consumer lending regulations will apply.

Types of Corporate Lending

Corporates offer a variety of loan products to their membership, including, but not limited to: overnight settlement loans, term loans, and secured and unsecured line of credit loans. While underwriting procedures and limitations may differ for each individual type of loan product, in all instances it is imperative that loan policies, practices, and personnel are effective in managing credit and liquidity risks.

CLF Loans

Corporates act as agents of the CLF through U.S. Central Credit Union. In this capacity member credit unions gain access to a stable source of liquidity without the need to make a direct investment in CLF stock. CLF loans are primarily liquidity loans, and by law cannot be used to expand the investment and loan portfolios of the member credit unions. Any loans made as an agent of the CLF must meet the CLF's lending criteria. The corporate should maintain appropriate documentation evidencing the fact that the loan has been authorized and guaranteed by the CLF.

NCUSIF Guaranteed Loans

In certain situations loans may be disbursed with guarantees from the NCUSIF. This is mostly prevalent in instances where a natural person credit union is being liquidated or the subject of some other administrative type action. In any event, NCUA will guarantee repayment of the loan to the corporate. The corporate should maintain the appropriate documentation on file to evidence the loan guarantee.

Settlement Loans and Short-Term Liquidity Loans

The most common types of loans offered by corporates are settlement loans, short-term liquidity loans, and reverse repurchase loans. Corporates seldom extend term financing; however, it is a product that most corporates offer.

Normally, corporates will extend settlement lines of credit based upon the members asset size, anticipated needs, and ability to repay (i.e. financial strength). The line of credit will normally be used for both settlement and short-term funding shortages. The line may be guaranteed or "advised." A guaranteed line of credit is always available to the member, an advised line of credit is available at the discretion of the lender (corporate) at the time of the request. Normally, revolving lines of credit that require no advance notice by the borrower will carry a higher rate of interest than a credit line where advances must be requested. This is indicative of the fact that the lender (corporate) will have the ability to decline the loan advance if, at that time of request, a financial review indicates that the borrower's financial condition has deteriorated to the point that ability to repay is in question.

Short-term credit line loans may be secured or unsecured. Normally, secured lines will be priced at a lower rate of interest than unsecured lines, and are normally guaranteed.

When evaluating the ability to repay a settlement or short-term line of credit obligation, the major evaluation criteria should be the strength of the borrower's balance sheet and ability to generate and/or convert to meet cash flow needs. Normally, these loans will be repaid via the settlement of cash letters and ACH deposits in transit, as well as normal cash flows received from loan amortization and maturing investment balances. Therefore, the liquidity of the members receivables is crucial to the satisfaction of the obligation. In most instances settlement loans should carry a maturity of one day, while short-term line of credit loans normally should be retired within 12 months of the initial advance. Settlement and line of credit balances that remain outstanding for periods longer than those stated are indicative of serious funds management deficiencies on the part of the

borrower, or a misuse of the proceeds of the advance (i.e. using line of credit loans to fund long term consumer and real estate lending).

Reverse Repurchase Agreements

Corporates often enter into repurchase agreements with member credit unions where investments are "purchased" from members in order to provide the members with short-term cash funding. These repurchase transactions are accounted for in a manner very similar to a secured loan. In a typical reverse repurchase transaction the corporate will extend a loan advance to the member credit union. The loan is "secured" by investment securities owned by the member credit union.

The corporate receives a "fee" which is represented as the difference between the agreed upon price of the securities as of the day of the settlement date of the transaction and the agreed upon future repurchase price. Normally, a margin of at least 102 is required to adequately secure this type of lending transaction; however, this margin requirement should be increased if the securities taken as collateral exhibit high volatility or price risk. It is imperative that the corporate have appropriate internal controls in place to determine the market value of collateral on a daily basis, and that the collateral obtained is legal under Section 704.5.

Term Loans

Term loans are normally used to fund long-term capital expenditures or product offerings for member credit unions and affiliated organizations. The repayment of term financing is heavily dependent upon the long-term financial strength of the borrower; therefore, the lender should not only focus upon the ability of the borrower to generate a short-term cash flow, but also review long-term earnings capability. Normally, term loan advances will be secured with specific fixed assets, investment securities, or loan receivables. The effective securitization and valuation of these assets is crucial in managing credit risk on a term loan advance.

Participation Loans

Corporates rarely participate with other corporates on loans. However, participation lending is allowed under Section 704.7. Some corporates have shown interest in participation lending, and this could be a service that is offered more frequently in the future.

If a corporate is participating with other corporates on loans, the examiner should ensure compliance with all the requirements of Section 704.7(g), and that the same due diligence was required on the participation loan that is required on all other loans originated by the corporate. The examiner should review the file, including the credit analysis process, security agreements, and participation agreement.

Lending Risk Assessment

Since loans typically comprise a small percentage of a corporate's total assets, the review of individual loan files will be determined by the EIC. The main focus of the loan review is to determine if the corporate has detailed policies and procedures for all types of loans offered.

If information developed during the review of policies and procedures reveals a serious problem, the examiner has the option of expanding the review of individual loans as necessary. Reasons for expanding or contracting the loan review will be discussed in the confidential section of the report.

Written Lending Policies and Procedures

Section 704.7(a) requires that all corporates maintain written lending policies. Written policies and procedures should be commensurate with the volume and complexity of the corporate's lending program.

The board approved policies should set forth general strategies and authorizations regarding the corporate's lending function. Written procedures should detail the corporate's loan underwriting, monitoring, and reporting practices. Policies should also be specific as to collateral requirements, and procedures for valuing collateral taken as security on loans to members and affiliates.

The examiner should review all written policies and procedures and determine that they adequately set forth restrictions, limitations, and adequate internal controls over the lending function. The examiner should determine that written policies and procedures are periodically reviewed and revised as economic, competitive, and market changes dictate. The written policies and procedures should provide for appropriate credit risk management, while also ensuring a competitive lending function for the corporate.

In general, the examiner should determine that the written policies and procedures address the following:

1. Identify the types of loan products that the corporate will offer. The policies and procedures should include specific characteristics, limitations, and underwriting requirements for each loan product (i.e. security requirements, cash flow needs, pricing).

2. Specify how the value of collateral will be determined and subsequently monitored, and identify the process needed to adequately perfect security interests in different sources of collateral.

3. Identify the specific terms and maturities of different types of loan products. Repayment terms should ensure appropriate amortization of loans to meet the funding needs of the corporate.

4. Require that all loan terms be set in a written lending agreement between the corporate and the borrower, and at a minimum, should provide that a payment will be made at least annually and be sufficient to retire a note within 12 years for each type of loan (refer to Section 701.21(c)(4)).

5. Loan pricing strategies that comply with interest rate limitations set forth in Section 701.21(c)(7).

6. Identify management and staff members responsible for underwriting loan requests, including approval authorizations.

7. Policies are commensurate with the corporate's ALM and funds management objectives. Examiner staff should determine that loans are being advanced with the profitability and liquidity needs of the corporate in mind.

8. Identify specific guidelines by which the borrower's credit worthiness will be assessed. This will include a listing of key financial ratios that will be evaluated. Policies and procedures need to specifically identify thresholds of acceptable financial and statistical trends.

9. Provide for periodic compliance reviews independent of the lending function. A periodic compliance review or audit of the lending policies and practices should be required in order to determine the effectiveness of the policies and procedures, as well as lending staff's adherence to the policy requirements and objectives.

10. Practices for identifying delinquent loans, and identify loan classification and "watch list" procedures.

Loan Underwriting Procedures and Documentation

The corporate should make an assessment of the financial and capital strength of the borrower. Adequate procedures must also be in place to securitize and value assets taken as collateral on loans so that they may be converted to appropriate cash flow in the event of a default.

The examiner must ascertain that the corporate has performed the appropriate due diligence to determine the ability of the borrower to repay the debt, and that this analysis is periodically updated throughout the life of the loan or line of credit.

As part of the lending review, the examiner should determine that corporate management is taking adequate measures to continually assess the borrower's financial strength. The ability of loan officers to determine the financial strength of prospective borrowers is crucial in managing credit, interest rate, and liquidity risk on both secured and unsecured lending transactions.

Financial Analysis

The examiner should determine that the loan officers are performing and documenting adequate financial analysis of borrowers. The following is a list of financial ratios that may be used to determine the solvency, earnings potential, and liquidity of potential borrowers:

Solvency Ratios:

1. Capital/Total Assets;
2. Net Capital/Total Assets; and
3. Debt/Capital.

Earnings Ratios:

1. Net Income/Average Assets;
2. Operating Expenses/Average Assets;
3. Net Interest Margin/Average Assets;
4. Fee Income/Operating Expenses; and
5. Net Loan Losses/Average Loans.

Liquidity Ratios:

1. Current Assets/Current Liabilities;
2. Delinquent Loans/Total Loans; and
3. Long Term Assets/Total Assets.

The examiner should determine the corporate is using proper financial analysis tools to evaluate specific types of loans. When evaluating a long-term secured loan, the loan officer must determine that the member demonstrates adequate long-term capital and earnings ability. In addition, current and future value of collateral taken as security must be evaluated. The ability to convert collateral to cash must also be verified by the loan officer.

The examiner should determine the loan officer has evaluated <u>at least</u> three years of the borrower's financial performance to estimate the credit union or affiliated organization financial strength and liquidity.

This analysis should be updated periodically throughout the life of the loan (please refer to Ongoing Monitoring, below).

The examiner also should be aware that the corporate will have some knowledge of the borrower's management team, and therefore, may be able to make subjective assessment of their skills in managing the financing of the credit union's assets. Any subjective type assessment should be detailed in the loan officer's credit review. Financial ratio and credit analysis should be undertaken on, at least, an annual basis, with more frequent reviews performed for active lines of credit, large concentrations, and "watch list" loans.

Review of Independent Audit Reports

A valuable tool in assessing the financial condition and internal control structure of the debtor is an independent audit report. Corporate loan policies should require that a copy of each borrower's independent audit report be obtained on an annual basis. The audit may often disclose internal control, management, and operational deficiencies that could be material in the decision to grant credit.

Collateral Analysis

Corporates often extend loans to member credit unions and other affiliated organizations that are secured by specific assets. In many cases corporates have required that a "blanket" lien be placed on all the assets of a credit union entering into a line of credit agreement with the corporate. When filing a blanket lien the corporate does perfect a security interest; however, without making a determination as to specifically which assets are to be secured, and determining lien position as to those assets, the corporate may not be gaining much collateral value.

When an examiner is making a determination as to the validity of security interests, it is important to ensure that the corporate has practiced appropriate due diligence in perfecting a security interest, and ensuring a first position on assets identified as collateral. If these aspects of collateralization cannot be confirmed, the loan should be considered unsecured.

In instances when a blanket lien is filed out of "an abundance of caution" in conjunction with a sound ability to repay on an unsecured transaction, the examiner should not be overly critical of the corporate's collateral interests. However, in instances when collateral is deemed critical to reducing credit risk on the loan, the examiner should determine that the corporate has taken sufficient action to perfect a valid security interest in the collateral, and determine that the value of collateral is sufficient to securitize the loan balance.

In most cases collateral on corporate loans falls into five different categories: member share deposits; members investment securities; commercial real estate; interests in member credit union loan portfolios; and other tangible assets. In order to perfect valid security interests in each type of asset, specific steps must be taken as to documentation, legal filings, and overall due diligence.

The three requirements for the creation of a security interest are stated in the Uniform Commercial Code (UCC) Section 9-203(1). Once the following requirements are met, the security interest attaches:

1. the collateral is in the possession of the secured party pursuant to agreement, or the debtor has signed a security agreement that contains a description of the collateral;
2. value has been given to the debtor; and
3. the debtor has rights in the collateral.

Thus, unless collateral is in the possession of the secured party, there must be a written security agreement that describes the collateral. The description need not be very specific or detailed as long as it reasonably identifies the collateral. It is most important that the creditor files appropriate documentation with applicable state authorities, and that a lien search is performed to determine that no other creditors have prior interest in the assets secured. The examiner may need to consult state laws regarding the perfection of security interests, to determine that the corporate has adequately secured positions in any assets collateralizing a loan. The corporate should maintain a written legal opinion regarding the legality of all forms used The opinion should provide assurance that the corporate's procedures for securing interests in collateral whether it be cash, investment securities, real estate, or loans, is adequate and legally binding.

In the instance where a loan is secured by shares invested at the corporate, the perfection of the security interest is achieved via the security agreement entered into with the member and the Statutory Lien Provisions set forth in the Federal Credit Union Act. The corporate's possession of the cash accounts provides a "perfected" interest in the accounts according to the UCC provisions listed above.

In the event that a corporate extends credit secured by cash not on deposit at the corporate, a lien search should be performed, and a UCC-1 filed with the appropriate state authorities identifying the cash accounts that were being encumbered as security on the loan.

Ongoing Credit Review

Credit review should not end with the review of the initial credit application. Corporates issue commercial credit, repayment of which is heavily dependent upon the borrower's ability to maintain financial strength in lieu of changing economic and competitive conditions. The examiner should determine that the corporate's lending policies and practices provide for an effective program of ongoing credit analysis of borrowing members and affiliates.

Credit reviews, including an evaluation of financial, statistical, and organizational information, should be completed for each borrowing institution on at least an annual basis. More frequent reviews should be initiated depending upon the type of credit issued, fluctuation in value of collateral, amount of dollars outstanding, and frequency of advances on credit lines.

All credit reviews should be documented, and evidenced by a loan officer's written assessment as to the financial and operational stability of the debtor. A mere spreadsheet listing financial ratios is not adequate, the loan officer should verbally set forth conclusions for increasing, decreasing, or merely maintaining an open credit line. If the examiner deems that initial and ongoing credit reviews are not adequately "telling the story" of the debtor, then a finding and record of action should be provided in order to facilitate corrective action.

Examination Objectives

The objectives for reviewing a corporate's lending program are as follows:

1. Determine the degree of credit risk exposure inherent within the corporate's lending program in relation to its capital position.

2. Determine the adequacy of policies, practices, procedures, and controls regarding loan portfolio management in relation to current market and economic conditions.

3. Determine if corporate staff are processing loans within policies and procedures.

4. Determine compliance with applicable laws, rulings, and regulations.

5. Determine if members are treated equitably through the review of the corporate's lending policies, practices, and procedures.

6. Determine if timely corrective actions are initiated when policies, practices, procedures, or controls are deficient or when violations of laws or regulations are noted.

Examination Procedures

See Corporate Examination Procedures - Loan Review (OCCU 203P).

Examination Questionnaire

See Corporate Examination Questionnaire - Loan Review (OCCU 203Q).

References

1. Commercial Bank Examination Manual, Board of Governors of the Federal Reserve

2. Regulatory Handbook, Thrift Activities, Office of Thrift Supervision

3. Examiner's Guide, National Credit Union Administration

4. Comptroller's Handbook for National Examiners

Chapter 204

CAPITAL

Introduction

Capital analysis is the primary method of determining the strength, not only of an individual corporate credit union (corporate), but also of the corporate credit union system (System). Capital levels must meet minimum regulatory requirements, but more importantly take into account the risk assumed by a corporate both on and off its balance sheet. Examiners and corporate management must realize that the capital regulatory requirements represent just a floor; the real goal is to accumulate adequate capital to protect the corporate from market and operational risks.

Section 704.3 requires that corporates maintain minimum capital levels. It also requires NCUA to evaluate, and possibly take action against any corporate which does not have adequate capital.

Capital is the quantitative culmination of management's efforts to develop and implement policies, procedures, and practices which result in a balance sheet that provides a reasonable return to members and protection against risk.

This Chapter offers guidance for ascertaining whether a corporate has adequate policies, procedures, and practices to maintain an adequate capital level.

Purpose of Capital

Capital performs a variety of functions.

<u>Promotes Credit Union Member and Public Confidence</u>

Capital provides a measure of assurance to natural person credit unions that a corporate will continue to honor its obligations and provide financial services. Confidence in the corporate then will be transferred to confidence in the entire credit union industry, by credit union members, the public, and legislative leaders.

Supports the Type, Volume, and Character of the Business Conducted

The amount of capital necessary to protect a corporate depends, not only on the type of transactions in which it engages, but also the volume and character (the way business is conducted) of the transactions. The key is to evaluate the total risk to capital.

Provide for the Possibility of Inherent Losses

Capital will allow a corporate to continue as a "going concern" during periods when it experiences operating losses, declines in asset values, or other adverse financial results.

Control Excessive Growth

A corporate must continuously evaluate the size of its balance sheet to determine that it operates within its capital limitations. Thus, it promotes prudent growth and restrains uncontrolled expansion of assets.

Provides Protection for Depositors, Investors, Creditors, and the NCUSIF

Corporate management has a moral and legal obligation to protect its depositors, investors, and creditors from losses. The building of capital not only acts as a cushion for those parties, but also the National Credit Union Share Insurance Fund (NCUSIF).

Increasing core capital, or RUDE (reserves and undivided earnings) and paid-in-capital, was a primary goal when amending Part 704 for implementation in May 1998. Thus, the ability of a corporate to take risk and the method of measuring risk were linked to RUDE and paid-in-capital, and not to total capital. By doing so, the regulation encourages corporates to allocate more of its current earnings to reserves and undivided earnings. This will entail development of well planned capital strategies and goals and the commitment to meet those goals.

While not a part of NCUA's original proposal, the possibility of a corporate raising capital from outside the credit union industry led to the inclusion of paid-in-capital as a capital alternative. This concept was expanded when well capitalized natural person credit unions indicated a willingness to commit a portion of their capital to support the System. In effect, natural person credit unions, willing to invest in corporates, can more equitably distribute the credit union industry's overall strong capital.

It is the NCUA Board's intent that paid-in-capital, because of its implicit high cost, would be used by corporates as a bridge during short periods when they needed to increase capital adequacy. When that need diminishes, it is expected that the corporates would call in these high cost funds. The regulation facilitates this process.

Because paid-in-capital is second in line to absorb loss after the depletion of RUDE, it may be costly. It is anticipated that most corporates would use this avenue as a last resort to achieve specific goals, or during periods of unanticipated rapid growth. Corporates which plan to use these funds for long periods or solely to avoid reserve transfers should raise the concern of the examiner.

Definitions

Section 704.2 defines capital and other terms necessary to determine the make-up of capital.

Capital - Capital is the sum of a corporate credit union's reserves and undivided earnings, paid-in capital, and membership capital.

Reserves and Undivided Earnings.

Reserves and undivided earnings include all forms of retained earnings, including regular or statutory reserves and all valuation allowances established to meet full and fair disclosure requirements of Section 702.3. Unrealized Gains and Losses (UGL) are not included in the definition of reserves and undivided earnings and thus, are not included in the definition of capital. UGL's are not included since they may seriously distort capital during periods of steeply rising or

declining interest rates, thus, making capital requirements a moving target.

Paid-In-Capital.

There are two types of paid-in capital authorized by Part 704: member paid-in capital and non member paid-in capital. Member paid-in capital is held by the corporate credit union's members. The following conditions apply to this obligation:

1. a minimum 20 years maturity;
2. a prohibition against a corporate from requiring membership, services, or prices of services as a condition for purchasing the instrument;
3. the constant monthly amortization of the full amount that may be considered as capital beginning when its remaining maturity reaches five years and ending when its remaining maturity reaches three years; and
4. the disclosure of the terms and conditions of the instrument when it is purchased and annually, thereafter.

Non member paid-in capital is sold on the market in accordance with conditions set by the NCUA board on a case-by-case basis.

Paid-in capital, regardless of the type, is

1. available to cover losses that exceed reserves and undivided earnings;
2. not insured by the NCUSIF or any other share or deposit insurers;
3. callable only at the option of the corporate and only if the corporate meets its minimum level of required capital after the funds are called; and
4. limited to an amount no greater than reserves and undivided earnings.

Membership Capital

Membership capital is funds contributed by corporate members which:

1. May be issued as term certificates or as an adjusted balance account. Adjusted balance accounts may be adjusted based upon a measure that is established and disclosed by the corporate at the time the account is open. For instance, the required membership capital as of December 31 each year may be a percentage of a credit union's assets as of the preceding September 30. The percentage may change from year to year based upon a corporate's needs. Any reduction in the amount of the membership capital will not be considered a withdrawal if it occurs in conjunction with the periodic adjustment to all membership capital.

2. Have a three-year minimum withdrawal notification. Upon written notice of intent to withdraw membership capital, the balance of the account is frozen until the conclusion of the notice period, whether the account is a term certificate or an adjusted balance account. If the membership capital is in the form of an adjusted balance account, the frozen account may not be adjusted either up or down on the adjustment date. It remains the same until the end of the notice period. When notice is given, the amount of the account that can be considered membership capital (and thus a part of capital) must be reduced by a constant monthly amortization of the account until it is fully amortized at the end of the notice period.

3. Require disclosure of the terms and conditions to the recorded owner at the time the membership capital is issued and, at least, annually thereafter.

4. Are available to cover losses that exceed reserves and undivided earnings and paid-in capital. The full balance of membership capital, including the amortized portion, is available to absorb losses until the funds are released by the corporate at the end of the notice period.

5. Are not insured by NCUA or any other share or deposit insurers.

6. Cannot be used to offset borrowings.

7. May be sold to other members within the corporate's field of membership, subject to the corporate's approval.

Order of Payout

In the event of a corporate's liquidation, losses will be absorbed in the following order: current earnings, valuation allowances, undivided earnings, reserves, paid-in capital, membership capital, uninsured share obligations, NCUSIF, and liabilities.

Capital Ratio

The capital ratio is computed by dividing the corporate's capital by its moving daily average net assets (DANA). This is the ratio used in determining if base and base plus corporates are meeting the capital requirements of Section 704.3(b); Part I corporates, Appendix B, Part I(a)(1), Part II corporates, Appendix B, Part II(a)(1), and wholesale corporates, Section 704.19(b).

Reserve Ratio

The reserve ratio differs from the capital ratio in that it is computed by dividing the corporate's reserves and undivided earnings (consistent with the definition of reserves and undivided earnings on page 204-3, it does not include UGL) and paid-in capital, if any, by its moving daily average net assets. The reserve ratio does not include membership capital. This distinction was made to encourage corporates to build reserves and undivided earnings and to limit risk to these accounts. This ratio is used for establishing concentration limits contained in Section 704.6(c), Credit Risk Management, Appendix B, Part I(b),(c) and (e), and Appendix B, Part II(b), (c)(1) and (e) and limiting changes in the Net Economic Value (NEV) contained in Section 704.8(d) and (e)(1), Appendix B, Part I(d) and Appendix B, Part II(d), and for wholesale corporates Section 704.19(c).

Capital Requirements

All corporates operating as base or base plus must have 4 percent capital. Those operating as a Part I and wholesale corporates must have 5 percent. Those operating as Part II must have 6 percent.

Reserve Transfers

Reserve transfer requirements are contained in Section 704.3(c) and Section 704.19(b)(2) for corporates and wholesale corporates, respectively. For corporates, the reserve transfer calculations are contained in the following schedule.

RESERVE TRANSFER CALCULATION

If Reserve Ratio is	Transfer Is
Equal to or greater than 4 percent	Optional
Equal to 3 to less than 4 percent	.10 percent of moving DANA
Less than 3 percent	.15 percent of moving DANA

Although not explicitly stated in the regulation, the reserve transfer percent is an annual calculation; therefore, when the transfer is made quarterly or more frequently, it must be adjusted accordingly.

The reserve transfer for wholesale corporates is the lower of .10 percent of the moving DANA or the amount required by Section 704.3(c) (Schedule on page 6).

Evaluating Capital Adequacy

Capital planning by corporates and regulatory analysis, should include careful consideration of qualitative, as well as quantitative factors that may affect capital adequacy. Capital adequacy cannot be determined solely on the basis of a numeric formula or standard. Regulatory minimum requirements are not a proxy for analysis of the adequacy of an institution's capital position.

Risk Management - Qualitative Factors

The following factors should be viewed in conjunction with an overall analysis and understanding of a corporate, as well as the financial institution in general. The list is by no means all-inclusive.

Quality of Management

The quality, experience, depth, and sophistication of corporate management and officials are key in evaluating capital adequacy. Sound management entails developing procedures and practices, including reporting and auditing systems, that implement safe and sound policies. The corporate's board of directors must ensure that it has competent managers. The board of directors and management should work together as a team, but they also must understand their distinct roles and responsibilities. The board ultimately remains responsible for the conduct of the corporate's affairs and provides independent checks and balances over management. Section 704.4 provides guidance to the board of directors on a wide range of areas for which the board of directors is responsible.

Inefficient or lax operations are costly. Shortcomings in systems, procedures, and controls expose corporates to losses through fraud, employee error, or miscalculation.

Capital Planning

Section 704.3(a) requires a corporate's board of directors to develop and ensure that written short- and long-term capital goals, objectives, and strategies are implemented. The combination of these should provide for building capital consistent with Part 704 and maintaining sufficient capital to support current and future risk exposures arising from the corporate's activities. The regulation also requires the periodic review and reassessment of the corporate's capital position.

Capital planning is a key aspect of managing a successful corporate. The board of directors, in conjunction with management and staff, should attempt to anticipate capital needs as well as maintain an adequate capital position. Although Part 704 delineates minimum capital levels, management should not manage capital to the regulation. Rather, the board should target a minimum capital level consistent with its risk profile and future plans. Corporates that are undertaking significant expansion or that are exposed to high or unusual levels of risk are expected to maintain capital well above the minimum ratios.

Good capital planning is dynamic. The board of directors as well as management should be involved in formulating plans for the growth, mix, concentration, and effective management of assets and liabilities. A good plan sets forth specific strategies by which management intends to achieve established goals. Long- and short-term strategies should be developed. Long-term strategies should address the corporate's overall business plans including services intended for members. Strategies that may need to be used to increase capital and/or capital ratios (including NEV) are:

1. changing the mix of assets and liabilities to reduce the risk to asset portfolios;
2. reducing or slowing asset growth;
3. increasing earnings retention by changing the liability or deposit mix to reduce dividend payments;
4. streamlining operations or otherwise reducing the cost of operations; and
5. issuing paid-in or membership capital.

Funds Management

Section 704.8 provides the corporate with guidance in establishing effective asset liability management policies. It is considered the core of sound planning and financial management and includes the supervision of the corporate's liquidity and interest rate sensitivity. Each corporate should have procedures which minimize the possibility of liquidity risk that could result in forced asset sales or interest rate risk that could result from asset maturities that are mismatched with source fund maturities. Policies and practices must include guidelines addressing off-balance sheet accounts if they exist.

Earnings Performance

The degree of profitability is a fundamental component of capital analysis, as it is a key indicator of the extent to which earnings can be relied upon as a source of new capital. Good earnings performance enables a corporate to remain competitive and even expand its operations. Included in that analysis is the payment of dividends.

Dividends which are excessive can cause unnecessary growth which will reduce a corporate's capital position.

Credit Risk

Section 704.6 provides the corporate guidance in establishing policies that monitor and control credit risk in the corporate's various asset portfolios. Credit risk exists in a corporate's loan portfolio to members (although generally representing a small portion of overall assets) and its investment portfolio. Corporates that have Parts I, II, or III authorities generally can expand their capabilities to invest in instruments which have varying levels of credit risk.

The overall diversification in asset composition must be considered in determining capital adequacy. Likewise, the level of non-performing loans, securities ratings, and market value of securities are indicators of asset quality. Specific consideration should be given to the future effect on capital of continuing asset quality problems and the effectiveness of portfolio management.

Balance Sheet Diversification

The amount of capital required is a function of the risks associated with the composition and mix of assets and liabilities. Generally, a greater degree of asset and liability concentrations increases the need for capital. On- and off-balance sheet assets should be reviewed for concentrations in industries, product lines, customer types, and funding sources, as they apply to the corporate's strategic plan and its components.

Asset Growth

Growth in assets should be supported by growth in capital. Asset growth that outpaces the ability to maintain a sufficient level of capital is unsafe and unsound; however, determining the point and degree when growth negatively impacts capital is a more difficult task.

Traditionally, corporates have grown and shrunk in response to the credit union industry's growth patterns. In the past, corporates were not concerned with the ratio of capital to assets, but relied on

improving trends in the dollar amount of capital. Corporates are now looking for alternatives which enable them to meet their member needs without negatively impacting on their capital ratios. Examiners can expect corporates to utilize off-balance sheet transactions and CUSO operations as tools to control asset growth and thus the capital ratio.

Another method corporates may use to increase capital during periods of rapid growth will be membership capital and paid-in capital. While both are acceptable means to increase capital, an overall strategy for using each is a necessary element in capital adequacy.

Off-Balance Sheet Activities

Off-balance sheet activities should be examined to determine risk exposure and risk concentrations. Each source of risk must be viewed in light of its contribution to portfolio risk and the ability of management to administer it. It is important for management to be aware of these sources of risk, including the corporate's credit risk exposure under recourse obligations. Management must implement controls and procedures to identify, monitor, and manage the corresponding risks. Major off-balance sheet risks include credit, interest rate, and market risks, as well as pending litigation.

Field of Membership and Provided Services

The size and composition of a corporate's field of membership, combined with the philosophy of management are major contributors to the services provided to members. Some corporates which are limited in "critical mass" (size) are unable to provide some services to their members. Others which have size have decided not to provide certain services. And others, without the size, still try to provide those services. Bottom line, the decision on what services to provide members rests with the board of directors.

In some institutions, services represent a significant portion of the corporate's income. The risks associated with services or the loss of income associated with the services must be clearly identified and addressed by the board of directors.

If services are provided through a CUSO, it should be capitalized commensurate with the industry standards for the activity in which it is engaged.

Financial Risk - Quantitative Factors

Financial ratio analysis should be used to supplement qualitative analysis of capital adequacy. In many other financial institutions, the review of the capital ratio is often supplemented by comparing the ratio to peer groups or expanding the analysis to include a risk base capital standard. However, the unique nature of corporates makes these analyses difficult if not impossible to justify.

There are fewer than 40 corporates ranging in size from several million dollars to multi-billion dollars; thus developing a meaningful peer is impractical. Additionally, corporates vary significantly in the services they provide. The risk associated with these services adds another barrier in developing meaningful peer groups.

Corporates are primarily liquidity facilities. Their balance sheets are structured to respond to the liquidity needs of their members. As such, the balance sheets are generally comprised of short-term high quality investments which traditionally have little credit risk. Reliance on a risk based capital ratio as a forecaster of risk to corporates has proven to be unreliable in the past and does not appear to be a valuable tool in the future.

Increasing leverage capital, while at the same time controlling the risk to a corporate's balance sheet by limiting changes to Net Economic Value (NEV), is the most reasonable method of addressing capital adequacy in the System.

In lieu of comparing a corporate's capital ratio to a peer group, examiners, at the very minimum, should measure the empirical capital level against the minimum levels required in the regulation. However, it is more important to measure capital levels to the risk inherent in a corporate's balance sheet. This risk should be consistent with the corporate's own evaluation and be reflected in the goals that the board sets. Thus, the examiner must ensure that capital goals which

corporates set are adequate to meet these risks. This entails the quantitative review discussed previously.

More discussion of capital and the means to evaluate it are contained in the Empirical Capital Level and Capital Accumulation discussion in Chapter 401.

Additional Capital Requirement

Section 704.3(d) sets forth procedures by which the NCUA Board might determine that the minimum capital requirements for an individual corporate may not be appropriate. Examiners should be cognizant of any "significant circumstances or events" which might warrant either an increase or decrease in the capital levels established in the regulation. Since any action to adjust a corporate's capital ratio must be taken to the NCUA Board, examiners will have to clearly document the case. Prior to taking any action to initiate a recommendation, the examiner should thoroughly discuss the issues with the corporate field supervisor and the Director, OCCU.

Section 704.3(e) outlines the process by which a corporate must notify NCUA that it has failed to meet its capital requirement.

Section 704.3(f) describes the conditions that must be contained in a capital restoration plan submitted by a corporate.

Section 704.3(g) describes the process by which the NCUA Board can direct a corporate to increase a capital ratio which does not meet the requirement of the regulation or an additional reserve requirement established by the NCUA Board.

Since correction of these conditions may involve an administrative action, further instructions on the procedures examiners must follow will be developed in Chapter 501 scheduled for completion in 1999. Should there be a need to initiate an administrative action prior to its development, the examiner should contact the corporate field supervisor.

Examination Objectives

The objectives for reviewing capital adequacy are as follows:

1. Determine that the risk inherent in the corporate's balance sheet and operations, as well as off-balance sheet operations, are adequately supported by its capital position.

2. Determine that the corporate complies with the FCU Act, NCUA Rules and Regulations, NCUA issued Capital Directives, the Accounting Manual for Federal Credit Unions, and Generally Accepted Accounting Principles.

3. Determine if the corporate's capital policies, procedures, and practices, and internal controls are adequate to address the risk.

4. Determine that corporate management and officials are adhering to established guidelines.

5. Evaluate the propriety and consistency of the corporate's present and planned level of capitalization policy, in the context of existing conditions and future plans.

6. Initiate corrective action when necessary.

Examination Procedures

See Corporate Examination Procedures - Capital (OCCU 204P).

Examination Questionnaire

See Corporate Examination Questionnaire - Capital (OCCU 204Q).

References

1. NCUA Rules and Regulations, Part 704, Corporate Credit Unions

Chapter 205

OTHER GENERAL LEDGER ACCOUNTS

Introduction

Since the majority of corporate credit union (corporate) balance sheets are comprised of investments, the majority of risk for a corporate resides in its investment portfolio. Corporates will be examined in a manner which targets the greatest amount of agency resources in the areas of investments and asset & liability management. These areas are discussed independently in Chapters 201 and 202.

An in-depth review of a corporate's General Ledger will be the exception, rather than the rule due to the following factors:

1. corporates are required to have Certified Public Accounting (CPA) opinion audits which typically have unqualified (except for the classification of member shares as equity) opinions;
2. corporates typically have internal audit functions to address on-going internal control and accountability deficiencies; and
3. historically, the General Ledger and expense areas of corporates have not been high risk (i.e. minimal material findings noted during examinations).

As such, corporates are expected to maintain exemplary records.

The following General Ledger areas will receive special attention:

1. procedures and internal controls;
2. Federal Reserve & other cash accounts; and
3. suspense accounts.

A more extensive review of other general ledger accounts may be appropriate depending upon the circumstances that exist during each examination. To assist in determining if a more extensive review of the general ledger area is necessary, examiners will assure the completion of the Corporate Examination Questionnaire - Other General Ledger Accounts - OCCU 205Q..

Examiners have the flexibility to vary the review as deemed necessary. The materiality of exceptions noted will be a key factor in determining if the review of the General Ledger will be expanded.

Corporates have not experienced substantial losses from fraud. However, examiners must be cognizant of situations that could be conducive to fraud and/or insider abuse. Examiners must determine that adequate segregation of duties and internal controls are in place. To that end, examiners should not think of internal control weakness, poor documentation, improper internal audit relationships, etc. merely as technical violation, but rather as potential risk areas. The degree and seriousness of violations will determine if they are included in the Document of Resolution (OCCU 102F) or Other Examiner Findings, OCCU 102G.

Examiners should not attempt to reconcile out-of-balance conditions. The concern should be brought to the attention of operating personnel and management. A determination of why the condition exists will be made and appropriate corrective actions agreed upon.

Cash and Federal Reserve Accounts

Examiners will ensure that Federal Reserve accounts are reconciled daily. Reconciliation items should be traced to the source documents along with any related correspondence, if determined necessary. Review will be performed on monthly cash account reconciliations. In addition, related bank settlement and suspense accounts must be closely reviewed during this process.

Expenses

Normally, losses associated with the use of corporate credit cards and officials' expenses would not represent a significant risk to a corporate. However, in its regulatory capacity, NCUA has the responsibility to review these areas in Federal corporate credit unions. When examining state chartered corporates, the examiner-in-charge (EIC) should coordinate the review of these areas with the primary regulator, the state supervisory authority (SSA). The review of these areas should be consistent with the corporate's experience. Normally, the examiner would not expand the review unless previous examinations and/or audits (including internal audits) disclose concerns, there have been complaints about these areas, or the cursory

review of these areas disclose a potential problem. Corporate examiners have the latitude to expand the review of the expense area as deemed necessary with the concurrence of the EIC.

Corporates involved in any type of shared expense arrangements with trade organizations or third parties will be carefully reviewed to ensure compliance with Section 704.16. Services, facilities, or equipment shared with any party must be supported by a written contract. Also, the contract must include the duties and responsibilities of each party specified, and the allocation of service fee/expenses must be fully supported and documented.

If the examiner perceives a problem, the Corporate Field Supervisor (CFS) will be contacted prior to discussions with corporate management or the board. The consultation will determine the extent of the problem, proper corrective action, and how it will be reported within the context of the examination report (Executive Summary, Document of Resolution, and/or Supplementary Facts).

Investments

Investment General Ledger Accounts are reviewed during the investment accounting review and are covered in Chapter 201 of the Guide.

Examination Objectives

The objectives for reviewing the General Ledger area are to:

1. Determine that policies, procedures, and internal controls for safeguarding assets, liabilities, and equity are adequate to address risk.

2. Determine that corporate personnel operate in conformance with established policies and procedures.

3. Verify selected asset and liability account balances to ensure that they are valid and properly recorded.

4. Determine whether financial statements and reports generated by staff are materially accurate.

5. Determine if the corporate complies with the FCU Act, NCUA Rules and Regulations, the Accounting Manual For Federally Insured Credit Unions; and Generally Accepted Accounting Principles and;

6. Initiate corrective actions when deficiencies or violations of policies, procedures, or internal controls are detected.

Examination Procedures

See Corporate Examination Procedures - Other General Ledger Accounts (OCCU 205P).

Examination Questionnaire

See Corporate Examination Questionnaire - Other General Ledger Accounts (OCCU205Q).

References

1. Federal Credit Union Act (Sections 1756 and 1762)

2. NCUA Rules and Regulations (Sections 704.3,704.4, and 704.13)

3. Accounting Manual for Federal Credit Unions

4. Accounting Bulletin 94-1

5. Reducing the Risk of NCUSIF Losses Due to Embezzlement or Fraud (NCUA's Division of Risk Management)

6. NCUA Fraud Hotline - 1-800-827-9650 (703-518-6550 Washington, DC area)

Chapter 301

MANAGEMENT

Introduction

The quality of management is critical to the success of a corporate. Management consists of the board of directors (board), members of the various committees, and senior operational management (senior management).

Board of Directors

The board has the ultimate responsibility for the corporate's direction and control. It sets policies and establishes strategies. The board may delegate oversight of routine operations to senior management, but it remains responsible and liable for the consequences of unsound or imprudent polices or practices.

In today's environment, directors must have considerable knowledge and devote sufficient time necessary to oversee a corporate's affairs. Although directors are usually credit union managers, their experience in these consumer organizations do not necessarily provide them with the experience needed to direct a liquidity facility and service organization such as a corporate. This is especially true when the corporate has expanded authorities and/or engages in complex operations. In many cases, directors of corporate credit unions may need extensive training in the corporate's unique operations (i.e., complex investments and ALM). The information provided by management at board meetings is normally extensive and complex. Directors need to dedicate a significant amount of effort to becoming familiar with these reports.

Due to the emphasis placed on director duties, the evaluation of the board's effectiveness is an important examination function. When appropriate, regulators may facilitate this evaluation by direct contact with individual directors. The need to interview individual board members would be an exception rather than the rule and must be initiated by the examiner-in-charge (EIC). When this is done, it should be common courtesy to advise the chairman of the board that this will occur.

The determination of a board's effectiveness is based on evidence from various sources, including:

1. reviews of written plans, policies, board and committee meeting minutes, and supervisory-related correspondence;
2. interviews with management; and
3. assessment of the timeliness of board actions to address deficiencies and exceptions.

Meetings with the board provide opportunities for evaluating its effectiveness.

The board of directors should take appropriate actions to maximize strengths and to correct deficiencies discovered internally, or by regulators or independents auditors. Efforts to supervise an institution will be improved when the examiner correctly assesses the philosophy, degree of involvement, and capabilities of the board. Further, the performance of the board is often a useful indicator of future operating results and may reveal the need for a more proactive supervisory approach of the corporate.

General Considerations

There must be an adequate system of checks and balances between management and the board. It is essential that the board is promptly and fully informed of serious problems within the corporate. If directors are unaware of serious problems they will be unable to take adequate and timely corrective action to address risk or prevent large losses or even failure.

Board members are ultimately responsible for ensuring that the corporate complies with all applicable laws, regulations, and rulings, as well as maintaining the safety and soundness of the corporate. The board is expected to exercise reasonable care and due diligence in carrying out these duties.

If directors fail to perform their responsibilities in an appropriate manner, they may be subject to various actions, including letters of understanding and agreement, cease-and-desist orders, orders of removal and prohibition, lawsuits by member, civil money penalties, and criminal referrals.

Problems in financial institutions are usually attributed to a combination of the following items: self-dealing or other conflicts of interest, unsafe and unsound practices carried out be management, incompetent management, lack of director participation, domination by one director or officer, or a disregard for the regulatory process. It is the direct responsibility of the board to prevent these situations from occurring.

Duties and Responsibilities of Directors

Part 704, and where applicable state laws and regulations, delineate the duties and responsibilities of directors and limit certain types of activities. Statute and common law also assign broad fiduciary responsibilities to directors.

Assessing Board Performance

An assessment of board members' abilities to fulfill their responsibilities is essential. Although an assessment of the board is primarily qualitative, the following general considerations can be useful:

1. Base the review scope on the level of risk inherent in the situation.

2. Concentrate on issues rather than on personal criticism. The critique of the board is a sensitive process that requires focusing on problem solving, not fault finding. Except where criminal violations might be cited, board member names should not be used in the examination report.

3. Determine accountability. Board members should evidence that they are aware of and meeting their responsibilities.

Specific criteria should be considered in the examiner's analysis of the performance and effectiveness of the board. The directors should:

1. operate independently from management;
2. be informed of activities engaged in by the institution;
3. supervise activities by establishing policies, goals, and objectives;
4. make strategic operating decisions;
5. provide guidance for management;
6. provide general business expertise;
7. attest to reports of condition;
8. maintain capital adequate for the risk on the balance sheet;
9. avoid self-serving practices; and
10. ensure that the institution appropriately serves the needs of its members.

Although examiners are deeply involved in a corporate's affairs through their supervision of the institution, examiners do not manage it. That is the board's responsibility. Except where safety and soundness is at risk, examiners should refrain form relaying their personal preferences or views. This often is perceived as unwanted "micromanagement."

Board Minutes

A key factor in assessing board quality is determining whether the board is fulfilling its oversight responsibilities and is involved in the corporate's activities. Primary sources of information available regarding the board's actions are the minutes of its regular and committee meetings. Minutes should be reviewed for:

1. Adequacy of reports. Reports submitted by management should be thorough and accurate. They should cover all aspects of the corporate's operations including capital, financial performance, and major operating reports. Reports should be provided in advance, allowing board review prior to the meeting.

2. Supervision of management's activities. Minutes should reflect the board's discussion and approval of any major strategic or operating decisions, as well as review and approval of all major operating

policies. The board should ascertain that management has developed procedures for all operational areas.

3. Attendance and participation by members. Members' attendance is usually required by the bylaws. Minutes should also identify members who actively participate in discussions. Another indication of board involvement is participation on committees.

4. Evaluations of performance for executive management. Minutes should reflect review of management's performance and salary determinations.

5. Management's compliance with the board's directives. Systems should be in place to ensure that management's actions conform with the policies and direction established by the board.

Executive Management

One of the most important decisions of a board in exercising its responsibilities is the selection of the corporate's Chief Executive Officer (CEO). The board should define in writing the CEO's duties and responsibilities as well as an adequate management succession plan. They should establish responsible salaries, pension plans, and appropriate incentives.

Compensation

In determining the compensation of senior management, the board of directors should consider the following:

1. The qualifications and experience of the officers.

2. The compensation paid to other members of senior management.

3. The compensation paid to persons having similar duties and responsibilities in other institutions.

4. The size of the corporate and complexity of its operations.

5. The financial condition, especially capital position and income level, of the corporate.

6. The value of personnel fringe benefits provided to the employee (i.e., automobiles, club memberships, and expense accounts).

Employment Contracts

Upon specific approval of the board of directors, a corporate may enter into employment contracts with its officers and/or other employees. The board should annually review employment contracts and compensation arrangements, including renewals and extensions, for senior management, and shall document and justify its approval in the board minutes.

Sound Policies and Procedures

The directors must provide a clear framework of policies and procedures within which the CEO is to operate and administer the corporate's affairs. Such policies and procedures should cover all areas. Some of the more important areas are loans, investments, asset/liability management, profit planning and budgeting, capital planning, and personnel. All major policies must be approved by the board.

Policies are established guidelines for a corporate's activities. Procedures represent the methodology for implementing an activity. Operating policies and procedures are necessary to establish management's strategies to communicate the corporate's norms and to provide a basis for gauging performance. Effective policies and procedures can improve operating performance.

The corporate's policies and procedures should:

1. be tailored to operations;
2. exist for all major phases of the operations;
3. provide direction for activities;
4. establish guidelines for operations;
5. effectively address weaknesses of the corporate; and
6. promote controlled and efficient operating practices.

Management's implementation of policies and procedures and adherence to operating standards may be an indication of the effectiveness of the board of directors. Positive indications of board effectiveness include:

1. knowledgeable key personnel;
2. established benchmarks for measuring performance;
3. current, up-to-date policies and procedures;
4. annual reviews of policies and procedures;
5. established internal controls to ensure adherence to plans;
6. operations that achieve stated objectives;
7. personnel actions that conform with policies and procedures; and
8. monitoring of operations.

Business Plan

The board is responsible for establishing a business plan that documents major financial goals and objectives. While management may develop such policies at the board's direction, the directors must thoroughly review and give final approval to each contemplated action. The board must also approve the budget and ensure it is realistic (in relationship to the corporate's operating environment) and provides for adequate capital.

Board and Committee Reports

The board must receive comprehensive, accurate financial analysis and reports to allow it to competently oversee the corporate's operations. Reliance on only a few indicators such as benchmark financial statistics may result in erroneous evaluations of the corporate's condition. Key ratios are useful, but can be misleading without supplemental information. The examiner should determine that reports to the directors include information that is complete, understandable, and accurately stated.

Each regular board meeting should include a review of financial reports. Directors should not simply accept questionable report figures at a face value, but should question and verify them when necessary.

Committees

To carry out its functions, the board of directors may appoint and authorize committees to perform specific tasks and supervise certain phases of operations. Utilization of a committee does not relieve the board of its fundamental responsibilities. However, the use of committees can assist the board in operating a safe and sound institution.

Contracts

The board has several major responsibilities in the area of contracts.

1. The contract must be legal and enforceable. Counsel should be well informed on credit union related issues and review all material contracts entered into by the corporate.

   Once counsel reviews the contract, there should be no need to review it again unless there has been a significant change in a related law or the operations surrounding the contract. It is not necessary for the examiner to recommend that a board review its contracts periodically for legal purposes, unless there is an indication that a change in the law or operations of the contract have changed.

   Contracts need not be reviewed for legal considerations, solely because some or all of the board who signed the contract are no longer in office. The fact that the current board is not aware of the financial impact on the corporate may be a reason for board review, but not a legal reason.

2. The contract must be beneficial to the corporate. The board has a fiduciary responsibility to protect the assets of the corporate. It must establish policies and require procedures that address the use, bidding, and controls over its contracts. Normally, a board will require that all contracts, over a certain amount considered to be reasonable, must go through the bidding and legal review process.

Contracts that may fall into this category include: employment contracts, purchase of computer hardware and software; leases on facilities and vehicles, insurance policies, and service contracts such as for audits, special reports, operational evaluations, etc.

The board is responsible for setting the bidding criteria, including the minimum amount of the contract. The contract need not be to the lowest bidder, but if not, other criteria must be clearly established and documented. The examiner should not take exception if the board has established clear policies and followed those policies.

Senior Management

Management refers to senior management such as the chief executive officer, president, vice president, or controller, and to any persons including division managers, who have the ability with or without explicit authority, to implement and interpret a corporate's policies and procedures.

A major examination objective is to evaluate the quality and effectiveness of management. The success or failure of all operations may relate directly to management. Management develops procedures and strategies and makes decisions within the policies and guidelines that the board establishes.

In evaluating management performance, examiners should consider the knowledge, skills, and abilities of the individuals, the results of their decisions, and the institution's regulatory compliance and financial performance. Management practices and procedures examiners should evaluate include, but are not limited to: planning, policy compliance, personnel administration, maintenance of internal controls, loan and investment review, auditing, and maintenance of management information systems. Management must demonstrate technical ability, knowledge of laws, regulations, and systems established to ensure their compliance, avoidance of conflicts of interest, and responsiveness to recommendations from auditors and supervisory authorities.

The major responsibilities of senior management are:

1. overseeing the daily operations of the corporate in a proactive manner while being capable of handling situations that the corporate might reasonably be expected to encounter;
2. developing procedures and systems to implement objectives and policies approved by the board;
3. providing the board with accurate and timely information;
4. filling staff positions with qualified individuals;
5. ensuring that there are adequate backup personnel for all key areas and that cross-training procedures have been established and are effective; and
6. measuring, monitoring, and reporting risk.

Planning

Sound planning is fundamental to effective management and is key to anticipating and dealing with change. Management and the board should inventory the corporate's resources, examine changes in its operations, and determine its responses to those changes. Planning should be dynamic, carefully monitored, and well-supported. Projections must be revised periodically as circumstances change and new strategies are formulated.

Planning requires the collection and coordination of large amounts of information and the thoughtful efforts of all members of the management team. Written plans help ensure that the board, executive officers, and all division managers share the same goals, objectives, and strategies. A common, shared perception of future actions is critical to execution of a successful plan.

Examiners should note in the examination report management's failure to have a satisfactory planning process, to properly monitor and control adherence to a plan, or to adjust existing plans to recognize and conform to changing economic and market conditions and requirements. Examiners also should be alert for any deviations to strategic or operational plans that potentially may be detrimental.

The Planning Process

Planning can be segmented into two classifications. First, strategic planning focuses upon the long-term, vision, direction, allocation of resources etc. to achieve goals and objectives. Second, operational planning, e.g. the business plan, concentrates on shorter-term actions designed to implement those strategies outlined in the strategic planning process. For an effective planning process, the operational plans must flow logically from the strategic plan.

The examiner must treat a corporate's strategic, operational, and business plans with maximum confidentiality. They contain sensitive information that directly affects the corporate's market position and financial condition.

Management of Human Resources

Personnel management includes establishing procedures for promoting and replacing employees, appraising their performance, devising a system of compensation, and selecting and training future managers.

The following areas warrant attention in evaluating personnel management, as they are important indicators of an institution's viability:

1. detailed position descriptions and performance standards;
2. carefully planned recruiting and proper screening of new employees;
3. appropriate training and cross-training;
4. performance review and comparison to standards; and
5. salary and benefits administration.

Management Succession

The examiner should evaluate the corporate's plans to maintain its present condition and to improv its future condition. This should include an evaluation of the board's and management's efforts to provide for succession of senior officers.

The projection of future management needs involves an appraisal of the quality and quantity of senior and middle management. This assessment must be relative to the size, expanded authority, complexity, and market circumstances of the corporate. Determination of what management will do with the institution in the future is most important. The supervisory goal is to prevent problems from developing rather than wait for future examinations or monitoring to identify deteriorating conditions.

Response to Supervision

The examiner must determine an institution's compliance with findings and records of action. OCCU looks to management to implement corrective action in response to regulatory supervision requirements. Management should establish procedures to ensure continuing compliance. Corrective action must be responsive to the cited criticism and implementation of appropriate action must be timely. Management must explain any noncompliance with supervisory requests, including plans for corrective action.

Conflicts of Interest

Avoidance of Conflicts of Interest

The phrase "conflict of interest" refers to any situation in which the safety and soundness or an opportunity for a corporate is in conflict with the personal interest of board members, committee members, management, the credit unions represented by board or committee members, or other persons with influence over the corporate's policies, procedures, and actions.

Conflicts of interest (and even the appearance of such) can adversely affect an institution's profitability and reputation and can undermine public confidence in the corporate credit union system. A conflict could cause a financial loss if the individual involved considers self-interest and personal gain more important that the corporate's interests.

Management has a fiduciary responsibility to avoid any conflicts of interest or appearance of conflicts of interest.

Policies should address areas in which conflicts of interest could arise, including transactions involving the institution and parties related to directors or officers. It should also address controls to avoid abuses and establish procedures for dealing with policy violations.

The examiner should comment on and specify appropriate actions on any actual or apparent conflicts of interest adversely affecting the corporate. Before addressing these conflicts of interest, the examiner should consult with the EIC and the Corporate Field Supervisor (CFS).

Internal Controls

The board, senior management, and supervisory committee have important roles in an institution's programs of internal control and internal audit. Although the board has overall responsibility, senior management is charged with the duty of developing and maintaining a strong system of internal controls. Relying solely on the independence of auditors to establish the institution's internal controls is inappropriate. Senior management is responsible for the design and implementation of effective controls to prevent and detect errors, conflict of interest situations, and fraud.

Meetings

Meetings with the Board of Directors

Meetings between examiners and the board provide an opportunity to discuss:

1. the examination process and findings;
2. the institution, its functions, and plans;
3. the general financial environment;
4. industry-related concerns; and
5. commitments for corrective action.

Exit conferences are held with members of the executive management team (and possibly the chairman or other interested board members) to review technical and overall examination findings and to obtain commitments for corrective action. At this time the EIC should notify management of all examination related items slated for discussion with the board of directors.

Joint conferences may result from a regular or follow-up examination or a supervisory contact. Their primary purposes are to present and discuss examination findings and reach agreements on plans for corrective action. A secondary purpose may be to gather information regarding a new function or plans for the corporate. These meetings also may be used to enhance the board's understanding of the regulatory process and to establish and build lines of communication between the examiner and the board.

Joint conferences normally should be held in conjunction with the board's next regularly scheduled meeting or at another mutually agreed upon date. However, to ensure the timely delivery of the examination report, they should not be later than 30 days after the conclusion of the examination's on-site field work. The EIC should contact the board chairman prior to the start of the examination to schedule the joint conference. When scheduling the meeting, the EIC should consider the time necessary to complete the examination report after the on-site contact is completed.

Ideally, the examiner and corporate management will have developed a mutually acceptable plan for correcting areas of concern during the examination. This plan will be discussed at the exit meeting. If that was not accomplished, it should be the major objective of the joint conference. If there are no major areas of concern to discuss, the examiner should use this opportunity to discuss with the board the general condition of the corporate and the board's view on its future operations. The board should be encouraged to discuss any matters of interest.

Meeting Preparation, Presentation, and Documentation

To ensure a successful meeting, the examiner should be thoroughly prepared, have adequate documentation to support the report's findings, and conduct the meeting in a professional manner. Power point presentations are strongly suggested. The following are items to consider when preparing for a joint conference:

1. determine a time and location;
2. develop an agenda;
3. ensure that all participants are informed of the meeting;
4. meet with other examiners who are attending to discuss the agenda and their roles;
5. prepare and organize supporting data, to illustrate significant points or trends; and
6. prepare power point presentation and any handouts.

The following should be considered when making a presentation:

1. conduct the meeting in a dignified, professional, and objective manner;
2. present the agenda and follow it within reason;
3. encourage board member involvement and questions;
4. wait for the complete question to be asked and check for understanding before responding;
5. do not attempt to answer questions without being able to offer complete and accurate information; and
6. obtain commitments for corrective action from the board.

The effectiveness of the meeting is directly related to the extent communications is established and credibility maintained.

Meetings should be held with the entire board to ensure that all directors are aware of regulatory findings and commitments to correct areas of concern. Any person or organization connected with the institution, such as an auditor or attorney, may attend a meeting subject to board approval. The confidentiality of the meeting should be stressed. If the examiner believes that an individual present should not be at the meeting, those concerns should be addressed to the chairman of the board. If the board wishes that individual to attend, the examiner should advise the board that it is the board's responsibility to ensure that the individual in question maintains the confidentiality of the issues discussed.

The examiner should prepare a detailed outline of the topics for discussion (PowerPoint presentations are one method). Some of the issues that should be covered include:

1. introductions;
2. confidential nature of meeting;
3. sign-in sheet;
4. taping of meeting (NCUA would like a copy within a reasonable agreed upon time frame);
5. type of examination, scope, and other limitations;
6. executive summary;
7. document of resolution;
8. agreements;
9. summary;
10. other matters;
11. questions from the board; and
12. overall conclusions.

Examination Objectives

The objectives for reviewing management are to determine if management and the board:

1. Understand and manage the risk on the corporate's balance sheet and in its operations.

2. Understand their duties and responsibilities.

3. Carry out their duties and responsibilities in compliance with the FCU Act, NCUA Rules and Regulations, state laws, other federal regulatory agency rules and generally accepted business practices.

4. Develop and implement adequate policies and procedures for all financial and operational areas.

5. Implement a sound planning and decision making process.

6. Address operational, examination, and audit deficiencies timely.

7. Protect the assets of the corporate by sound contract administration.

Examination Procedures

See Corporate Examination Procedures - Management (OCCU 301P).

Examination Questionnaire

See Corporate Examination Questionnaire - Management (OCCU 301Q).

References

1. The Federal Credit Union Act

2. Part 704 of NCUA's Rules and Regulations

3. Section 701.14 of NCUA's Rules and Regulations

4. Federal Corporate Credit Union Bylaws

Chapter 302

PROFITABILITY

Introduction

The stability and amount of a corporate credit union's (corporate) earnings in relation to its capital accumulation strategies and abilities should be a major area of evaluation during the ongoing supervisory process. Each corporate's earnings performance must be evaluated in relation to its current capital position, financial and operational risk exposures, complexity of operations, and future strategies and business plans. The ongoing accumulation and maintenance of adequate capital should be the examiner's major concern when making an assessment as to the adequacy of each corporate's earnings performance.

The review of the corporate's earnings and financial condition is a continuing process. The pre-examination analysis and scoping process should identify any existing or potential problem areas requiring attention. A comprehensive on-site analysis substantiates and assesses current and prospective earnings. A well-performed analysis not only provides an understanding of the corporate's operations and earnings capability, but also identifies matters of existing or potential concern. Thus, the analysis can be used to facilitate corrective action that may avert problems or prevent existing problems from worsening.

The examiner should maintain a sense of balance when analyzing financial statements, avoiding undue precision or spending excessive time on immaterial amounts and/or items. Most importantly, the examiner should constantly maintain a sense of examination objectives. Since earnings, over time, reflect the corporate's overall financial condition, the examiner should know the extent of existing or potential problems outside the purview of the earnings/profitability analysis. The examiner must maintain a constant flow of communication with individuals working on other examination areas in order to effect a cohesive and comprehensive review.

Finally, reporting errors, incomplete information, and deficient accounting information may hinder or prevent an accurate evaluation of the corporate's operations. A thorough analysis depends on

accurate, reliable information and is an extension of reviews of the corporate's financial records and reports (i.e. financial statements, call reports, budget variance reports, board reports).

Relationship of Earnings to Capital Accumulation and Risk

Profitability must be evaluated in relation to each corporate's overall capital accumulation needs and risk exposures. Corporates that exhibit adequate levels of capital in relation to risk exposure and risk management practices will not necessarily require the same earnings performance as those corporates which have a low capital level in relation to regulatory requirements and risk aversion needs. The examiner must keep this relationship in mind when evaluating the adequacy of earnings performance.

Each corporate's earnings must be evaluated with the following objectives in mind:

1. determine that earnings are sufficient to accumulate adequate capital and avert financial and operational risk exposures; and
2. determine whether the stability and mix of earnings components is appropriate to continue to accumulate or maintain adequate levels of capital under diverse economic, industry related, and internal corporate developments.

Components of Earnings

In order to obtain a complete and accurate understanding of a corporate's operations, it is essential to know the operating strategy of the institution. The operating strategy is identified in the corporate's strategic business plans and can be identified by determining major revenue and funding sources. Earnings components include interest income and expense, fee income, operating expenses, other income and expenses (operating or non-operating) etc.

<u>Interest Income</u> - Interest income consists of interest earned on loans and investments. The major contributor to interest income within a corporate normally is the investment portfolio.

Interest Expense - Interest expense consists of the corporate's cost of funding operations. Interest expense in a corporate will be realized through dividends on shares, share certificates, member capital accounts, and paid-in capital accounts, and interest on borrowings (i.e. loans, reverse repos, commercial paper).

Net Interest Income (NII) - NII is interest income minus interest expense. NII is normally the primary source of income for a corporate and a key indicator of earnings performance and stability. This measure makes no adjustment for assets that earn no interest or liabilities that bear no explicit interest cost.

Net Interest Margin - Net interest income is called the net interest margin (NIM) when expressed as an annualized percent of moving daily average net assets (DANA). A corporate can maximize its net interest margin by effectively allocating resources among earning and non-earning assets, maintaining low levels of non-performing assets, providing adequate funding through the lowest-cost mix of funds, and maintaining a strong capital position. In a volatile interest rate environment, large changes in NIM are associated with high interest rate risk exposures and possibly with weak risk management.

Net Interest Position - A corporate's net interest position (NIP) is the difference between interest earning assets and interest earning liabilities. A shrinking NIP indicates a weakening balance sheet and greater reliance on margins on products and investments for continued profitability. A negative NIP is considered a more serious weakness since it indicates that interest-costing liabilities are financing non-interest-earning assets. Generally, corporates have sound NIPs due to low levels of non-earning assets; however, given the low core capital position of the corporate credit union system (System), and a move toward technological enhancement, shrinking NIPs may be of concern in the future if technological investment outpaces capital accumulation. Shrinking NIPs should be reviewed by the examiner using a cost/benefit analysis of non-earning asset expenditures (i.e. will fee income and member service be enhanced).

Net Interest Spread - Net interest spread is the weighted interest rate received on average earning assets less the weighted interest rate paid on average liabilities.

Non-Interest Income - All other income.

Non-Interest Expense - Non-interest expenses are the costs of operating the corporate (i.e. operating expenses). A reduction in non-interest expenses will increase core earnings, net income, and market value. A managed level of operating expenses also allows the corporate greater flexibility with respect to managing net interest margin and levels of credit and interest rate risk.

Return on Assets and Equity

Return on Assets - Return on assets is net income divided by average assets. Traditionally, return on assets is the primary measure of a corporate's profitability. The examiner should review the level and trend of this ratio in relation to capital strength and financial and operational risks.

Return on Equity - Return on equity is net income divided by average equity. The return on equity is normally a ratio used by investors in the capital markets to determine investment options. Return on equity can be used to measure management's effectiveness in utilizing and accumulating capital reserves to ensure a strong net economic value and the long-term viability of the institution.

Evaluation of Earnings

An aggregate evaluation of all earnings components should be performed in relation to stability and trends.:

Stability - The quality, composition, and consistency of income and expense flows should be evaluated relative to internal factors such as credit risks, interest rate risks, operating risks, and external factors (i.e., general economic or competitive forces). The stability of earnings under different economic and competitive scenarios is critical in setting, attaining, and maintaining the capital accumulation objectives of the corporate.

Some corporates have positioned themselves as major providers of "back office" and correspondent services. The stability of service fees depends upon the proper management and promotion of these products.

Trends - The general direction of a corporate's earnings relative to previous time periods.

Evaluating previous time periods should encourage the examiner to identify and investigate both adverse and positive trends within the corporate's earnings. Earnings trends must be viewed in relation to the capital accumulation and risk management objectives of the corporate. Trends must also be viewed in conjunction with macro-economic conditions within the financial markets as these conditions affect the entire System.

Analytical Techniques

Earnings analysis involves the review of financial data on a period-to-period basis in an effort to substantiate the reasonableness of financial performance without requiring a systematic review of transactions.

There are three primary components to performing a thorough trend analysis. These components are the use of:

1. twelve to twenty four months of financial information for analysis;
2. sound judgment in determining the materiality of variances; and
3. volume-to-rate variance analysis.

The use of twelve or more months of data provides an understanding of what will likely be normal changes in the data. Given the seasonal funds flow indigenous to corporates, at least twelve months of data must be observed in order to make an assessment as to any irregular changes or trends. By comparing variances over several accounting periods, patterns of change emerge that can be used to identify any unusual changes in current periods. Another benefit is that an examiner can identify a change that may warrant further review.

The use of sound judgment in assessing the materiality of a variance in the data cannot be over-stressed. Examiners must use professional judgment when evaluating the change, but must also remember that business is dynamic and change is inevitable. Only those variances that are not reasonable or are of a sufficient magnitude to justify additional examination procedures should be pursued. Such variances including cyclical and seasonal factors, changes in accounting practices, and changes in operating strategies. Positive or adverse trends should be identified and explained, so that the findings support the overall evaluation.

Ratio Analysis - Ratio analysis is the method of comparing a figure or group of figures in a set of financial statements to another figure or group of figures within the same financial statements. It is predicated on the assumption that there are meaningful relationships between different asset, liability, net worth, net income, and expense accounts.

Numerous standardized ratios have been developed for analyzing financial statements. The more commonly used ratios include:

1. capital divided by moving DANA (Capital Ratio);
2. reserves and undivided earnings divided by moving DANA (RUDE Ratio);
3. gross interest income divided by moving DANA;
4. cost of funds divided by moving DANA;
5. net interest income divided by moving DANA;
6. operating expenses divided by moving DANA; and
7. net income divided by moving DANA.

For additional discussion on analytical techniques, refer to Chapter 2, Total Analysis, in the National Credit Union Administration, Examiner's Guide,

Budgeting and Performance Monitoring

The examiner should obtain a copy of the budget including projected revenues, expenses, and underlying assumptions (i.e. asset growth, sensitivity). An evaluation of this budget would include comparing:

1. projections with prior period results;
2. projections with actual results for the same period;
3. projected return on assets and return on equity with prior period results;
4. projected yields for major earning assets with prior period yields;
5. projected operating expenses as a percentage of assets and revenues with prior period data; and
6. projected goals and assumptions with trends in market conditions.

The key to evaluating the budget is to understand the validity of the underlying assumptions and the probability of projected goals. Prior data does not provide meaningful information if the entire focus of the corporate is changing.

Controlling business risks is one of the primary responsibilities of management. The types of risk assumed by the corporate, and how well management controls those risks, is reflected in the balance sheet and income statement. By analyzing the balance sheet and operating results in relation to projected goals, the examiner can determine whether management's policies benefit or adversely impact the corporate.

The examiner must determine the effectiveness of management's profit planning and control function. The examiner should not only make an assessment as to the reasonableness of the results of operations and budgeted goals and objectives, but should also determine that management does have an effective budget review and reporting process in place.

Product Line Profitability

In addition to making an assessment as to the corporate's overall earnings performance, the examiner should also determine that management has effective processes in place to monitor the profitability of individual product offerings. Management should be performing a risk/return evaluation on each major product offering.

Periodic product profit monitoring and reporting will provide management with valuable information regarding the effectiveness with which products are being offered to their members, and the competitive demand for those products. Maintaining and monitoring the results of individual product lines in relation to projected goals will provide a clear depiction as to where improvements may need to be made in order to benefit the overall earnings and competitive position of the corporate.

The examiner should determine that an effective cost accounting process is in place that effectively segregates revenue and expense by individual product line. The system should provide a reasonable allocation method for corporate wide overhead and shared expenditures. Individual product profit reporting should be completed on at least a quarterly basis, with formal reports made to the ALCO or Board at least annually.

Recordkeeping and Reporting

Complete and accurate records and reports are essential for a corporate's board of directors and management in making informed decisions and in clearly understanding and supporting transactions. The corporate must also have policies, procedures, and controls to ensure that financial reports and records are properly maintained. Inaccurate, incomplete, or unreliable information jeopardizes the safety and soundness of the corporate in that unidentified or undisclosed problems could prevent or delay corrective action and undermine the viability of the corporate.

NCUA must have reliable data so it can assess and monitor a corporate's financial condition and activities. It is imperative that the corporate have adequate procedures and controls in place over the compilation of data used to prepare the NCUA 5310 report. Examiners will discuss these controls with management. Review of corporate's books and records, internal reports, and 5310 reports is necessary if NCUA is to rely on the corporate's records for information throughout the examination, supervision, and monitoring process.

Examination Objectives

The examiner will address the following main examination objectives during the review of the corporate's earnings performance and profit planning process:

1. Determine and evaluate the corporate's policies, procedures, and controls for maintaining accurate income and expense reports and records.

2. Test the accuracy of balance sheet and income and expense data reported on monthly NCUA 5310 reports.

3. Evaluate the corporate's capital and earnings objectives and strategies.

4. Identify, evaluate and explain positive and negative income and expense trends.

5. Assess the prospective effect on earnings as a result of any changes in the activities or strategies of the corporate.

6. Evaluate management's budgeting and reporting process to determine that profit planning and control is being administered in an effective fashion to identify and achieve earnings and capital accumulation objectives.

Examination Procedures

See Corporate Examination Procedures - Profitability (OCCU 302P).

Examination Questionnaire

See Corporate Examination Questionnaire - Profitability (OCCU 302Q).

References

1. Office of Thrift Supervision, Regulatory Handbook - Thrift Activities, Volume II.

2. National Credit Union Administration, Examiner's Guide, Chapter 2, Total Analysis Process, June 1997

Chapter 303

INFORMATION SYSTEMS PROCESSING

Introduction

The management information system (MIS) provides information needed to effectively manage the corporate. Hence, the board of directors and senior management must determine what information is needed to make informed decisions and monitor activities of the corporate. From this point, systems must be developed to ensure that the desired information is usable as performance measurements.

A corporate's MIS should be designed to:

1. enhance communication among employees;
2. deliver complex material throughout the corporate;
3. provide an objective system for recording and aggregating information;
4. reduce expenses related to labor-intensive manual activities;
5. support the organization's strategic goals and directions; and
6. provide effective interface capabilities among separate systems.

The five components listed below are essential in considering the usability of any MIS. Management decisions and strategies may be rendered invalid or detrimental if any one of these components are compromised.
Examiners must review these components during the examination.

1. Timeliness - Information must be current and available to all appropriate users to facilitate timely decisions. This necessitates prompt collection and editing of data.

2. Accuracy - A sound system of internal controls must be in place to ensure the accuracy of data. Information should be properly edited and reconciled with the appropriate control mechanisms in place. A comprehensive internal and external audit program would greatly facilitate this endeavor.

3. Consistency - Consistency is needed to ensure data provided is valid when relied upon in making decisions and evaluating stategies. Variations in how data is collected or reported can distort trend analysis. Any change in collection or reporting procedures should be clearly defined, documented, and communicated to all users.

4. Completeness - Information input into MIS must be complete.

5. Relevance - Information provided must be relevant. Details which are inappropriate, unnecessary, or unsuitable are of no value in effective decision making.

Decision makers cannot fulfill their responsibilities unless all pertinent information is provided in a comprehensive, yet concise format.

Care should be taken to ensure that senior management and the board of directors receive relevant information in order to identify and measure potential risks to the corporate. Sound MIS is a key component of management effectiveness and should be evaluated in relation to the size, structure, and decision-making process of each individual corporate.

Advances in technology have helped corporates improve both information availability and models for analysis and decision making. Regardless of the technology employed, it is management's responsibility to develop an information system which facilitates the corporate's activities.

An effective MIS draws information from a number of sources for users with various needs. As a MIS must selectively update information and coordinate it into meaningful and clear formats, a realistic approach would be to integrate a corporate's accounting system with other resources such as: information regarding economic conditions, characteristics of the market place, competitors, technology, legal/regulatory requirements, etc.

Electronic Data Processing (EDP) Systems

The increasing reliance on automated system technologies by corporates has significantly increased the risk of financial losses due to inaccurate recordkeeping, unauthorized access to financial and members records, interruption of member service, or fraud. These risks are increased further by the growing use of on-line systems, microcomputers, and local area network access to records. As a result, the growth of these automated technologies has expanded the scope of EDP risk to include all user areas of a corporate.

In general, corporates have a number of choices available to meet their data processing needs. They include: installing an in-house computer center, using a service bureau, or contracting with a facilities management company to manage an existing in-house computer center. Regardless of the type selected, it is essential the board of directors and management establish appropriate policies, procedures, and controls over data processing activities to ensure the accurate processing of information, the privacy of financial and member records, and the continuation of service in case of disasters.

In-house Computer Center

In-house computer systems vary in size and complexity according to the size of the corporate, the number of applications processed, the transaction volume, and processing deadlines. Computer equipment may vary in size from large “main frame” systems to smaller minicomputers installed as a “turnkey” system. In the turnkey system, a vendor company installs and tests the computer software before the system is turned over to the customer. Software for in-house computer systems may be developed in house or purchased from outside vendors.

Some EDP risk areas posed by using an in-house computer system are inadequate hardware and software systems, excessive cost, lack of internal controls, inaccurate financial and customer data, unauthorized access to data processing files, and lack of a disaster contingency plan.

NOTE: The majority of corporates have either in-house system or minicomputers installed as a "turnkey" system. In most cases, the Corporate Credit Union Network (CCUN) system is the main data system used by corporates.

Electronic Data Processing (EDP) Controls

There are basic controls which must be present in any level of computer operations. These controls should be present at the centralized data center. The evolution of microcomputer-based systems has not eliminated the need for basic controls, rather it has shifted the focus of control to the end-user level.

Some basic controls that must be implemented in microcomputer-based systems are:

1. Policies and Procedures - Control requirements for microcomputer use must be addressed by internal policies and procedures. Policies and procedures must be in writing and should define steps to be taken to protect the corporate's computer systems. Management should designate responsibility within the corporate to monitor the acquisition and use of microcomputers. The purpose of this function is to prevent redundant use of systems and ensure the required degree of compatibility among hardware and software systems exist throughout the corporate.

2. Program Development and Testing - Before a new system is developed and/or purchased, management should have a clear understanding of the specific needs being addressed by the new system. Alternatives must be reviewed by management and analyzed to ensure the best solution is selected. Development goals should include the production of a system that is easily modified and maintained by someone other than the original developer. Finally, the completed system should be subject to rigorous testing to provide assurance that the results are valid and reliable, and can meet future processing needs.

3. Program Changes - Modified programs should be subject to the same controls as newly-developed systems including a thorough testing. Also, accurate records should be maintained describing the change, the reasons for the change, and the person responsible for making the change.

4. Documentation - Adequate system documentation is crucial to the use of and internal controls for micro-based systems. There is a tendency for these systems to be highly personalized, with one person responsible for the developing, testing, implementing, and operating many programs. The successful use of a microcomputer-based system and the production of specialized data may depend on the continued presence of this person. Documentation is critical should revisions to programs be required. Documentation standards should define acceptable levels of program, operating, and user documentation. In addition, there should be an enforcement mechanism to guarantee compliance with standards.

5. Data Editing - The development or purchase of microcomputer systems should be done with adequate attention given to data editing routines. These routines help ensure that data entering the system is error-free and not likely to result in erroneous output. This control is important if the data is manually entered into the microcomputer or electronically transferred or “downloaded” from another system. In the case where data is “uploaded” to a mainframe, additional controls may be required at that level to guarantee the integrity of the data being transferred.

6. Input/Output Controls - Microcomputer systems used for the processing of information with a direct monetary impact on the corporate or its members may require additional controls. These controls may include a segregation of duties between the input of information and the review of that information in a processed form. This control may be extended to require a formal reconcilement be performed by the reviewer of the processed information. In more sensitive situations with a significant dollar impact, certain functions should be performed under dual control. The need for these types of input and output controls should be established during the early stages of program development, and need to be described in detail in the program documentation package.

7. Physical Access Restrictions -The location of microcomputer systems outside of a physically-secured data center can permit unauthorized access to programs and data files used on these systems. The use of physical access restrictions complements the logical access restrictions discussed below. Basic steps would include the secure storage of diskettes or other magnetic media containing the programs and data for a particular system. In addition, some documentation, regarding what a system does and how it is used, can provide important information that can be used to compromise system security. The documentation must be secured. Finally, there must be adequate restrictions over the physical access to hardware so that it is protected from unauthorized use, vandalism, or theft.

8. Logical Access Restrictions - As in larger application systems, the need exists to identify those individuals who will be permitted access to the microcomputer system's capabilities. In addition, there may be the need to differentiate between functions allowed for certain individuals, ranging from an inquiry capability for many persons to an override and correction capability for a few supervisory personnel. Normally, these restrictions will be in the form of password controls. Standard password-related control procedures, such as frequent changes and exception reporting, need to be established to provide effective access restrictions. Management should establish procedures to review exception reports on a frequent basis.

9. Backup and Contingency Planning - For each operational system, adequate plans should be made and precautions taken to ensure that users can adequately recover from damage to the hardware, software, or data. For some systems, an inability to process during recovery may mean work can be held for later processing. For other systems, a manual backup may be appropriate. For some time critical, highly automated systems, arrangements may have to be made for data recovery reconstruction or for processing on other hardware. At the minimum, there should be a secure and remote backup storage of data files and programs for all systems. Beyond this, the backup and contingency requirements for individual systems may differ and need to be addressed separately.

10. Audit - The audit should serve as an independent control reviewing microcomputer use throughout the corporate. Audit involvement in microcomputer systems may begin at a general level with a review for compliance with the internal policies and procedures discussed above. It may also extend to detailed testing in various areas such as the use of logical access controls. Audit procedures and work programs should be expanded to provide for adequate coverage of microcomputer systems. Responsibility for microcomputer auditing should be clearly assigned and plans for microcomputer audits should be built in the audit schedule. Some corporates have a security review committee to evaluate and oversee this area. If such an oversight committee does not exist, the examiner should discuss the need for such a committee with management.

These controls are not all-inclusive but are considered fundamental to sound information processing. Each computer operation, whether centralized or end-user, possesses different characteristics and possibly some specialized risks. Therefore, control practices must be sufficient to minimize such risks.

Examination Objectives

The objectives for reviewing the information system processing are to:

1. Determine if the corporate's policies, procedures, and internal controls are adequate to monitor and control data processing risk.

2. Determine that the corporate complies with the FCU Act, NCUA Rules and Regulations, NCUA issued Directives, the Accounting Manual for Federally Insured Credit Unions, and GAAP, as they directly or indirectly apply to information system processing.

3. Determine that corporate management and officials are adhering to established guidelines.

4. Assess management's guidelines for selecting, evaluating, and monitoring computer performance.

5. Assess the adequacy of the corporate's security controls over computer and microcomputer terminals used for data processing.

6. Initiate corrective action when the corporate's internal EDP controls, policies, procedures, and practices are deficient.

Examination Procedures

See Corporate Examination Procedures - Information Systems Processing (OCCU 303P).

Examination Questionnaire

See Corporate Examination Questionnaire - Information Systems Processing (OCCU 303Q).

References

1. Regulatory Handbook- Thrift Activities Volume I (OTC)

2. NCUA Rules and Regulations (Expanded Authority Appendices)

Chapter 304

ITEM PROCESSING SERVICE CENTERS

Introduction

Item processing is the conversion of source documents, checks, and other transaction tickets to machine readable form, then processing and distributing this information in a manner that results in the ultimate settlement (payment or collection) through the Federal Reserve Bank or another correspondent financial institution. Item processing services are performed by some larger natural-person credit unions, by many corporate credit unions (corporates), by some credit union service organizations (CUSO's), by leagues, by banks, and by a number of national or regional check processing service centers.

Share Draft Inclearing

Share draft inclearing is a common item processing service. This refers to the corporate's processing of member credit union share drafts under its own routing and transit number. The following steps occur in this process:

1. A credit union member pays a vendor with a share draft, which the vendor deposits into its bank account.

2. The bank processes this deposit internally by encoding and sending the share draft to the Federal Reserve Bank (FRB) for credit.

3. The FRB processes the share draft, credits the local bank's account at the FRB and charges the credit union's payable account through the corporate's account at the FRB.

4. The FRB sends the corporate (by courier) the cleared member share draft.

5. The corporate sorts and microfilms the member share draft and posts the inclearing transaction from the FRB to the member share draft account.

6. Share draft exception reports run the next morning by the member credit union will identify any account with insufficient funds, closed or non-existent accounts, or other criteria that prevents the draft from being paid. Returns are initiated by the member credit union to the corporate.

7. The corporate physically pulls the item and sends it back to the FRB for return to the local bank and gives the member credit union immediate credit.

Deposit Transit

Deposit transit (collection) is another common item processing service performed by corporates. This occurs when a corporate receives and processes checks which have been deposited at a member credit union for credit to the individual member accounts. The basic process follows:

1. The member sends the day's check deposits (by courier) to the corporate.

2. The corporate processes, microfilms, sorts, and sends the checks to the FRB for credit (the encoding may be performed by the credit union or corporate, depending on the arrangement).

3. The FRB receives the check deposits (in the form of a cash letter) and then processes the checks.

4. The account at the FRB payable through the corporate is credited. At the same time the accounts for the banks paying the deposited checks are charged for the payments and the checks are sent to those banks or their designated processor.

Direct Presentment Arrangements

Direct presentment arrangements occur when two or more financial institutions, in a defined geographical area, agree to directly present their checks (deposits and payments in the form of cash letters) to each other, bypassing the FRB. These arrangements, in some cases, may involve formation of a local clearing association, with its own procedures and restrictions on joining the association. Direct presentment arrangements can exist for both deposits and share drafts. The following process takes place:

1. A vendor deposits the share draft at its financial institution.

2. The financial institution processes and sorts the checks which are encoded with the corporate's routing and transit number.

3. The checks and a cash letter are sent directly to the corporate for settlement the same day.

4. The corporate proofs the checks, which have been directly presented, to confirm the payment amount on the cash letter and posts the payment amounts to the member share draft clearing accounts.

5. The corporate then pays the local bank (by Fedline wire) for the member share draft deposits made at the bank.

Deposit settlement via direct presentment includes the following steps:

1. The member credit union or participating bank sends the checks deposited that day to the corporate.

2. The corporate sorts the checks. Each participating local bank is sent a cash letter and a bundle of checks issued by that bank with a demand for payment.

3. The bank processes the checks and wires an amount to the corporate to settle payment for its cleared checks.

Item Processing Center Facilities

The most common equipment and related components of the item processing operation are:

1. encoding stations;
2. reader/sorter(s);
3. computer terminals for both the item processor controller and member credit union data systems;
4. reject/re-entry stations;
5. correspondence desks used for resolving and researching differences with members, other financial institutions, and the FRB;
6. check storage areas both on site and off site; and
7. microfilming equipment.

Facilities should be organized in a manner that results in an efficient, one-way workflow. The space allocated to item processing operations and related functions must be adequate to assure proper physical segregation of equipment and personnel. The following physical security controls are common:

1. controlled access, via card key or combination locks;
2. fire suppression systems (FM122 or other type);
3. water detection equipment below the floors;
4. hand held fire extinguisher(s);
5. switches to activate an alarm when an electrical circuit is broken; and
6. sound and/or motion detection equipment.

In addition to physical controls over the item processing equipment, all negotiable instruments (checks, cash letters, deposits in transit, etc.) should be in a secure area from their initial receipt throughout processing, filming, storage and destruction.

Microfilming and Data Backup

Properly stored and maintained microfilm is essential for all item processing operations. Controls must be in place to safeguard the microfilm stored on site, and for maintaining at least one full copy off-site. Procedures must be in place to ensure all film is readable prior to placing it in storage. Processed data must be backed up daily. Adequate generations of backed-up data must be maintained both on- and off-site.

Contingency Planning

Management must ensure that plans are in place to resume operations in a timely manner in the event of damage to the facilities and/or equipment. The item processing operation should be included in the corporate wide contingency plan.

Management must

1. establish legal agreements for the use of alternate sites and equipment;
2. develop procedures for all item processing operations under full disaster recovery situations; and

3. testing fully item processing operations with alternate site equipment. The test must be realistic, comprehensive, and well documented. Item processing functions must be fully restorable within hours of the time that item processing operations are impaired.

Transaction Volume and Trends

Significant investments in hardware, software, and human resources are needed to support item processing operations. High volume operations may require more than one reader/sorter. Backup equipment or backup capabilities are needed at alternate sites, or should be contracted with third parties.

Potential Losses

Human error, fraud, failure to remain competitive, operational disruption, or catastrophic damage to the facility and/or items in transit can cause losses in an item processing operation.

The examiner should review lawsuits, pending litigation, and write-offs. Excessive legal problems and losses stemming from the operation could indicate deficiencies in management, internal controls, or contractual agreements.

Policies and Procedures

Comprehensive policies and procedures are needed to manage the risks represented by an item processing operation. The board-level policy should address the following, at a minimum:

1. specific services offered;
2. fee structure;
3. periodic cost analysis;
4. market factors, including market penetration studies, assessment of direct competition, and changes in technology (image processing, etc.); and
5. charge-off policies.

The examiner should review workflow procedures which address operational functions in detail. These include but are not limited to:

1. departmental internal control structure;
2. operational deadlines and computer run schedules;
3. accounting procedures and requirements;

4. reject/re-entry and return procedures;
5. timely research and clearing of suspense items;
6. disaster recovery procedures;
7. personnel management, including cross-training and back-up schedules;
8. records maintenance and destruction procedures;
9. security measures; and
10. equipment care and maintenance.

Management must routinely review and update procedures, as well as staff's compliance with policies and procedures.

On an ongoing basis, management must monitor item processing operations, accounting reconciliations, clearing of adjustments, and compliance with deadlines. The board of directors should review monthly financial and operational reports on the item processing operations. Plans for resolving accounting and adjustment backlogs or problems in operations must be developed and implemented on a timely basis.

Management should develop flowcharts and/or narratives discussing the flow of items (deposits or payments) through the system. Tracing the flow of items through the system should document that:

1. timely and accurate settlement occurs through the FRB or another correspondent bank; and
2. the transactions post accurately to individual members' share accounts.

Contracts with Third Parties

The examiner should review all contracts for item processing services to ensure the following matters are addressed:

1. Settlement line of credit agreements between corporates and credit unions - These are needed to ensure the coverage of check clearing settlements if a member credit union's account balance is insufficient to cover clearings on a given day.

2. Disaster recovery agreements for alternate site and processing equipment - This is essential to ensure continuation of operations in the event of disaster.

3. Maintenance agreements - These are necessary to ensure appropriate software and hardware support and prompt maintenance.

4. Agreements with the FRB.

5. Agreements with any other hardware and communication vendors for funds settlement and electronic transmission activity.

6. Contract with destruction company or certification of destruction.

Management and Staff Experience

The manager of the item processing department should exhibit a thorough knowledge of each functional area of the operation, in addition to management experience. Without a thorough understanding of each function, the manager cannot ensure the overall operation remains as efficient as possible. The manager should also exhibit awareness of new technology and how it might be used to increase the efficiency and/or profitability of the operation.

Cross training is critical in small and medium operations. Even in larger operations, management must have appropriate cross training and back-up plans in place to cover unexpected absences and/or staff turnover.

Staffing levels must be adequate to maintain sufficient internal controls and separation of duties. Computer access controls and security measures must be in place.

Profitability Management

The costs of starting and maintaining an item processing operation are significant. A business plan must be established to identify the services to be provided and the resources needed to operate this area. Departmental cost and revenue projections and the overall impact to the corporate's financial performance must also be well documented. The business plan should include:

1. A description of the corporate's operations, internal controls, management, staffing, training, hardware, software, disaster recovery, accounting support, and volume projections.

2. Long- and short-term financial and operational goals.

3. Marketing studies and plans, including analysis of competitors' prices and services, and determination that existing demand and volume are sufficient to support the operation as an ongoing concern.

4. A detailed budget identifying the total expected cost and revenue of the item processing operations under varying volume scenarios.

In support of the business plan, a department profitability analysis should be completed at least annually. Management should ensure that all costs of operating the department (e.g. facilities, human resources, internal and external audit, contingency planning, write-offs) are appropriately allocated to the operation, so that the true cost and profitability of the operation is determined and communicated to management and other users of the analysis.

Effective management of an item processing operation also includes continually reviewing the operation for areas where efficiency can be increased, and/or operating costs reduced, while maintaining reasonable internal controls and segregation of duties throughout the operation.

Document Imaging

Optical imaging systems have emerged as a method of capturing, storing, displaying, printing, and transmitting data. Such systems offer the opportunity to streamline the item processing department workflow, reduce storage and retrieval costs, and improve customer service through automation. The following must be considered when converting an item processing operation to document imaging:

1. Planning - Poor planning can result in excessive installation costs, loss or destruction of original documents, and failure to achieve expected benefits.

   Issues which need to be considered in the planning stages include:

a. conversion of existing paper storage files;

b. integrating imaging into the organizational workflow; and
c. backup and recovery procedures.

2. Audit - Imaging systems can change or eliminate traditional controls, inherent in a paper based system. Internal audit procedures may have to be redesigned. The internal auditor should be involved from the planning stages forward.

3. Scanning Devices - Good quality scanning equipment is critical as these devices are the entry point for all transactions. Workflow can be affected if scanning equipment cannot handle the volume or breaks down. Poor controls over the scanning process can result in poor quality images, improper indexing, or incomplete or forged documents being entered into the system.

4. Indexing - Proper indexing of documents is critical to future retrieval and limiting access to files. The integrity of the indexing must be carefully maintained in order to ensure and control access, as well as protect documents from unauthorized modification. The indexing method also can affect the security administrator's ability to restrict access based on the user's needs.

5. Software Security - System security controls over imaged documents are critical to protect the corporate and its members from unauthorized access and/or modifications to documents. Software security and security administrator functions are essential to prevent unauthorized alterations to stored documents.

6. Contingency Planning - More than 100,000 documents may be stored on a single optical disk; therefore, the loss of storage files or media can severely impact business if electronic back-up or paper files are not maintained. The overall contingency plan should be modified to address the use of imaging in the item processing operation.

7. Training - Failure to train personnel responsible for operating scanning equipment can result in poor quality document images and indexes and the early destruction of original documents.

8. Legal Issues - Corporates installing imaging systems should carefully evaluate the legal implications of converting original documents to image, and the subsequent destruction of the original documents.

Problem Areas

Common problems found in item processing operations include the following:

1. high staff turnover;
2. inadequately trained personnel;
3. inadequate staffing levels for proper internal control, accounting, and adjustment clearing;
4. changes in settlement patterns or procedures;
5. inadequate communication, hardware, and software may result in incorrect postings and reconciliations;
6. rapidly growing volume, added to existing inadequate staffing and inappropriate accounting systems;
7. weak internal controls and accounting procedures; and
8. backlog of reconciling items.

Corporates exhibiting difficulties in new or established item processing operations may benefit from a third party review. A full third party review involves an evaluation of the accounting system controls and day to day operations of the department. Large public accounting firms usually have the expertise to review both functions of the department. Weaknesses in operations, management, and accounting can be identified and plans for corrective action developed.

Examination Objectives

The objectives for reviewing item processing service centers are to:

1. Determine if the corporate's policies, procedures, and internal controls are adequate to monitor and control the risk in its item processing operations.

2. Assess management's guidelines for evaluating and monitoring item processing operations.

3. Determine that corporate management and officials are adhering to established guidelines.

4. Initiate corrective action when the corporate's item processing policies, procedures, practices, and controls are deficient.

Examination Procedures

See Corporate Examination Procedures - Item Processing Service Center (OCCU 304P).

Examination Questionnaire

See Corporate Examination Questionnaire - Item Processing Service Center (OCCU 304Q).

References

1. FFIEC Information Systems Examination Systems Examination Handbook, 1996 Edition
2. NCUA Examiners' Guide, Chapter 24, Item Processing

Appendices

304A Common Item Processing Terms

Appendix 304A

C0MMON ITEM PROCESSING TERMS

Adjustment - An entry requested by the corporate, member credit union, other financial institution, or Federal Reserve Bank because another institution has lost an item or cash letter, encoded an item incorrectly, etc.

Batch Processing - A group of transactions deposits, or check clearings assembled for proving or processing purposes. A batch may consist of 100-300 items. Each batch is accompanied by a batch control ticket which records the batch number, control totals, and routing information, etc.

Clear on Tickets - An action initiated by a clearing house bank to debit the corporate for an adjustment.

Fine Sort - A term used to describe sorting transaction media into numerical or alphabetical order.

Infirmity - Any known act, or omission, that would invalidate an instrument (share draft). Common examples of infirmities that would cause a financial institution to refuse payment are missing endorsements, missing signatures, conflicting amounts in written and numerical figures, alterations, or forgeries.

Item - Any media, excluding coin or currency, handled daily by a financial institution, which will be posted in total or in detail, as a debit or a credit, to an institution's account. Items are generally referred to by type, such as "cash items," "transit items," "on-us items," clearing items," "general ledger items," etc.

Incoming Return Items - Items being returned to the bank of first deposit (also referred to as the BOFD).

Inclearing - A process whereby items are captured, microfilmed, sorted, and then presented to credit unions for posting to member accounts. Inclearing items include but are not limited to the following:

1. **Convenience Draft** - A draft against a credit card account.
2. **Corporate Draft -** A draft written by a credit union against its own account.
3. **Pre-authorized Draft** - An item initiated by a third party, with authorization by the account holder, to debit the share draft account for payment. Examples of a pre-authorized drafts include health club dues, electric bills, insurance premiums, etc.
4. **Share Draft** - A written draft on a deposit account by a credit union member.

5. **Sight Draft** - An item initiated by a financial institution with an ATM, to debit a credit union for an error that occurred at that ATM, or a return item.

MICR - Magnetic Ink Character Recognition. Process used for encoding checks and/or other types items to be processed. The MICR-line, which contains check routing account number and dollar amount information, is read to capture (read) the item and then sort it.

Mis-sent Item - An item which has been sent in error to another financial institution.

Mis-sort - An item sorted into the wrong account. A mis-sent item leaves the financial institution, while a mis-sorted item remains in the financial institution's possession, but causes a control problem.

Proof Machine - A machine with multiple pockets designed to balance and encode debit and credit transactions, accumulated pocket and grand totals, and sort the source documents according to type.

Reader/Sorter - A high speed document handler that reads MICR encoded information on documents for transmission to a computer and sorts the MICR documents on digits selected either at the unit console (off-line) or by the computer program (on-line).

Raised Check - A check on which the dollar amount has been illegally increased.

Reject - An item rejected from the reader sorter which have to be processed manually. Reasons for rejection include incomplete or unreadable MICR lines, or invalid check digits/account types.

Return Item - An item the member credit union returns rather than posting to the member's account. Examples of return items include insufficient funds, stop payments, account closed, unauthorized drawer signature, and uncollected funds. Items must be returned within 24 hours of presentment.

Routing and Transit Number - The numbers printed on checks to identify the specific institution on which a check is drawn and to which the check must be sent for payment by the Federal Reserve..

Transit Item - A cash item drawn on a financial institution outside the immediate exchange area. Transit items are processed and sent to the Federal Reserve Bank(s), correspondent financial institutions, etc., for collection and remittance to the financial institution that originally received the items.

Transit Letter - A deposit form or remittance instruction slip that described and gives totals of items to be collected and paid, enclosed with the checks and other cash items. The term "cash letter" refers to transit items sent to a financial institution where the remitting institution maintains an account. A "remittance letter" is sent when payment must be made (usually by draft) for the items sent.

Truncation - The process of distributing the original copies of cleared share drafts. In truncated processing, drafts are stored for a prescribed number of days (usually 60-90), then confidentially shredded. In non-truncated processing, items are returned to the member credit union and distributed to the members in monthly account statements.

Chapter 305

FUNDS TRANSFER

Introduction

The funds transfer operation can present a high degree of risk to a corporate credit union (corporate), its members, and the credit union industry as a whole. In light of the potential for material losses through error, inadequate controls, or fraud, it is imperative that the corporate establish a strong internal control environment over funds transfer activities.

Security measures are for the benefit of the members, as well as the corporate. A corporate which operates under the impression that its own internal security measures can be lowered simply because legal liability can be shifted from the corporate to the member is incorrect in its approach. If a corporate's inadequate procedures cause a member credit union to suffer a loss, the resulting adverse publicity could prove detrimental to the corporate credit union system (System) and credit union industry as a whole. Also, lax controls at any one corporate can place many natural person credit unions at risk simultaneously.

Methods of Effecting a Funds Transfer

Most corporates use the Fedline II system to transfer funds in and out of their Federal Reserve (Fed) account. Other methods include:

1. sending funds through U.S. Central or another correspondent institution;
2. manually communicating the request to the Fed by telephone;
3. using Telex systems, such as Western Union; and
4. using alternative software (such as YOJNA, IntraNet, FTS, etc.) to access the Fed.

This discussion will primarily address controls over the Fedline II terminal. When the corporate uses other methods and systems for effecting funds transfer, the scope of the examination will be expanded to include a review of policies and operating procedures, internal controls, and segregation of duties surrounding the use of those systems and methods.

Managing the Fed Account

It is extremely important to ensure that:

1. Funds transferred are frequently balanced to the corporate's Fed account (at least twice a day for smaller corporates; more frequently for larger corporates).

2. A detailed reconciliation of the Fed account is accomplished daily by an individual not otherwise involved in the funds transfer process.

A daylight overdraft occurs if the corporate's Fed account is in a negative position any time during the business day. An overnight overdraft occurs if the corporate has a negative balance at the close of the business day for Fedwire. Items settle throughout the day in the corporate's Fed account, resulting in fluctuating daily balances. If the corporate does not carefully monitor its account activity throughout the day, and reconcile the account at the end of the day, overdrafts can occur. Examiners will ensure the corporate has procedures in place to adequately monitor and maintain its Fed account balance. Overdrafts in the Fed account can indicate that the corporate is having difficulties in meeting one of its primary roles, that of a liquidity facility.

If a corporate has incurred overdrafts during the examination period, the reasons for the occurrences should be determined. Most corporates are considered Banker's Banks under the Federal Reserve's Payment Systems Risk Policy. This policy states Banker's Banks should refrain from incurring overdrafts. They are usually required to post collateral to cover overdrafts if they do occur. The no-overdraft policy for Banker's Banks is primarily because these institutions are not required to maintain Regulation D reserves, and therefore, do not have access to the Fed discount window.

A few corporates have voluntarily waived their Banker's Bank status and maintain reserves with the Federal Reserve. Historically they have maintained their "zero tolerance" for overdrafting their reserve accounts. Examiners should be aware, however, if a corporate waives its banker's bank status, it then has the option of establishing overdraft cap limits as allowed by the Payments System Risk Policy.

Methods of Receiving Funds Transfer Requests

The payment order is the corporate's authorization to act on behalf of its member. As such, there must be controls in place to establish the authenticity and time of receipt of the funds transfer request order. These two elements are the primary components cited by the Uniform Commercial Code Article 4A (UCC4A) in establishing responsibility for executing the order. UCC4A has been established in most states and is incorporated into the Federal Reserve System's Regulation J. It establishes responsibility for improper or untimely processing of a payment order, or cancellation, from initiation to final execution of an originator's orders. UCC4A requires a security procedure acceptable to both financial the corporate and the member be established.

The most indispensable and sensitive components of funds transfer activities are the message systems employed to generate payment orders. Payment orders may be made in a number of ways ranging from manual (e.g. memorandum, letter, telephone, FAX, or standing instruction) to telecommunications systems.

Telephone Requests

Corporates receive their funds transfer requests primarily by telephone. It is extremely important that the corporate take appropriate steps to ensure telephonic requests for funds transfers are coming from an authorized individual.

Voice recognition is not an acceptable method for corporates to identify telephone callers who are requesting funds transfers. It is not reasonable to assume that a corporate's employees will be able to recognize the voices of many different employees from different member credit unions. Even the smallest corporates have many members using their funds transfer service, and most of those members have more than one individual authorized to telephone requests to the corporate. Therefore, examiners will always take exception to this practice.

Most corporates require that the employee taking a funds transfer request audibly repeat the information back to the member's employee making the request, in order to ensure that all details of the transfer are understood and accurate. All corporates should implement this procedure.

Telex

Examples of larger companies providing telex services for funds transfers are Western Union, RCA Globe, ITT World Communications, and Money Gram. Telex systems do not include built-in security features. It is the responsibility of the sending institution to incorporate a test key in all instructions to a receiver to execute a payment order. If corporates operate terminals for any company using telex services for funds transfers, the surrounding controls will be reviewed. Controls over origination, data entry, release, and balancing should be the same or similar to controls over FEDLINE.

Recording Funds Transfer Requests

Most corporates use recording equipment to document funds transfer requests. This security procedure is useful because recordings can be used to settle disputes between the corporate and member credit unions; and because it deters initiation of unauthorized or fraudulent funds transfer requests on the part of corporate and/or member credit union staff.

Recording equipment generally is capable of recording several lines simultaneously. The cost of these systems can reach into the tens of thousands of dollars. However, since recording greatly reduces the risks associated with the funds transfer operation, this cost is usually justified.

Some corporates use desktop telephone recorders to reduce costs. However, they are not recommended as most can be deactivated by the employee, their tapes must be changed more frequently, and they require more maintenance.

Corporates should have written procedures and strict controls over access to the recording equipment including the following:

1. physical security over the equipment and tapes;
2. the person responsible for changing and storing the tapes;
3. the person authorized to access and listen to the tapes;
4. requirements for periodically checking the quality of recordings;
5. retention period for the tapes (six to nine months is normal, but the corporate should review applicable laws and regulations); and

6. if desktop recorders are used, procedures should clearly state that they cannot be deactivated.

Other Methods of Receiving Funds Transfer Requests

Although the most common method for corporates to receive funds transfer requests is by telephone, there are a number of other ways these requests can be received. These are discussed below.

Written (e.g. by mail or in person)

Mail and in-person funds transfer requests are not an expeditious method of communicating a funds transfer request, so these types of requests are seldom used. However, if a corporate accepts such requests, the signatures on all requests should be compared to signature cards on file prior to processing the funds transfer. For written requests, a call-back to verify the authenticity of the request also should be performed. For accepting in-person requests, the corporate should require that the individual sign a request form and compare the signature card to the signature on file.

FAX

FAXing funds transfer requests is not recommended for the following reasons:

1. It is difficult, if not impossible, to determine whether the signature on a FAX request is original or has been cut and pasted onto the document.

2. It is impossible to positively authenticate the source of the request, as FAX machines can be programmed to put a false identification line on the FAX message.

3. The requester's password is compromised if the message is intercepted, or if unauthorized personnel view the FAX message after receipt.

Some corporates insist that FAX requests are necessary because members want to expedite a transfer, but have difficulty in reaching the corporate due to busy phone lines. The examiner will always discourage any use of FAX machines to receive funds transfer requests. However, if the corporate is willing to implement stringent additional controls over FAX funds transfer requests, exceptions may be considered. The following supplementary controls must be in place:

1. Call back all FAX requests, including those for "pre-authorized" funds transfers, to the original requester and a second authorized employee of the member credit union.

2. Prohibit the writing of pass-words, PIN numbers, or test keys on the FAXed documents.

3. Ensure written funds transfer agreements of those members that send requests by FAX on a frequent basis clearly describe the limitations of the corporate's liability for accepting these requests.

Telegram or Telex

Telegram and telex messages should not be allowed for receipt of funds transfer requests for the same reasons FAX messages should not be allowed. Except for requests originating from some remote foreign location, use of the telephone for requests is just as expeditious, and it allows the corporate to use the security procedures previously described.

Electronic Mail (E-Mail)

E-Mail funds requests are acceptable as long as the corporate ensures that proper internal controls and security procedures are in place. Procedures must be designed to prevent the receipt of unauthorized messages, and to prevent interception and possible manipulation of authorized messages. At a minimum:

1. Passwords and controls should be on whatever system is used, both at point of origination and at the corporate.

2. Incoming messages must be accessible only by authorized corporate employees from the moment they are received (i.e., passwords and other machine-enforced controls).

3. A return message, confirming receipt of the request, should be sent to the member. This should be done in a manner which will ensure the return message is being sent to the member, even if the original message originated elsewhere.

4. Missing required data or unreadable information should be resolved by telephone contact with the member.

Internally Generated Funds Transfer Requests

In addition to member funds transfers, corporates must move their own funds from institution to institution. Transfers for those corporates investing solely in U.S. Central are usually limited to a small number of destinations, such as the corporate's Fed account, commercial bank checking accounts, or U.S. Central. Since these requests are repetitive, they are likely to be established on Fedline as pre-authorized (card) funds transfer requests. As long as controls are in place over creating templates for these pre-authorized transfers, as discussed on page 305-13, risk exposure is minimal.

When a corporate transfers its own funds to a non-repetitive destination (e.g investment transfers), greater controls are required, as follows:

1. Requests should be signed by two authorized individuals in the investment department.

2. The funds transfer department should perform a call-back to the broker/dealer to verify the accuracy of the account number, amount, and other vital information before transmitting the funds. The telephone number and contact names should be from the funds transfer room's existing records, not from information supplied by investment department personnel. (See call-back criteria on page 305-11.)

If either of these controls are not in place, the examiner will require their immediate implementation and document the deficiency as an examiner's finding.

Receiving Funds Transfer Requests from Foreign Countries

Due to complex security problems associated with foreign communications, acceptance of funds transfer requests directly from foreign countries is discouraged. Rather, the member credit union will be required to have its overseas branch relay the request to one of its offices within the United States, which should then contact the corporate.

If a corporate does accept foreign requests from a remote location (i.e., some third world countries), it may be received via telegram or telex as that may be the only expeditious method of communication. Such messages should be received on a secured, or "tested" telex system.

Controls over Passwords/PIN Numbers/Test Keys

The best way to identify callers and authenticate requests is by use of carefully controlled passwords, PIN numbers, or test keys. Password and PIN refer to a word or string of characters or numbers which must be supplied by the user (requester) in order to make the request. A test key refers to the association of a code with the individual funds transfer request. The code is based on a sequential number, calculation, or algorithm which is tied to the previous message (request) which has been sent. The use of a "test key" is usually considered to be the most secure, since it is not as easily compromised.

Unless otherwise noted, the remainder of this discussion will use the term "password" to also include PIN numbers and test keys.

Allowing the same password to be shared by all employees of a member credit union is unacceptable. This practice increases the likelihood of controls being compromised and makes it more difficult to identify an individual and hold them accountable for their actions.

Some corporates assert that their written funds transfer agreements place legal responsibility for security problems, resulting from the sharing of passwords among the member's employees, solely on the member. Individual credit unions sometimes resist requests by the corporate to require separate passwords for each employee. Their typical objection is the inconvenience of assigning and maintaining a larger number of passwords. Such a position by the member credit union undermines the philosophy of the corporate that requires a high level of responsibility for security of passwords.

The method of assigning and communicating passwords to users must be properly controlled. The corporate should have written procedures for rectifying compromised password security by canceling the password and assigning a new one.

The password assignment and communication process must be independent of, and confidential from, operational staff who process funds transfers. The corporate must have security procedures over the process of communicating new passwords to or from individual users, as follows:

1. Passwords should be sealed individually in privacy envelopes which are sent to the member credit union's CEO or manager.

2. A separate verification form should be inside each envelope, which is signed by the user and returned directly to the corporate.

3. There should be controls in place at the corporate to ensure no passwords are activated until the verification is received from the original user.

4. All forms should be destroyed under dual control after their receipt has been recorded.

If the users at member credit unions are allowed to select their own passwords, controls must be in place over the communication of passwords. In addition, the corporate should require that alpha-numeric passwords be used instead of words. Users tend to select easily remembered words, or characters in a pattern. This increases the likelihood of compromise.

The corporate's funds transfer polices and procedures must require changing user passwords periodically, but not less than semiannually. In the case of an actual or suspected breach of security, passwords must be changed immediately.

Compromise of a password can occur in a number of ways. For example, an unauthorized individual may obtain a password from a rolodex file left exposed on a desk, or by looking over an employee's shoulder and reading it off a computer screen. Risks can be minimized by taking specific precautionary measures. For example, rolodex files should not be used for maintaining passwords. Corporate staff should never record passwords on funds transfer request forms, although there should be a notation area on the form where staff signify that the password was verified.

Passwords also can be compromised if employees discuss them in places were they may be overheard. Policies and procedures should require that employees not discuss funds transfer operational information outside the funds transfer area. Furthermore, the use of speakerphones to take funds transfer requests from member credit unions is not acceptable.

Passwords may also be stored electronically, either on the corporate credit union network (CCUN) system, a LAN (local area network), or some other system. Many corporates use the "DCME" screen on the CCUN system to store member passwords. If passwords are stored on the DCME, access to this screen must be limited to those employees who receive or verify funds transfer requests.

There are also a number of computer applications which are specifically designed to generate and store passwords. If such systems are located on the LAN or some other system, there should be machine controls in place to limit access to the password applications.

Passwords will be stored in some form (hard copy or electronic media) at the corporate's contingency site. These should be controlled appropriately, and there should be procedures in place to ensure a current set of passwords is maintained at the contingency site when passwords are changed.

Confirming Funds Transfer Requests

After a funds transfer request is received, but before the funds are actually transferred, the corporate should verify the authenticity and accuracy of the request. This is normally done by telephone call-back; however, it can also be accomplished by electronic mail or other means.

The most common method of confirming funds transfer requests is to make a telephone "call-back" to the member credit union. Telephone "call-backs" serve to:

1. confirm the accuracy of the request;
2. confirm that the request is originating from an authorized individual, from an authorized location; and
3. reduce the risk of errors or fraud.

Since passwords and telephone call-backs have somewhat different purposes, they are not substitutes for one another. This concept is not always realized by management.

Telephone call-backs should be performed by a different corporate employee than the one who took the request (telephone call) from the member. Preferably, the call-back will be made to an employee at the member credit union other than the employee who originated the request. This is sometimes difficult in small credit unions with limited staff. If the corporate does not require the call-back to go to a second employee of the member credit union, the examiner will determine whether the corporate has taken appropriate alternative actions to protect its own interests (including, if appropriate, a special disclaimer of liability in the funds transfer agreement with this member).

The corporate's procedures should require call-backs be made to the member's telephone as listed in the corporate's official records. A "speed dialer" used during the call-back process is unacceptable.

Employees may attempt to deviate from established call-back procedures to save time. For example, call-backs should not be performed by having the employee who received the funds transfer request, by putting the caller on hold, then having another employee confirm the information. This greatly reduces the effectiveness of the procedure, since this method does not ensure that the caller was calling from the member credit union.

Callback Criteria

While it is not time or cost efficient to perform a telephone call-back on every funds transfer request, there should be defined criteria in the corporate's procedures, outlining when call-backs are required. Common call-back criteria include:

1. All third-party funds transfers. The final recipient of a third party transfer is a party other than the member credit union or the corporate. The risk of loss is greater for third party transfers since the chance of recovering funds sent to a third party is less than recovering from the account of a member credit union.

2. All requests for establishing pre-authorized (card) transfers.

3. All funds transfers over a specified dollar amount.

4. All investment transfers which are not set up as a pre-authorized (card) transfer.

The criteria for determining which requests will be subject to call-back should be maintained as confidential information by the corporate. Knowledge of when a call-back is performed would assist fraud perpetrators in evading the corporate's security procedures. If the corporate has publicized the criteria, the examiner will recommend that it be changed, and that the criteria be kept confidential.

The corporate should also perform random call-backs on requests falling outside normal call-back criteria. This will deter attempts by both outsiders and corporate employees to circumvent established controls. (Although the motive is usually mere convenience, circumvention could be used to perpetrate a fraud.)

Electronic Mail Confirmation of Funds Transfer Requests

Funds transfer requests may be confirmed using electronic mail ("E-mail"), instead of telephone call-backs. Although use of electronic mail to communicate with members is not that common, this will change rapidly as corporates seek to further automate the funds transfer process.

If the corporate uses "E-mail" for confirming funds transfer requests, it must take steps to ensure integrity and control over the process, by determining that:

1. The system and its software have adequate security safeguards in place, both at the corporate and at the member credit union.

2. Any confirmation messages are transmitted to the system "address" listed in the corporate's records, and not sent the address in the request message.

When other methods of confirming funds transfer requests are used, the examiner must use judgment in reviewing the controls surrounding these methods. The corporate must implement adequate controls to minimize the risk of loss due to inadequate controls for confirming the accuracy and authenticity of a funds transfer request.

Post Telephone Audit of Funds Transfer Transactions

Some corporates have implemented an internal control procedure known as a "post telephone audit." In this procedure, an employee independent of the funds transfer operation telephones the member after completion of the transmissions of funds to confirm the authenticity and accuracy of the transaction.

Since the telephone audit is performed after the funds have been sent, it does not prevent errors or fraud from being detected before the funds are released. As such, the post telephone audit is not a substitute for telephone call-backs. The main purpose of the post telephone audit is to detect fraud perpetrated by employees within the corporate. These telephone audits are usually performed on a sample basis, with the larger and more risky transactions (such as third party transfers) more likely to be included in the sample.

Pre-authorized (Card) Transfers

Many funds transfer requests processed by corporates are repetitive transfers, such as when a member credit union transfers funds to an investment account at another institution. Once established, the wiring instructions for repetitive transfers stay the same, except for the dollar amount. These transfers are called pre-authorized transfers, and most often, a template is prepared and utilized for recurring transfers. Pre-authorized transfers are also commonly referred to as "card" transfers because originally, institutions kept records of pre-authorized instructions on files of index cards.

Corporates usually handle repetitive transfers by establishing a template screen within the Fedline terminal. Once established, a password or PIN number is associated with the wiring instructions. When a card transfer request is received, the caller must only supply the password or PIN number, and state that a transfer for a certain dollar amount is needed to the credit union's account at "ABC Bank."

The caller does not have to give an account number or the bank's ABA number, thus saving time and allowing the transfer to be sent more quickly and efficiently.

The corporate must have additional controls over the creation of card transfers, as follows:

1. Creation or editing of the templates should be performed by someone other than the employees who perform the "initiation" and "verification" functions on the terminal.

2. If the template screen is for an investment transfer for the corporate's own funds, then creation or editing of those screens should be performed by someone other than a corporate employee with investment authority.

Posting Funds Transfer Transactions

After the authenticity and accuracy of the request has been determined, the corporate is ready to post the transaction to the member's account. This should be done before the actual transmission, to ensure funds (or sufficient credit on a line of credit) are available.

Transmission of Funds on the Fedline Terminal

Funds transfer messages sent over the Fedline terminal must go through two processes before the message is transmitted:

1. Initiation involves entering the message into the terminal.

2. Verification involves reentering all or part of the message into the terminal. The security options on the system allow the corporate to decide exactly which data fields within the message will be re-entered. Once the verification process is complete, the Fedline terminal automatically transmits the message, and the funds are transferred.

If the data entered during verification does not agree exactly with the data entered during initiation, an error will occur, and the message must be correctly edited before it will transmit. (The verifier also has the option of canceling the message completely). Since the data entry during verification must be exactly the same as during initiation, it is not feasible to require non-numeric fields to be reentered. Therefore, corporates usually require re-entry for only numeric fields. The critical numeric fields include:

1. the dollar amount;
2. the ABA number of the receiving institution; and
3. the receiving account number.

The accuracy of the transmission is dependent upon these numeric fields, not upon the words and names in the message.

The corporate’s operating procedures must require two different employees to perform the initiation and verification processes on the terminal. This should be reflected in the corporate's written policies as well as mandated by the control parameters that the corporate has set up on the funds transfer operating system.

Audit Copy of Printout of Fedline Terminal Messages

Messages on the Fedline terminal are printed on a printer. There are three basic categories of messages which are transmitted via FEDLINE. These are:

1. outgoing transactions;
2. incoming transactions; and
3. miscellaneous messages.

The Fedline system assigns a sequence number to each message and each of the three message types has its own numbering sequence. All messages can be sent to the same printer, or different categories of messages can be sent to different printers.

Corporates generally use multiple-part paper on the Fedline printer. If multiple-part paper is not used, other adequate security arrangements must be established. One copy of the day's messages should be maintained in continuous form, from log-on to log-off. If the paper is broken (e.g. printer malfunction or paper supply runs out), a supervisor who is not a Fedline terminal operator should inspect the old and new continuous forms to ensure that no messages are missing. A supervisor should initial the beginning and end of each form where the gap occurs.

It is possible for larger corporates to develop suitable alternative controls so that the continuous form audit trail would not be necessary. For example, one corporate currently has an internal auditor who audits funds transfer messages hourly. The auditor tears the last copy off the printer, and checks the sequence numbers each time to ensure that no messages are missing. At the end of the day, the auditor accompanies the operator when the terminal is logged off, and compares the total number of messages reported by the terminal at the time of log-off with the last sequence numbers audited.

Other Security Features of the Fedline Terminal

Local Security Administrator

The Local Security Administrator (LSA) is responsible for setting up new users on the local Fedline system. The LSA also is responsible for setting the function levels of all users. The LSA is a powerful user and has the tools to bypass all security and effectively send a transfer with no supervision, if other compensating controls, such as prompt balancing and timely activity log review are not in effect. Internal controls and proper separation of duties are important in protecting the corporate from significant risk. The LSA should not have unaccompanied access to the funds transfer room.

User/Access Report Evaluation

The "User Profile Report" will be obtained for review during each examination. The examiner should observe the security administrator

obtaining this report from the Fedline terminal. The User Profile Report shows:

1. all authorized users;
2. the functions they are allowed to perform; and
3. each user's authority level within each function.

The examiner should identify all users of this report and determine that authorization levels ensure adequate segregation of duties and internal control.

Staff members should not have more than one user ID. Doing so would enable them to bypass the verification requirement by signing on with the first ID to enter transactions, and then signing on with the second ID to perform the verification.

In reviewing the User/Access report, particular attention should be placed on the following function codes:

1. LA Local Administrator;
2. FT Funds Transfer;
3. HC Host Communications;
4. ST Securities transfer function; and
5. ** The double asterisk allows a user to perform ANY FUNCTION

HC (Host Communications Function)

Staff members assigned the LSA function should be restricted from the Host Communications (HC) function. A staff member with HC access could log on to the Federal Reserve host mainframe and transmit the funds transfer. Note: The staff member must have a host log on ID and security access on the Federal Reserve host mainframe to implement the funds transfer. There is no way to determine at the corporate if a user has host access. This can be determined only by calling the data security department of the Federal Reserve Bank. The listing or non-listing of the HC application under the user's ID is usually a good indicator of their host access ability. However, this method of determination is not conclusive since the LSA can use the Master ID to activate this application at any time.

** (Double asterisk) Function Code

The ** grants access to all applications on the menu except the LA function. The examiner will determine whether giving the individuals involved such widespread authority is appropriate.

In smaller corporates, the use of this function code may be acceptable, as long as initiation and verification functions are required to be performed by two different employees. However, in larger corporates, where there is the opportunity for greater separation of duties, the use of this code becomes more difficult to justify.

Verification Fields

Staff members with Manager function level or the LSA have the ability to set the verification fields for funds transfers. Available options range from no verification of any field to required verification of every field. In between the two extremes, the Manager or LSA can select individual fields that would require second operator verification. Verification refers to fields that must be re-keyed by a second operator. If none of the fields have an "X" next to them, no re-keying is required by the second operator. However, a second operator will still have to provide a sight verification by calling up the transfer on the screen and reviewing it. The Federal Reserve Board recommends that, at a minimum, verification of the dollar field should be required, (i.e., marked with an "X" to indicate that a second operator will have to re-key in the dollar amount). Some corporates may choose additional fields to verify, such as, account number, routing, number, etc. Refer to the Appendix 305A, for additional discussion of verification fields.

Physical Security

Location of the Fedline Terminal

The Fedline terminal should be located in a secured room dedicated solely for that purpose, with only authorized terminal operators and their supervisors having access. However, some (but not all) smaller corporates have limited space available and are unable to place the terminal in a secured room. In that case, the corporate should place the terminal in a low traffic area, but within sight of the workstations of all the terminal operators, and/or the operator's supervisor. Having the terminal in a low traffic area will reduce the likelihood of unauthorized personnel gaining access to the terminal unnoticed. Having the terminal within sight of the workstations of all the operators, and/or within sight of the supervisor, could act as a psychological disincentive against any authorized operator initiating any unauthorized transaction. In addition, any other security controls available, such as a locking terminal cabinet, power-on passwords, etc., should be utilized when possible.

Number of Staff Present

At least two employees (that is, two employees who understand and have the authority to operate the Fedline terminal) should be present at all times when the Fedline terminal is operational. This should be a written requirement in the corporate's funds transfer policies and procedures.

Management should maintain a list of individuals authorized to be in the funds transfer room. Funds transfer room access should be restricted from unauthorized individuals such as maintenance staff, building management, etc.

Security of Telephone Lines

The corporate must establish controls to ensure all telephone lines are secure from eavesdropping. A breach of security could occur from either outside or inside the building. Security outside the building is the responsibility of the telephone company. However, security inside the building is the sole responsibility of the corporate. The examiner will ensure that:

1. the corporate's telephone system does not allow one extension to listen in on another extension (not usually a problem, as most telephone systems in use today no longer allow this to occur); and
2. the telephone switching panel is secure within the building.

The location and security of the panel is important since, with the aid of some relatively simple equipment, an unauthorized person could listen to a telephone line at the panel. The room containing this panel should be locked, and the key maintained by management of the corporate. When properly controlled, management will know when a technician needs access to this panel. Each technician's identification should be checked, and proper precautions should be taken to avoid any breaches of security during times when the panel is unsecured.

Encryption Key Devices

Fedline software is designed so that the "encryption key" will deactivate if the terminal is jostled or moved. The Fedline terminal cannot be used again until the "encryption key" is reset.

Each Fedline user is provided with one of two devices to reset the Fedline encryption key. The examiner will determine which of these two devices (described below) was provided to the corporate, and then determine that proper physical security measures are taken to protect these devices.

Fedline Configuration Diskette

Some corporates are supplied by their Federal Reserve Bank with a computer diskette containing software which will reset the encryption key in their Fedline terminal. For security reasons, the Fedline licensing agreement allows only two copies of the diskette to be maintained, one copy on site, and the other off site for use during implementation of its disaster recovery plan.

It is vitally important that these two diskettes be kept in very secure areas (i.e., safes or safety deposit boxes), and that access be closely controlled.

Two-Part Encryption Key Codes

Some corporates are supplied by their Federal Reserve Bank with a two-part code which, when entered into the terminal keyboard, will reset the encryption key in the Fedline terminal. The two halves of the code (each 16 digits in length) are to be maintained in the custody of two separate custodians in separate secure areas. The examiner will ensure this is being done. The examiner will also ensure that the two custodians each maintain a copy of their half of the code in a secure off-site location, for use during implementation of the disaster recovery plan. In certain circumstances, one of the halves is maintained by the Federal Reserve Bank.

Master Password Backup Storage

There may be a situation when a local administration function needs to be performed, but there are no LSA's available. Therefore, the Master User ID password should be stored in a secure location and be available for the operating personnel should the need arise. The Master User ID password use should be governed by sound internal control procedures and should be changed by the LSA after it has been used by the operating personnel.

PC Power on Password

Many PC's have the ability to activate a power-on password. If the Fedline terminal has this feature, it should be activated. The LSA should not have access to this password. This control will prevent a LSA from entering transfer requests when the terminal is not monitored by operating personnel.

Written Policies and Procedures

The Corporate Examination Questionnaire - Funds Transfer, OCCU 305Q, lists questions regarding internal control practices pertaining to the funds transfer operation. Many of the questions specifically ask whether certain practices are addressed in writing in the corporate's policies and procedures.

Written internal control practices ensure consistent application and enforcement, even when there is a change of staff or management. It is also easier to hold employees accountable for following the internal control practices when they are in writing.

Written Funds Transfer Agreement with Members

The corporate should have a written funds transfer agreement with each member. The agreement should outline the duties and responsibilities of each party. The agreement's purpose is to protect the interests of both the corporate and its members. Among other things, it should specify the responsibilities of the member concerning security features such as password/PIN numbers/test keys and telephone "call-backs."

The corporate should obtain the advice of its attorney in drafting the agreement. Written documentation, on the attorney's letterhead, should be maintained as an indication that the attorney:

1. reviewed the agreement;
2. found it to be in compliance with applicable law;
3. believes that it is adequate to protect the corporate's interests; and
4. believes that it adequately addresses the issue of "commercially reasonable security procedures" as discussed in Article 4(a) of the Uniform Commercial Code.

In addition to the agreement, the corporate should have written documents from each member which authorize certain employees or officials to request funds transfers. This may be the ONLY document maintained in some corporates. In those cases, the examiner will take exception and require development of a formal funds transfer agreement.

Personnel Policies for Funds Transfer Operation

Even a corporate with the most sound internal control structure could hire individuals who could commit funds transfer fraud. Personnel policies should be in place which will reduce the possibility of hiring such individuals. Having a responsible level of due diligence in the hiring process would help reduce this risk. Having these policies in writing will help to ensure they are consistently applied, and may improve the corporate's chances of collection if a bond claim is made against an employee.

The corporate should have written procedures addressing the review of references of funds transfer staff, including but not limited to:

1. credit checks;
2. bondability checks; and
3. criminal background checks.

The procedures should detail how background checks are completed. Procedures for verifying references and documenting the verification should be detailed. The corporate should be aware that a bondability check only identifies whether the potential employee is bondable by the corporate's bonding company. (Normally, a corporate's bond is held by a company that specialize in credit union bonds.) These bondability checks attest only to bonding actions which may have occurred as the result of previous credit union employment - if the individual committed previous crimes at some other type of financial institution. The bonding company may not be aware of these. Criminal conviction checks should not be limited to the state and municipal court records where the corporate is located. Federal court records should also be investigated, as the majority of financial institution fraud cases are handled at that level.

The process of performing pre-employment credit and background checks is embroiled in a number of sensitive employment and privacy laws, many of which differ from state to state. Appropriate disclosures must be given to the applicant prior to performing credit and/or

background checks. The corporate should always ensure the review and concurrence of legal counsel in determining its pre-employment procedures.

The corporate should also have procedures which address what steps should be followed when funds transfer personnel give notice of resignation, or are terminated. The procedures should include that immediately upon either occurrence, these individuals should be relieved of funds transfer responsibilities, and all access and authorization levels canceled both at the corporate and the Federal Reserve Bank. Employees should be transferred to a non-sensitive area after giving notice of resignation.

Contingency Planning for Funds Transfer Operation

Restoration of funds transfer operations is a critical factor in disaster recovery planning. If the corporate does not normally have a high volume of funds transfer activity, emergency funds transfer operations can be conducted manually via telephone contact with the Fed. If the corporate plans to use the telephone, staff must know the location of the back-up code word list.

If the corporate has a "mirror" Fedline terminal at the hot site location, the corporate must ensure it is adequately secured. The examination scope will include review of Fedline user access and machine security settings for any hotsite terminals. Procedures and controls should remain the same at the "hot-site" as during normal operations.

Examination Objectives

The objectives for reviewing funds transfer activities are to:

1. Determine if the corporate's policies, procedures, and internal controls are adequate to monitor and control the risk in its funds transfer activities.

2. Assess management's guidelines for evaluating and monitoring funds transfer activities.

3. Determine that corporate management and officials are adhering to established guidelines.

4. Initiate corrective action when the corporate's funds transfer policies, procedures, practices, and controls are deficient.

Examination Procedures See Corporate Examination Procedures - Funds Transfer (OCCU 305P).

Examination Questionnaire See Corporate Examination Questionnaire - Funds Transfer (OCCU 305Q).

References

1. NCUA Corporate Examiner's Guide
2. FFIEC Information Systems Handbook, 1996 Edition
3. Uniform Commercial Code, Article 4A

Appendices

305A FEDWIRE DISCUSSION - Excerpts from the FFIEC Information Systems Examiner's Guide

305B Copies of Sample Fedline Miscellaneous Security Settings and User Access Reports

Appendix 305A

FEDWIRE DISCUSSION - Excerpts from the Federal Financial Institutions Examination Counsel's Information Systems Examiner's Guide

Fedwire is the Federal Reserve System's nation-wide electronic funds and securities transfer net-work. Fedwire links the 12 Federal Reserve Banks with the many depository institutions that maintain reserve or clearing accounts with the Federal Reserve. Fedwire processes approximately $1.4 trillion in funds and securities transfers each day. It provides for the electronic transfer of **immediate** and **irrevocable** payments between participating institutions, and functions as both a clearing and settlement facility. The Fedwire book-entry securities transfer system provides for the transfer of U.S. government and federal agency securities that settle on the books of the Federal Reserve.

Fedwire may be accessed by direct computer interface, or off-line by telephone through a PC-based electronic system called Fedline. Fedline was developed by the Reserve Banks and uses dial-up lines for network access.

The Fedwire funds transfer system is a credit transfer system. Each funds transfer is settled individually on the books of the Federal Reserve as it is processed, and is considered a **final and irrevocable** payment. When a corporate sends a funds transfer request, it **irrevocably** authorizes its Reserve Bank to debit (charge) its account for the settlement account, and further authorizes the Reserve Bank of the receiving institution to give credit in the same amount to the payee. The Federal Reserve guarantees immediate availability of funds; once the Federal Reserve bank credits the receiving institution's account or delivers the advice of payment, the Federal Reserve Bank will not reverse credit for the payment. Therefore, there is no settlement risk to the recipient of a Fedwire Transfer. The Federal Reserve Bank assumes the risk only if the sending institution overdraws its position at the Reserve Bank.

The Federal Reserve's payments system risk policies are designed to limit the risk that a financial institution fails with its reserve account overdrawn. Reserve Banks require that depository institutions continuously monitor and adjust their reserve account positions to ensure adequate funds are on hand, or that they are in compliance with established overdraft limits and collateral requirements.

Other risks associated with Fedwire funds transfers include potential loss due to errors, omissions, and fraud. Corporates are expected to have internal controls and segregation of duties sufficient to reasonably ensure that the risk of loss from these risks is minimized.

FEDLINE TERMINAL SECURITY MEASURES

1. THE LOCAL SECURITY ADMINISTRATOR

The Local Security Administrator (LSA) is responsible for setting up new users on the local Fedline system. The LSA also is responsible for setting the function levels of all users. The LSA is a powerful user and has the tools to bypass all security and effectively send a transfer with no supervision if other compensating controls, such as limited access to the terminal, prompt balancing, and timely activity log review are not in effect.

The LSA should be someone who has NO day-to-day operational duties on the Fedline terminal. The LSA's main purpose is to add new users and change function security levels. Anytime the LSA uses the terminal, a member of the operations staff should be present to monitor his/her actions. If the Fedline terminal has a power on password, it should be implemented and the password restricted from the LSA. In addition, the LSA should not have a host access logon (HC) at the Federal Reserve host mainframe computer. Not having host communications prevents the LSA from logging onto the host mainframe and sending a transfer. (However, the LSA could queue a funds transfer (TQ status), and the next time a valid transfer exchange was made, the unauthorized transfer would be sent automatically.)

The LSA with unrestricted access could perform the following functions to bypass security and send a funds transfer without involvement by a second individual:

a) add two new user ID's with enter and verify capability, and then effect a transfer single - handily.

b) change the verification rule to "N," thus eliminating the verification requirement.

c) change the verification threshold dollar amount to $99,999,999.99, thus circumventing the verification requirements.

2. THE MISCELLANEOUS SECURITY SETTINGS

The Fedline Miscellaneous Security Settings will be reviewed at every examination. The settings are as follows:

a) User ID suspended - Consecutive bad password retries

This setting specifies the maximum number of consecutive invalid sign-on attempts operators can make before the local user ID is suspended. This prevents an unauthorized person from trying to guess the password of a legitimate user by limiting the number of invalid password retries. ***The Federal Reserve Board's recommended setting is 3.***

b) Users must periodically change their password every XX days

This setting Specifies the maximum number of days operators can use their password before they must change it. ***The Federal Reserve Board's recommended setting is 30.***

c) Verification rule

This setting determines the message verification requirement, which requires that more than one person be involved with the processing of all transfers completed on the system. Three options are available, N, U, and E (see the description of the option settings below**). The Federal Reserve Board's recommended setting is E, however U is acceptable.**

1) *N - No restriction (Very high risk)* This option allows the operator who entered and/or updated a message also to verify that same message. There is no dual control of any funds transfer if this option is chosen. For example, Joe enters message. He also can update and verify that same message.

2) *U - Verifying operator cannot be the last operator who updated the transfer*. This option prevents the last operator who entered or updated a transfer from verifying that same message. It would allow the original operator to verify the transfer if it was changed by a second operator. For example, Joe enters a transfer and Paul updates (changes) that same message. Paul cannot verify that same message, but Joe can.

3) *E - The verifying operator cannot be operator who entered or updated the transfer*. This option prevents any operator who entered or updated a transfer from verifying that same transfer. For example, Mary enters a transfer and Paul updates that same transfer. Neither Mary nor Paul can verify that same message. A third operator with has verification authority must verify the transfer.

d) Override and release rule

This field is used to indicate the level of restrictions placed on overriding and/or releasing transfers. This potentially allows users to bypass verification. Only operators with *supervisor function* access level have the ability to perform the Override & Release function. Three options - N, U, or E - are also available for the override and release rule. ***The Federal Reserve Board's recommended setting is E.***

1) *N - No restriction on override or release.* Any operator with the supervisor function access level can override or release the verification of a transfer regardless of any previous processing performed.

2) *U - Limited restriction on override or release.* The operator overriding or releasing the transfer cannot be the operator who last updated the message. (This setting may be considered by smaller corporates with limited staff.)

3) *E - Full restriction.* The operator releasing the transfer cannot be the operator who updated or who originally entered the message.

e) Time-out Intervals

This parameter minimizes the amount of time that a terminal remains active if a user forgets to sign-off. It causes the system to revert to the Fedline Sign-on screen after a specified amount of time passes in which no keystrokes have been entered. **The Federal Reserve Board's recommended setting is 10 minutes.**

f) Cycle-Date rollover and Print-delete option

Before the beginning of each day's work, a function must be performed on the Fedline terminal known as the "cycle date rollover." The purpose of this function is to reset the date on the terminal. The Fedline system requires the operator to clear or cancel any messages that are still pending (i.e. - have been initiated but not verified/ transmitted) before performing this function. If any messages are pending, requiring an operator to cancel them in order to complete the cycle date rollover, policies should require that a record of these messages be reported to management. The software is originally set on "Full" as the default.

1) *FULL* - Prints a full recap report of the previous days funds transfers before they are deleted by the cleanup cycle data mode change program.

2) *SUMMARY* - Prints an abbreviated report of the previous days funds transfers before they are deleted by the cleanup cycle date mode change program.

It is recommended that this option be set in the FULL account option so that a complete detailed record is on file and can be reviewed.

g) Suppression of the Check for Possible Keyboard Eavesdropping

This option on the system allows the administrator turn off or keep on the "Possible Keyboard Eavesdropping" message each time the system is entered. It is recommended that this option be kept <u>on</u> to assure that no other software on the system is affecting the Fedline II software.

3. THE USER/ACCESS REPORT

The user access report lists the various capabilities of each Fedline user. The report will be reviewed to determine that no one person can effect a funds transfer, and that access levels on all Fedline applications are limited to what users must have to do their job. Corporates have a tendency toward having multiple "back-ups" in case of absence, etc. and having the back-up staff with active access on Fedline. Excessive "back-up" personnel with continuous Fedline access should be discouraged.

The following additional controls should be observed in review of user/access levels.

a) The Local Administrator (LA) function should not have access to the funds transfer (FT) application or host communications (HC). In fact, there is no reason for the LA to have any other available applications beyond LA. Note: There is no way to determine conclusively at the corporate if any user has host access. This can only be determined by calling the data security department of the respective Federal Reserve Bank. The presence of the host communications (HC) under their user ID is usually a good indicator, but not conclusive since the LSA could use the "Master ID" to activate the HC application at any time.

b) No user should have more than one user ID. Doing so would enable the individual to enter a funds transfer using the first ID, then log back on and verify and send the message using the second ID.

c) No more than two staff members should be assigned as Local Administrators. The Federal Reserve Guidelines suggest an Administrator and one backup administrator.

d) No funds transfer staff should have the Funds Transfer "Supervisor" or "Manager" function. These functions have access levels that can be used to bypass the verification requirement. These access levels should only be activated by the Local Administrator in unusual circumstances. The LA should monitor the actions performed using these access levels and then de-activate the access levels when the action is completed. Note: It is possible that the supervisor function may be needed in some Fedline applications such as Start-up/Shutdown. However, it is not normally needed in funds transfer.

4. THE VERIFICATION FIELDS

The "update funds application attributes" option allows staff members with "Manager" function level or the LA to set the verification fields and applicable verification thresholds for funds transfers. Verification means fields must be re-keyed by a second operator. If none of the fields has an "X" next to them, none have to be re-keyed. However, a second operator still has to call up the transfer on the screen and review it prior to releasing it.

Available options range from no verification of any field to required verification of every field. Between these two extremes, management and/or the LA can select individual fields that would be required to be verified. At a minimum, verification of the dollar amount should be required.

Verification thresholds allow the corporate to set a dollar amount over which all funds transfers must be verified. Normally, the threshold should be set at $0.00, which requires verification of all funds transfers. If the verification level is set at a higher amount, this amount should be approved by the board of directors and noted in the minutes. There should also be compelling reasons why management does not want to have all funds transfers require review by a second operator prior to being sent.

5. GENERAL CONTROLS

a) The "master" User-ID

It could occur that a local administration function needs to be performed but no LA is available. In case of such a situation, the "master" user-ID password should be stored in a secure location should the corporate need to access it. In no case should any operating personnel be able to access the "master" password individually. It should be under dual custody, preferably in a lock box with dual keys/combinations.

b) Configuration Diskette

This diskette is used by the corporate, in conjunction with the Federal Reserve, if for some reason everyone is locked out of the system. The configuration diskette should also be stored in a secure location under dual custody.

c) Power On Password

Most micro-computers have a power on password feature, which requires that a password be input before the computer will activate. If the Fedline terminal has this feature available, it should be activated. If a power on password is activated, it should not be disclosed to the local administrator. This would preclude the local administrator performing unauthorized system changes and/or transfers.

APPENDIX 305B

SAMPLE FEDLINE MISCELLANEOUS SECURITY SETTINGS AND USER ACCESS REPORTS

Corporate management must be aware of the order and timing of the various types of transactions which post to its Federal Reserve account throughout the business day, in order to properly manage the account and ensure overdrafts in the account are avoided. The following is a summary of the posting order.

Opening Balance (Previous Day's Closing Balance)

Items Posted at Opening of Fedwire:

+/- Government and commercial ACH credit transactions
+ Advance Notice Treasury investments
+ Treasury, state, and local government securities interest and redemption payments
+ Treasury checks, postal money orders, local FRB Checks, and savings bond redemptions

Items Posted Throughout the Business Day

+/- Fedwire Funds Transfers
+/- Fedwire book entry securities transfers
+/- Net settlement entries

Items which post by 9:15 a.m. Eastern Time

- Original issues of Treasury Securities

Items which post at 11:00 a.m. Eastern Time

+/- ACH debit transactions

Items which post at 11:00 a.m. Eastern Time

+/- Commercial Check Transactions, including returns
+/- Check correction amounting to $1 Million or more
+/- Currency and Coin Deposits
+/- Credit Adjustments amounting to $1 Million or more

Items which post by 1:00 p.m. Eastern Time

+/ Same day Treasury Investments

Items which post at 2:00 p.m.

+/ Manual Letters of credit (government grant drawdowns)

Items which post at 5:00 p.m. Eastern Time

+ Treasury checks, postal money orders, local FRB checks, savings bonds redemptions
+ Manual letters of credit
+/- ACH return items and check-transaction items

Items which post after Closing of Fedwire

+/- Other non-funds transfer transactions (non-cash government coupons, T&L calls, discount window loans, currency and coin)

Equals Closing Balance

Chapter 306

AUTOMATED CLEARING HOUSE (ACH)

Introduction

An Automated Clearing House (ACH) is a network which exchanges funds and related information electronically among individuals, businesses, financial institutions, and government entities. ACH rules and regulations are established by The Federal Government via the "Green Book", and the three private ACH operators mentioned below. Other local and regional ACH associations provide input into the rules.

The ACH Network

The Federal Reserve is the principal ACH operator, distributing ACH transactions through Fedline. There are also private sector operators, such as the New York Automated Clearing House (NYACH), VISA, and the Arizona Automated Clearing House Association (ACHA). All participants in the network fall into one or more of these six categories:

1. Originator - An originator may be a company or individual who initiates ACH entries into the payment system according to an agreement with a receiver.

2. Originating Depository Financial Institution (ODFI) - The ODFI accepts and forwards ACH entries initiated by an originator.

3. ACH Operator - A central processing facility operated by the Federal Reserve Bank or other private sector organization. The operator receives electronic entries from ODFI's and distributes entries to the RDFI (see below) or other ACH operators.

4. Receiving Depository Financial Institution (RDFI) - A financial institution which receives ACH entries and posts to the receiver (depositor) account.

5. Receiver - A natural person or organization that has authorized ACH entries to be initiated to their account with an RDFI.

6. Third Party Processor - A third party processor may serve as an agent for an ODFI or RDFI. The ODFI and RDFI are still responsible for compliance with ACH rules and regulations.

ACH System Operations

The ACH system supports both credit and debit transactions. In credit transactions, funds flow from the originator's account through the ODFI to an account held by the receiver at the RDFI. For ACH debit transactions, the funds flow from the receiver's account at the RDFI through the ODFI to the account of the originator.

Examples of ACH Credits	Examples of ACH Debits
• Payroll direct deposits	• Insurance premium collections
• Social Security payments	• Mortgage and loan payments
• Dividend and interest Payments	• Consumer bill paying
• Corporate bill payments to contractors and vendors	• Corporate cash concentration transactions

ACH data transmissions always flow in the same direction -- from originator to the ODFI to the ACH operator to the RDFI -- regardless of the funds flow. This is true whether the item is a debit or a credit. For credits, the ODFI's settlement account is debited and the RDFI's settlement account is credited. For debits, the ODFI's settlement account is credited and the RDFI's settlement account is debited.

The following are the steps of an ACH origination.

1. The originator (individual or business account holder) initiates a payment order to the ODFI.

2. The ODFI transmits the payment information to the ACH operator.

3. The ACH operator receives data from the ODFI and sorts the entries by routing number.

4. The entry is transmitted to the RDFI.

5. The RDFI receives, processes, and posts the ACH data to the receiver account on settlement day.

ACH return items flow from the RDFI to the ACH Operator to the ODFI. The ODFI must notify the Originator of items which are returned.

Third party processors may become involved at any step in the process. They may prepare files and send them to the ACH Operator on behalf of ODFI or they receive them on behalf of RDFI. Regardless of the role third party processors play, the responsibility for rules adherence and liability falls on the appropriate financial institution using the third party processor.

ACH Uses

The ACH Network supports a number of different payment applications. A unique Standard Entry Class (SEC) code identifies each application and the related ACH record format used to carry the payment and payment-related information. An originator initiates entries into the system, authorizes either a debit or credit, which affects either a consumer or a business account at the RDFI. Listed below are SEC codes and the different products each code supports.

Consumer Applications

1. Pre-arranged Payment and Deposit Entries (PPD) include both Direct Deposits and Direct Payments.

   a) Direct Deposit is a credit application that transfers funds into a consumer's account at the RDFI. These funds represent a variety of products, such as payroll, interest, pension, etc.

   b) Direct Payment (Pre-authorized Bill Payment) is a debit application. Companies with billing operations may participate in the ACH Network through the electronic transfer (direct debit) of bill payment entries. Through pre-established or single entry written authorizations, the consumer grants the company authority to initiate periodic charges to their account. Examples of recurring bills paid by ACH include insurance premiums, mortgage payments, and installment loan payments. An example of a non-recurring bill (i.e., the amount varies) paid by ACH is utility payments.

2. Point of Sales Entries/Shared Network Transactions (POS/SHR) are two SEC codes, which are most often initiated by the consumer via a plastic access card, represent point of sale debit applications in either a shared or non-shared environment.

3. Machine Transfer Entries. The Network supports the clearing of transactions from Automated Teller Machines (ATMs).

4. Customer Initiated Entries (CIE) are limited to credit applications where the consumer initiates the transfer of funds to a company for payment of funds owed, typically through some type of home banking product.

Corporate Applications

1. Cash Concentration or Disbursement (CCD) can be either a credit or a debit transaction where funds are either disbursed or collected between corporate entities. This application can serve as a stand-alone funds transfer or it can support a limited amount of payment-related data with the funds transfer.

2. Corporate Trade Payments allow corporations to transfer funds (debit or credit) within a trading partner relationship.

3. Corporate Trade Exchanges (CTX) support the transfer of funds (debit or credit) within a trading partner relationship in which a full (ANSI ASC X12) message or payment-related (UN/EDIFACT) information is sent with the funds transfer. Upon receiver request, the ODFI must provide all payment related information in the addenda records transmitted with CCD and CTX entries. The information must be provided by the opening of business on the second banking day following the settlement date of the entry.

Other Applications

1. Automated Accounting Advice is an optional service provided by ACH operators that identifies automated accounting advises of ACH accounting information in a machine readable format. This facilitates the automation of accounting information for participating depository financial institutions (DFIs).

2. Automated Notification of Change (NOC) or Refused Notification of Change (COR) is used by an RDFI or ODFI when originating a notification of change or refused notification of change in an automated format.

3. Death Notification Entries are used by agencies of the federal government to notify a DFI that the recipient of government benefits has died.

4. Return Entries (RET) are used by ODFI's that convert paper returns to an automated format. They may also be used by ODFIs that are originating dishonored returns, when the return that is being dishonored carries the SEC RET. Upon request of the receiver, the ODFI must provide all payment related information contained in the addenda records transmitted as CIE entries. Information must be provided by the opening of business on the second banking day following the settlement date of the entry.

5. Truncated Entries (TRC/TRX) are used to identify batches of truncated checks.

6. Destroyed Check Entries (XCK) can be used by an institution for collecting certain checks that have been destroyed.

7. Beginning March 19, 1999, ACH debits and credits may be made directly to a financial institution's general ledger accounts. For those institutions whose ACH systems are interfaced with its loan accounts, including ACH credits made directly to loan accounts.

8. Beginning September 18, 1999, a standard entry class code of RCK will be implemented for collection of re-presented checks through the ACH network. Currently these transactions are allowed using SEC code PPD.

9. Beginning September 17, 1999, cross-border payments to Canada will be permitted using SEC codes CBR and PBR.

Applicable Regulations

ACH Rules

ACH Rules are published annually and incorporate rules approved by the NACHA board. The ACH is a self-regulated body which depends on users' compliance with ACH rules for the system to operate efficiently. The rules provide warranties and indemnification to ensure that entries are originated, received, and returned promptly.

ODFIs are responsible for most of the warranties and indemnifications; however, many responsibilities pass through the ODFI to the originator. The warranties and indemnifications reside mostly with the ODFIs and originators because they have primary control over the initiation of entries.

Responsibilities of ODFI's include:

1. ensuring entries are properly authorized;
2. submitting timely entry of transactions into the ACH system;
3. terminating the origination of entries, when appropriate;
4. meeting the requirements for data security and personal identification numbers in certain applications;
5. ensuring that the entries contain the appropriate information;
6. assuring an agreement is in place with originators and sending points; and
7. complying with ACH rules.

The ODFI indemnifies the RDFI, ACH operator, and ACH association against loss when breaching any of these warranties. NACHA may require ODFIs that fail to adhere to the ACH rules to reimburse an RDFI or ACH operator for claims, losses, or expenses (including attorneys' fees and costs) that result directly or indirectly from the breach of warranty. Thus, a failure to comply with the warranties may result in a loss to an ODFI. ODFIs assume responsibility for most warranties related to ACH transactions. The RDFI warrants to each ODFI, ACH operator and ACH association that the law permits it to receive entries allowed by the ACH rules. RDFI also warrants that it is in compliance with the rules concerning RDFIs and participating DFIs.

Responsibilities of RDFIs:

1. receiving and validating all ACH entries;
2. posting to receiver's accounts;
3. validating pre-notifications;
4. returning entries which do not post within proper time frames;
5. handling remittance data as required by the receiver;
6. making funds available to the receiver within proper time frames; and
7. fulfilling responsibilities when a receiving point is used.

<u>Electronic Funds Transfer Act (EFTA)</u>

The EFTA provides for rights and duties of consumers and financial institutions regarding electronic funds transfers. EFTA covers both private-sector and government-initiated transfers.

Regulation E

Regulation E was issued by the Federal Reserve Board of Governors implementing EFTA to ensure consumers have a minimum level of protection in disputes arising from electronic funds transfers.

Uniform Commercial Code Form UCC-4A (UCC4A)

UCC4A was developed in part for funds transfers, but also applies to wholesale (institution-to-institution) ACH credit transactions and certain ACH credit transactions not subject to the EFTA.

Green Book

The Green Book is published by the Financial Management Services agency of the Treasury Department. It specifies procedures for ACH transactions which are originated for the Federal Government.

ACH Risk Assessment

The risks associated with processing ACH payments vary based on whether the item is an ACH debit or credit, and whether the item is received or originated. ACH risks are similar to those within the funds transfer and check payment systems. Although ACH transactions are generally for small dollar amounts, participating financial institutions may be exposed to credit risk for the entire ACH transmission file, not just individual entries in the file.

Corporates must understand payment processing risks (i.e., credit/exposure, operational, fraud, systemic, and third party processing) and have detailed written policies and procedures in place to control them.

Credit (Exposure) Risk - ACH Credits

The risk that a party to a transaction will not have sufficient funds for settlement is called credit (exposure) risk. Credit risk is also defined as “temporal” (time) risk. There is credit risk to both the ODFIs and RDFIs.

For ODFIs this risk is associated with sending credit files to the ACH before funds are obtained from the originator. This may occur when a member that is a party to the transaction fails or goes bankrupt before settlement. NACHA rules require that credit limits be set, monitored,

and reviewed by the ODFI for each originator of credits. Due to the system's delay of settlement, credit limits must also be monitored across multiple settlement days.

If a corporate acts as an ODFI, it must assign credit ratings and exposure limits to each of its originators. Exposure limits must be monitored. An alternative would be requiring that the members' accounts be pre-funded and/or collateralized. However, ACH rules do not require pre-funding or collateralization, and corporates that require this could put themselves at a competitive disadvantage.

For RDFIs, credit risk is minimal. The ODFI warrants its ACH credit transmissions and is liable for them. The RDFI is not at risk unless the ODFI fails, which would cause the Fed to reverse the transaction. Even a failed ACH originator still leaves the ODFI liable for any ACH transmissions sent.

For ACH debits the RDFI has no credit risk. The ODFI has some credit risk if funds are made available to the originator. Returns, stop payments, and NSF accounts may come back, in some cases, up to 60 days after the original settlement date. The ODFI might be required to return the funds to the receiver of the ACH debit. This risk is generally managed by requiring the originator to maintain a reserve for returns at the ODFI, based on industry standards for returns of like debits, or based on experience with that customer. Immediate funds availability is given only for amounts in excess of the reserve. The amount of the reserve varies depending on the application. (For instance, the collection of mortgage payments would likely have a much lower return rate than something like magazine subscription payments.)

Operational Risk

Operational risk, which varies with the type of processing, is the danger that an unintentional error will alter or delay a transaction. Corporates must limit operational risk by implementing appropriate management controls. The following are examples of operational risks and the controls that corporates should have in place to reduce the risk of each.

Hardware failure - The risk of hardware failure is reduced by purchasing reliable equipment, observing regular maintenance, hiring and/or contracting for responsive service personnel, and ensuring adequate backup exists.

Software failure - Operational problems caused by software failure are reduced by carefully testing the vendor's or service provider's software before relying on it for live processing. Corporates that develop their own software can reduce the risk of disruption due to software problems with sound software development practices (e.g., adequate documentation, sound testing procedures, tight change control procedures, effective recovery facilities, and periodic internal and external audits).

Security breaches and data loss - This risk can be managed by the use of security policies which require passwords, IDs, dual controls, and random changes in personnel and duties. Specific examples are discussed as follows:

1. Protect electronic files against unauthorized changes by using file security procedures and maintaining all hard copy records in locked storage.

2. Limit data access to authorized personnel.

3. Duplicate, back up, and store data off-site to protect against data loss or destruction.

4. Establish and maintain audit trails of all transactions and changes.

5. Account for all files to ensure that staff only processes current files; and does not inadvertently duplicate or omit files.

6. Balance file totals during processing to ensure transactions are not dropped, changed, or duplicated.

Telecommunications failures can be avoided by implementing the following:

1. maintaining equipment (lines, modems, authentication or encryption devices, etc.) in working order;
2. physically protecting the equipment; and
3. developing diagnostic tools and backup transmission modes in the event of a problem.

Power failure can be avoided by obtaining an uninterruptible power supply system (UPS). A UPS removes spikes and transients from public power, and provides auxiliary power during a blackout.

Management should arrange for a generator to handle longer-term power failures, if cost effective.

Human error can be managed by following documented procedures for operating systems, security controls, and by providing adequate training for personnel. Management can further reduce the risk of human error through:

1. proper oversight and supervision;
2. ensuring detailed operating procedures are in place;
3. providing for periodic internal and external audits;
4. monitoring file and dollar controls; and
5. ensuring an adequate audit trail exists.

Staffing problems are manifested by absences, turnover, work stoppages, etc. Staffing problems are reduced by emphasizing cross training and good supervision. Staffing problems in small corporates often result from only one or two people knowing the process. Conversely, in very large corporates each activity may be so specialized that very few people know the overall process.

Natural disasters are largely out of the control of management. The corporate must develop and test disaster recovery plans utilizing alternative sites and operations.

Fraud risk is increased if an employee or interloper has the opportunity to gain unauthorized access to the system and initiate or alter a payment transaction in an attempt to misdirect or misappropriate funds. Fraud risk is reduced by the following:

1. Written personnel policies and practices should require, at a minimum, that:

    a) vacancies in the unit be filled by internal transfers versus new employees, when possible;
    b) relatives be restricted from working in the accounting or data processing departments;
    c) individual responsibilities relating to security be in writing;
    d) written organizational security procedures exist;
    e) actions to be taken in the event of a security related incident be identified;
    f) formal training programs be developed to emphasize security and control;
    g) cross training exist within the unit;
    h) rotation of responsibilities be unannounced;

i) there be a minimum number of consecutive days of annual vacation;
j) reassignment out of the unit be made when a notice of resignation is given; and
k) terminated employees' sign-on ability be promptly canceled.

2. Management also must implement adequate physical security controls, including the following:

   a) limiting access to computer and communications equipment sites to authorized personnel;
   b) protecting sensitive equipment within the secured area using access controls or device locks; and
   c) securing and limiting access to all data on portable media (tapes, disks, hard copies, microfiche, etc.).

3. Management should implement the following to minimize risk of data loss and/or destruction:

   a) purchasing commercially available software products to access production data files;
   b) limiting access to specified programs or user ID's by setting up each file for read-only or read-and-write access; and
   c) employing encryption, authentication, and dial back data protection techniques when accessing data-in-transit from one participant to another.

Note: Both encryption and authentication require the use of a key, which may reside on a hardware component, such as a circuit card, or may be a data element that is entered into a security program or system. The assignment, distribution, and control of encryption or authentication keys are important data security controls.

4. Management must maintain detailed written policies for software and data changes controls. The policies should, at a minimum:

   a) permit only authorized software and data changes;
   b) document, review, and approve all changes before coding is done;
   c) test changes from the developers by a different group;
   d) install changes utilizing a group other than the developers and testers;
   e) maintain prior versions of changed programs to reverse changes, if necessary;

f) change emergency programs and data only with appropriate management approval; and
g) complete audit trails of all the changes, including a record of who requested the change, who authorized it, the effective date, and the before and after versions.

5. Management must restrict access on software products using:

a) operate passwords to prohibit entry by unauthorized personnel;
b) automatic features to control the number of unsuccessful password attempts, password expiration, or designated periods of inactivity;
c) multi-level functions, by password, to require dual control and ensure that no single employee can create and send transactions (e.g., restricting one operator to file creation and a second operator to file approval or transmission); and
d) system administration level procedures that require secondary approval to assign, initiate, and maintain passwords.

6. Management must set dollar and file exposure controls. These limits are to be used and enforced at the time of entry, batch or file creation, and at the time of transmission. Exposure limits must be established across multiple settlement days to account for the potential of overlapping settlements. NACHA rules require a file limit, a daily aggregate file limit, and a three day aggregate file limit be established. This is because the first day's transmission does not settle until day two or three, exposing the ODFI to credit risk for the aggregate of all unsettled transmissions over several days.

7. Management must require procedures to implement the following operational controls:

a) File controls to ensure that staff:
(1) accounts for all files at each step in ACH processing;
(2) only processes current files; and
(3) does not accidentally or intentionally duplicate or omit files from processing.

b) Dollar controls to:
(1) confirm dollar totals at each step in ACH processing; and
(4) help ensure ACH files are in balance, accounts are accurately posted, and ACHs settle as anticipated.

c) Date controls (file creation date, effective entry date, and settlement date) to monitor that files are processed within the time frames established by the various regulations.

d) Exception reporting to monitor:
   (1) circumstances such as over-limit activity;
   (2) anticipated files not received; and
   (3) file inconsistencies that may suggest error, intrusion, or duplication.

e) Audit trails including procedures to:
   1) maintain a record of all ACH transaction data and all changes to static data;
   2) respond to member inquiries;
   3) reconstruct a sequence of events if a problem occurs; and
   4) comply with NACHA rules.

f) Reconciliations of entries on the Federal Reserve Statement must be performed to verify that the ACH work settled as anticipated. Proper segregation of duties dictates that staff responsible for reconciling ACH transactions not be otherwise involved in the ACH processing.

g) Internal audits of the ACH process: NACHA rules require each financial institution to complete an audit of its ACH operations at least once every three years (a copy of which must be retained on file). Completion of the audit by all financial institutions reinforces compliance with the ACH rules and improves the overall quality of the ACH network.

Systemic Risk

Systemic risk exists when the inability of one ACH participant to settle its commitments causes other participants the inability to also settle their commitments. The consequences could cause a “ripple effect” throughout the network.

Systemic risk is closely related to credit risk. While a fraudulent or erroneous transaction could be a source of systemic risk, it is far more likely that a participant’s failure would trigger a major settlement failure.

The likelihood of systemic risk varies greatly among payment systems. There is a connection between the dollar volumes a network handles and the systemic risk involved; the greater the number of high dollar payments a network processes, the greater the systemic risk, and the greater the need for elaborate risk controls.

The threat of systemic risk related to ACH transactions is very small. The average dollar value of the ACH transaction is significantly less than that of Fedline or Clearing House International Payments System (CHIPS). Rarely does a financial institution's position with respect to gross ACH settlement approach its capital level. It is far more likely that a financial institution's position on the Fedwire network or CHIPS will exceed its capital.

Third-Party Risk

Third-party processors are data processing service bureaus, financial institutions, or other organizations that provide ACH processing services. Examiners must be aware of the risks and concerns present when a corporate uses a third-party processor and must determine that the corporate has current, detailed agreements in place that fix responsibility and accountability between the parties. Third-party risks are as follows:

1. Allowing a member to send files directly to the ACH operator: A corporate, acting as an ODFI, that allows a member direct access to its ACH operator exposes itself to credit, fraud, and operational risk. The corporate warrants the validity of the transactions sight unseen and is ultimately responsible for the transactions. If the member fails or transmits fraudulent or erroneous entries, the corporate is responsible for the member's actions.

2. Using a correspondent DFI for processing and/or settlement: A correspondent bank provides processing and/or settlement services to the corporate acting as an ODFI. This situation exposes the corporate to credit, operational, and fraud risk because the correspondent could make a mistake or fail to process or settle its transactions.

3. Using a correspondent DFI or data processing organization for ACH processing only (not settlement): A corporate acting as an ODFI is exposed only to the risk that the third party will make a mistake or error. In this situation, the corporate faces only fraud and operational risk with respect to the third party processor.

ACH Risk Management Handbook

NACHA publishes an ACH Risk Management Handbook, which is a comprehensive guide to the ACH risk issues and control procedures discussed above. Additionally, Western Payments Alliance (WesPay) publishes a self-audit survival guide for financial institutions to conduct or have conducted audits of its compliance with the ACH operating rules. The examiner should ask the corporate if they have this information on file to ensure that they are informed about the various risks and are performing the necessary compliance audits.

If the corporate does not have this information on file, they can obtain it by writing or calling NACHA at:

National Automated Clearing House Association
13665 Dulles Technology Drive, Suite 300
Herndon, Virginia 20171
(703) 561-1100

Legal Agreements

Detailed agreements must be in place between the corporate and all outside parties (i.e., credit unions, league, etc.) using the ACH service which detail the exact services provided and the various liabilities of each party. Also, agreements must be on hand between the corporate and the Federal Reserve or a third party processor, if one is used.

Reference 2 contains a list of issues that should be included in an agreement between an Originator and an ODFI. ACH agreements should be reviewed to determine that each of the recommendations are included.

Examination Objectives

For ACH operations, the objective is to evaluate the adequacy of controls over the ACH environment by determining:

1. The types of ACH services the corporate provides.

2. The corporate's role in the various ACH services offered (i.e. ODFI, RDFI, Receiver).

3. That appropriate written agreements are in place for all types of ACH services offered.

4. That adequate balancing procedures are in place for all transactions sent to and/or from to the ACH operator.

5. That adequate procedures are in place to control intraday and overnight overdrafts due to ACH settlement.

6. That members originating large volumes of ACH credit transactions, have undergone adequate credit assessment evaluation.

7. The existence and adequacy of exception reports (i.e. large item, new account, etc.).

8. That procedures are in place for retaining records of all ACH entries, returns, and adjustments for a period of six years after the transmittal.

Examination Procedures

See Corporate Examination Procedures - Automated Clearing House (OCCU 306P).

Examination Questionnaire

See Corporate Examination Questionnaires - Automated Clearing House (OCCU 306Q).

References

1. FFIEC Information Systems Handbook, 1996 Edition

2. NACHA Rulebook

3. Uniform Commercial Code, Article 4a

4. ACH Risk Management Handbook

Chapter 307

CONTINGENCY PLANNING

Introduction

Corporate credit unions (corporates) have an integral role within the credit union community, serving as a depository for a large portion of credit unions' excess liquidity, and providing numerous correspondent services. A disruption in a corporate's operations for an extended period of time could be disastrous, not only for the corporate, but also its members. Thus, it is imperative plans be developed detailing the uses of an alternative site available in the event of service disruptions.

Throughout the review of the corporate's contingency planning efforts, the examiner should be mindful that the primary objective is to determine the plan is adequately documented and its implementation has been demonstrated. Contingency plans and arrangements will vary among corporates, as a function of size, complexity, and a multitude of other variables.

Written Disaster Recovery Plan

The corporate must have a comprehensive written disaster recovery plan. The plan must outline the specific courses of action management and staff will take following an occurrence which interrupts the ability to provide service to members. Although it is impossible to anticipate every possible scenario that could occur, an adequate plan will address disruptions of varying severity and duration. The plan should address all critical services and operations which are provided by both internal departments and external sources. The plan must be a coordinated effort to minimize disruptions of service to the corporate and its members, minimize financial losses, and ensure a timely resumption of operations in the event of a disaster.

To develop a reasonable and appropriate plan, management should review each department to assess their criticality in providing service to members and their dependence on continued performance by outside parties. Plans then should be developed to restore critical areas affected by a disastrous occurrence.

The board of directors should review and approve the disaster recovery plan annually. Additionally, the board should be apprised of the scope, frequency, and results of tests.

During short-term disruptions, generally lasting less than one day, it may not be necessary for the corporate to relocate its operations. However, the plan should outline steps to take during such situations to ensure the timely processing and settlement of transactions. The plan must address and prioritize each "critical" operation within the corporate.

For any disruption lasting longer than one day, the plan needs to provide detailed relocation procedures for the corporate's operations. It would be preferable if the corporate has a dedicated facility which is equipped and ready for the corporate to utilize immediately when a disaster occurs. (See further discussion in the section entitled Disaster Recovery Hot-Sites Page 307-3.)

An "emergency job description" should be developed for each employee outlining that individual's duties during implementation of the plan. This is necessary for two reasons:

1. During a disaster, the duties of some employees who normally perform non-critical functions may change significantly; and

2. During certain types of disasters, some employees may be unable to report to work; therefore, other employees will be required to perform their duties.

The emergency job descriptions should be cross referenced to position desk manuals and/or written operation procedures manuals.

Risk Assessment

For a disaster recovery plan to meet its objectives, management must evaluate the types of risk to which the institution is susceptible and the impact an occurrence of the risk(s) could have on financial performance, operations, and service to members.

There are a number of risks that could potentially impact a corporate credit union. The risks may be different between institutions as a result of geography, local environment, or the types of services offered. It is imperative that management clearly identify and assess the risks that are associated with their unique operation.

Some potential risks management should consider are:

1. Natural - fire, flood, earthquake, hurricane;
2. Technical - hardware/software failure, power disruption, communications interference; and
3. Human - riots, strikes, disgruntled employees.

After identifying potential risks, the next step in the assessment process is to look at the impact the occurrence of the risk would have on a number of different factors. These would include the ability to continue to provide services to members and the impact on the financial condition of the corporate.

The corporate's critical needs must be identified, evaluated, and prioritized. As part of the evaluation of each need, a determination should be made as to the time frame in which a specific function becomes critical. This will assist in establishing the priority in which a function needs to be restored.

Disaster Recovery Hot-Sites

Each corporate must have an alternate facility equipped and ready for immediate use in the event of a disaster. The facility, referred to as a hot-site, must be located far enough from the corporate to minimize the possibility of both locations being affected by a regional disaster. The hot site should be located in a separate power grid and be served by a separate telephone central office than the corporate. The hot-site should be close enough to be accessible to employees within a reasonable period of time.

The hot-site facility must be large enough and sufficiently supplied and equipped to accommodate the corporate's entire operation with a minimum number of employees needed for day-to-day operations. The contract for the facility must indicate that the location will be available for a sufficient amount of time to allow the corporate to locate a new permanent facility, if necessary.

In some cases a corporate may establish its own alternative site, while in other cases a location is shared by the corporate with other entities. Cost is a major factor. Various companies have begun to market memberships in hot-sites at a set annual fee.

It is in the best interest of the corporate to have a written agreement with the management of the hot-site, or other parties with which they share the facility. The agreement should detail the conditions under which the site may be used. It is imperative that should a disastrous event occur, the hot-site location is available and has the capability to handle the critical operations.

All of the corporate's essential personnel should have an understanding of the disaster recovery plan. Employees should know what to do if an emergency occurs, and where and when to report to the hot-site location. The facility should be tested, at least annually, to ensure it meets minimum requirements to continue essential services.

Reciprocal Agreements

Many corporates enter into agreements with their members or other corporates with compatible hardware/software capabilities. These arrangements usually are made on a "best efforts" basis whereby Corporate A agrees to backup Corporate B provided Corporate A has time available. There is a mutual agreement to share office facilities, data processing capacity, or other services in a disaster. This type of arrangement is less desirable than one where dedicated facilities are available, because it relies on the excess capacity of the reciprocal institution. Since the needs of parties are continually evolving, it is difficult for management to determine whether the available excess capacity is adequate to meet present or future demands. Presumably, the reciprocal institution would take care of its own needs first. Many reciprocal agreements contain written limitations to that effect.

Reciprocal agreements can play an important role in providing a secondary backup site in the event of a regional catastrophe rendering both the primary and hot-site locations inoperative. These agreements outlining both parties' responsibilities should be in a written contact.

Disaster Recovery Testing

The most comprehensive disaster recovery plan may be worthless if, under actual conditions, it fails to perform adequately. It is incumbent upon management to ensure to the best of their ability that the plan will perform as proposed. Each corporate credit union must perform at least a full scale test of its disaster recovery plan on an annual basis. Additionally, larger corporates may need to independently test various aspects of the plan more frequently (i.e., funds transfer, ACH, and item processing). A full scale test is one which covers all aspects of the corporate's operation and include all business volume for a full day. Item processing operations may be tested independently.

Periodic review should be performed to ensure that, when a full-scale test is performed, all employees are familiar with their duties and responsibilities. Surprise tests should also be included to ensure employees maintain ongoing familiarity with the plan. In an actual emergency, the plan is more likely to be effective if all employees remain calm and are familiar with their responsibilities.

Corporates must maintain detailed documentation of each disaster recovery test. The results should be reviewed and studied by the board of directors and senior management. Officials should utilize test results to make any necessary revisions to the plan to address weakness identified during testing.

Protective Measures Against Disasters and Disruptions

Physical disasters can be created by man or result from natural phenomena. Regardless of the cause, the best plan to prevent severe loss is effective backup procedures covering equipment, data, operating systems, application software, and documentation. These provisions enable reconstruction with a minimal confusion and delay. Following are the basic security measures for major physical risks:

Fire

Computer center personnel must know what to do in a fire emergency. Instructions should be posted in prominent locations. Fire alarm boxes and emergency power switches should be clearly visible and unobstructed. Fire drills should be held periodically. Personnel should know how to respond to automatic extinguisher systems, as well as the location and operation of power and other shut-off valves. Waterproof covers should be located near equipment in the event that the sprinklers are activated. Hand extinguishers should be placed in readily accessible locations. All computer installations should be equipped with heat or smoke detectors. Detectors should be located away from air conditioning or intake ducts as they may hinder the build up of smoke required to trigger the alarm. Walls, doors, and partitions should be fire-resistant. The degree of fire protection in the data center should be consistent with the ability to easily restore information.

Flooding

A corporate credit union should not locate its computer installation in or near a flood plain. If the computer equipment is placed below ground level or a sprinkler system is used, precautions should be taken to limit water damage. If there is a floor above the computer room, the computer room ceiling should be sealed to prevent water seepage.

Sabotage and Riot

Computer center personnel should know how to handle intruders, telephone bomb threats, and other disturbances. Since attacks on computer installations have occurred, their locations should be inconspicuous. Sabotage could be caused by a disgruntled employee. Therefore, personnel policies should address the process for the immediate termination and removal from the premises of any employee considered a threat. Locked doors, intrusion detection devices, guard and other controls that restrict physical access are important preventative measures.

Power Failure

Voltage coming into the computer room is often monitored by a recording voltmeter and regulated to prevent power fluctuations. In the event of power failure, an alternative power source should be provided. Independent power supply units consist of gas or diesel generators or a battery arrangement that provide electricity for a limited period to allow an orderly system shutdown. Most corporates use an un-interruptable power supply (UPS) system to allow an orderly shut down of critical functions.

Fraud or Theft

Physical measures to safeguard against loss from fraud or theft are comparable to those outlined for sabotage and riot. Exposure is reduced by restricting access to information that may be altered or stolen. Since fraud or theft may be perpetrated easily by insiders, personnel policies should be designed to minimize that possibility. Procedures to safeguard information is essential to ensure member confidence. This is supported by a strong system of internal controls and audit function. Additionally, there may be legal implications for the corporate if sensitive or confidential information pertaining to a member is released.

Equipment Failure

Equipment failure may result in extended processing delays. Performance of preventive maintenance enhances system reliability and should be extended to all supporting equipment, such as temperature and humidity control systems and alarm or detection devices.

Hardware Backup

Hardware backup is a critical step in contingency planning. The corporate needs to consider alternate processing capabilities for each of its computer installations in the event the work environment becomes disabled. These plans can take several forms and involve the use of another financial institution, data center, or installation.

In addition, hardware manufacturers and software vendors can be helpful in locating an alternate processing site and in some cases will be able to provide backup equipment under emergency conditions. In planning the hot-site facility, the corporate should consider the adequacy of hardware at the location, the ability to relocate hardware quickly, or an agreement to share the hardware of another facility.

Program or Software Backup

Software backup is another important phase of contingency planning. The program backup for all hardware platforms consists of three basic areas:

1. operating system software;
2. application software; and
3. documentation.

All software and related documentation must have adequate off-premise storage. Even when using a "standard" software package from one vendor, the software will likely vary from one location to another based on options chosen by the institution during or subsequent to system implementation.

The operating system must be backed up with at least two copies of the current version. Without it, even the most sophisticated computer hardware is useless. One copy should be stored in the tape and disk library for immediate availability in the event the original is impaired. The second copy should be stored in a secure, off-premise location. Duplicate copies should be tested periodically and recreated whenever there is a change in the original.

Application software, which includes both source and object version of all application programs, must be maintained in the same manner as the operating system software. Backup copies of programs must be updated as program changes are made. Minor updates to backup copies can be made on a group basis, but major revisions or enhancements to application programs should be updated immediately. Storing, testing, and updating such software should be addressed in the contingency plan.

Software vendors can usually supply institutions with copies of standard application software products if the originals are destroyed. However, even assuming that the vendor has accurately maintained the institution's parameters, selections, and modifications, there will probably be additional expenses and some delay in making the software operational. Under these circumstances, the institution is placing responsibility for storing software with vendors. Most vendors are reluctant to guarantee software availability, because they may not have current sets of the institution's software. Thus, the corporate should maintain its own software backup at an off-site location to ensure only a limited interruption in processing during an emergency.

Documentation for the operation system and the application programs should also be backed up. A minimum level of documentation should be maintain at an off-site location. This should include current copies of:

1. operating system options and modifications;
2. application flowcharts;
3. descriptive narrative for all systems and programs;
4. file layouts and transaction codes;
5. operator run instructions; and
6. user manuals.

Procedure manuals are also necessary during disaster recovery. Duplicate copies of all critical procedures should be stored at the off-site location. Most importantly, a copy of the procedures outlining operations during emergencies should be maintained off site.

Data File Backup

The most important area of backup involves the institution's data files, regardless of the platform in which the data is located. Financial institutions must always be able to generate a current master file. Data files must be backed up both on and off site to provide a recovery capability. Retention of current data files, or older master files and the transaction files necessary to bring them current, is important so that processing can continue in the event of a disaster. The creation and rotation of data file backups is a daily activity in most institutions.

Telecommunications Backup

A data center must develop an effective backup plan that includes an agreement for alternative site processing. For telecommunications, that plan also must address the communications media and equipment. The contingency plan should establish priorities and identify critical components of the network. Rerouting and redundancy may permit the use of alternate equipment, facilities, lines and circuits, but may still be limited by other considerations. Considerations include risk versus economics, the practicality of the selected backup components, and the security and data integrity provided by the backup plan.

Risks may be addressed by assessing individual components in the network, the dependence on each component, and the probability of it going down or becoming unavailable or unreliable. The costs of various backup alternatives must be weighed against the extent of risk protection each provides. This assessment also should address costs associated with testing, since all components of a plan should be tested periodically.

Financial institutions should have a file identifying all circuits by circuit number and a matrix outlining their location, priorities and uses. A duplicate of this file should be maintained at a different location in case of any problems.

The backup plan must address the practicality of each component. Selected alternatives must be able to accommodate the anticipated volumes or capacities at the necessary speeds to meet the established priorities. Reliability, flexibility, and compatibility - all components of the original planning process - also must be considered in formulation the backup plan. Additionally, the telecommunications backup plan must be compatible with other contingency plans in the corporate, since it will affect users, data processing, and members.

Security and the data integrity of alternate components used must be considered in the contingency plan. Different components provide different quality and possess different risks. Alternate equipment selected should be checked to determine if it permits encryption.

The relative importance of e applications processed and the extent to which a corporate depends on its telecommunications system will determine the degree of backup required. Management should make a careful appraisal of its backup requirements, decide on an effective plan, detail the procedures, and test its effectiveness periodically.

Examination Objectives

The examiner is to determine if the officials and management have taken necessary steps to ensure an appropriate contingency plan is in place to maintain the institution's critical operations and services in the event of a disaster. The examiner will need to determine that:

1. The board of directors has adopted a written disaster recovery plan.

2. Appropriate review and analysis has been performed by management to assess the potential risks and establish operational priorities during the event of a disastrous occurrence.

3. The corporate has a hot-site location that will be available and fully functional in an emergency situation.

4. The corporate has in place written agreements, as necessary, with hot-site management, vendors, etc. If applicable, a reciprocal agreement is in place with the other institution that agree to share facilities and capacity.

5. Disaster recovery plan testing is performed at least annually. Documentation of the tests is maintained and reviewed by the officials.

6. The disaster recovery plan is revised, as necessary, to address changes in operations, and to resolve problems that arise during testing.

7. The officials have taken steps to address protective measures against disasters and/or disruptions.

Examination Procedures

See Corporate Examination Procedures - Contingency Planning (OCCU 307P).

Examination Questionnaire

See Corporate Examination Questionnaire - Contingency Planning (OCCU 307Q).

References

1. FFIEC Information Systems Examination Handbook

Chapter 308

COMPLIANCE

Introduction

During each examination, examiners will review the corporate credit union's (corporate) compliance with regulations promulgated by NCUA and other agencies. Violation of the laws, statues, regulations, and sound business practices must be disclosed in the examination report and on OCCU Form 102F, Document of Resolution.

In this chapter, various Part 704 compliance issues are referenced. More specific information can be obtained in the applicable chapters, as noted with the specific reference. Where there is no specific chapter for a compliance issue, the items are discussed herein.

Section 704.3 - Corporate Credit Union Capital

See Chapter 204, Capital.

Section 704.4 - Board Responsibilities

See Chapter 301, Management.

Section 704.5 - Investment Policy

See Chapter 201, Investments.

Section 704.6 - Credit Risk Management

See Chapters 201, Investments, and 203 Asset and Liability Management.

Section 704.7 - Lending

See Chapter 203, Loan Review.

Section 704.8 - Asset and Liability Management

See Chapter 202, Asset and Liability Management.

Section 704.9 - Liquidity Management

See Chapter 202, Asset and Liability Management.

704.10--Divestiture

See Chapter 201, Investments.

704.11--Corporate Credit Union Service Organizations (CUSOs)

See Chapter 311, Corporate Credit Union Service Organizations.

704.13-- Fixed Assets

Examiners must ensure that the corporate's investment in fixed assets complies with the limitations described in Section 701.36 and Section 704.13. A corporate's investment in fixed assets cannot exceed 15 percent of its capital.

704.14—Representation

Each examiner must ensure that the board of directors is in compliance with all phases of this section which addresses interlocks, representatives of organizational members, recusal provisions, and administration.

704.15-- Audit Requirements

See Chapter 309, Supervisory Committee/Audit Functions.

704.16 Contracts/Written Agreements

See Chapter 301, Management.

704.18 Fidelity Bond and Insurance Coverage

See Chapter 310, Bond and Insurance Coverage.

704.19-- Wholesale Corporate Credit Unions

1. Examiners must ensure that wholesale corporates comply with the additional capital requirement of maintaining a minimum capital ratio of 5 percent. Also, reserve transfers must be made from earnings in either the prior calendar month or during the prior twelve-month period.

2. A wholesale corporate must limit its risk exposure to levels that do not result, at any time, in an NEV ratio below .75 percent, or a decline of NEV of more than 35 percent.

3. A wholesale corporate must also obtain, at its expense, an annual third-party review of its asset and liability management modeling system.

Charter and Bylaws

Examiners will review the corporate's charter and bylaws to determine if the corporate is operating within its limitations.

Operating Fees

Examiners must ensure that each Federal corporate is in compliance with Section 701.6. This section states that each year or as otherwise directed by the NCUA Board, each Federal credit union shall pay to the Administration for the current NCUA fiscal year (January 1 to December 31) an operating fee. This fee will be in accordance with the schedule fixed from time to time by the NCUA Board, based on the total assets of each Federal credit union as of December 31 of the preceding year, or otherwise determined pursuant to paragraph (b) of this section.

Share Insurance

During each examination of a Federally insured corporate, examiners must review the National Credit Union Share Insurance Fund (NCUSIF) account for accuracy. Errors detected must be documented in the examination report along with corrective actions taken.

Security Devices

Part 748 established minimum security procedures for credit unions. The examiner should determine the corporate has established adequate security programs for each of its office locations in accordance with the regulation.

Year 2000 Requirements

The examiner must review the corporate's ability to process its normal operations in light of the impact of the Year 2000 on its various systems. In view of the importance of corporates on the operations of its member credit unions, it is imperative that Year 2000 changes do not disrupt the corporates ability to provide services.

Examination Objectives

The objectives for reviewing the compliance area are:

1. Determine that the corporate's policies, procedures, practices, and internal controls of all aspects of compliance not specifically covered by other chapters of this Guide are reviewed to determine the risks associate with those activities.

2. Determine that all reports required of corporates are filed accurately and on time.

3. Determine that the National Credit Union Share Insurance Fund and NCUA operating fees, where applicable are accurate and paid timely.

4. Initiate corrective action when the policies, procedures, practices, or controls are deficient or when violations of laws or regulations are noted.

Examination Procedures

See Corporate Examination Procedures - Compliance (OCCU 308P).

Examination Questionnaire

See Corporate Examination Questionnaire - Compliance (OCCU 308Q).

References

1. NCUA Rules and Regulations, Part 704
2. NCUA Rules and Regulations, Section 701.6
3. NCUA Rules and Regulations, Part 748
4. NCUA Letters 96-CU-5, 97-CU-2, 97-CU-6, 97-CU-10, 97-CU-12, 98-CU-1, 98-CU-2, 98-CU-3, 98-CU-4, 98-CU-7, 98-CU-8, 98-CU-9, 98-CU-10, 98-CU-11, 98-CU-12, 98-CU-13, 98-CU-15, 98-CU-20, subject Y2K issues
5. NCUA Instruction No.11-13210.4, dated 9/14/98, Subj: Year 2000 (Y2K) Contingency Plan

Chapter 309

SUPERVISORY COMMITTEE/AUDIT FUNCTION

Introduction

Duties and Responsibilities

The supervisory committee is responsible for the annual audit, the verification of member accounts, the internal audit function, and to oversee board or other issues which may impact the corporate credit union (corporate).

CPA Opinion Audit Required

Section 704.15 of the NCUA's Rules and Regulations requires corporates to obtain annual opinion audits from an independent, duly licensed certified public accountant (CPA). This audit must be performed in accordance with generally accepted auditing standards and the audited financial statements must be prepared consistent with generally accepted accounting principles (GAAP), except where law or regulation provides for departure from GAAP (i.e. classification of shares). The supervisory committee shall submit the audit report to the board of directors (board). A copy of the audit must also be submitted to NCUA within 30 calendar days after its receipt by the board. A summary of the audit report shall be submitted to the membership at the next annual meeting. The summary audit report is usually incorporated in the corporate's annual report.

If a management letter is not issued, the corporate should obtain a letter from the CPA firm confirming that conditions did not warrant issuance of a management letter.

Scheduling the Review of the Audit Workpapers

Part of the pre-examination process includes sending a pre-examination letter to the corporate. Scheduling review of the audit workpapers is coordinated through this letter. Typically, the examiner-in-charge (EIC) will review the audit and verification workpapers during the pre-examination week. Communication of the audit workpaper review with the supervisory committee chairperson is desirable.

Section 704.15(b) requires that, if requested, audit workpapers are to be made available for NCUA's review. Despite this regulatory requirement, some auditing firms have requested that corporate

examiners (examiners) sign a release statement before the firm will provide the documents to NCUA. Such a request is not acceptable. The examiner should decline to sign any release statement. If the auditor continues to deny access to the workpapers, the examiner should notify the corporate field supervisor (CFS). The notification should include the name and address of the auditing firm, as well as the name of the applicable partner. The CFS will provide the information to the Director, OCCU who will send a letter to the auditing firm citing the regulatory requirement that workpapers be made available.

If the auditing firm continues to deny access to the workpapers, the corporate's supervisory committee chairman should be notified of the problem. It is the ultimate responsibility of the supervisory committee to ensure that the corporate is in compliance with the audit requirements of the regulation.

Review of Annual Audit

The review of the annual audit is an important step in the examination process. The quality of the work and cited conclusions can be a factor in determining the depth of the examiner review. A comprehensive audit, qualified only with respect to the classification of member shares as equity, can give the examiner added basis for confidence in the accuracy and reliability of the corporate's records. This confidence can limit the extent or scope of the review. Conversely, an inadequate audit may cause the examiner to expand the examination's scope.

An audit is the critical and systematic examination of the financial statements, records of accounting transactions, and internal controls of the institution. An acceptable audit is one that satisfies the requirements of each particular case when judged by professional standards of performance.

It is not possible to define exact standards of acceptability for all credit union audits. The examiner must use professional judgment to determine whether the audit fulfills all required elements. At a minimum, the audit report must meet the requirements of Part 701.12 of the NCUA Rules and Regulations.

If the audit disclosed areas that indicate material operational or financial weaknesses, the external auditor should do more than merely certify the numbers. If the examiner concludes that the audit does not adequately address all concerns, the situation will first be discussed with the CFS prior to discussion with the supervisory committee and the board.

Moreover, the examination report will contain appropriate verbiage to reflect these discussions.

Guidance on auditing standards that must be met can be found in the AICPA's *Audits of Credit Unions*. However, there may be cases in which minimum standards are not adequate to evaluate the specific services or circumstances in a particular corporate. Based on the risk, exposure, and other circumstances in each corporate, the examiner must judge if an audit fulfills the regulatory requirement.

An examiner should consider an audit unacceptable if:

1. material parts of the audit were not performed;
2. material parts of the audit cannot be supported by working papers; or
3. material areas of the corporate's operations were left unaudited.

When an examiner takes exception to the annual audit, the following information should be provided to the corporate and documented it in the examination workpapers:

1. specific audit sections in question;
2. records or accounts with significant errors or record keeping deficiencies; and
3. time anticipated to resolve the problems.

If an examiner cannot determine if the CPA adequately completed certain audit steps, or questions the CPA's independence or competence, the concerns should be discussed with the CPA. During the meeting, the examiner should determine if and how the CPA used additional audit steps. At this time, however, the examiner should not make any statements as to the acceptability of the audit, if, in fact, it is deemed to be unacceptable.

Examiners must maintain their objectivity and independence. They should reserve adverse comments for the final meeting with the supervisory committee. The examiner should explain the audit deficiencies to the auditor and provide the auditor an opportunity to comment. If the auditor agrees, the parties involved should reach agreement concerning what and when corrections will be made. In all cases, examiners will discuss major audit findings with the supervisory committee and document them in their examination workpapers.

If the examiner cannot come to agreement with the CPA on the deficiencies, the CFS should be contacted. The examiner should not rate the audit as unacceptable. NCUA must afford the independent accountant "due process." For NCUA to prevail in a due process proceeding, OCCU staff must document that the CPA did not present financial statements consistent with GAAP or that the CPA did not perform the audit scope, procedures, testing, and reporting consistent with GAAS.

When NCUA deems a CPA's work unacceptable, examiners have several options available:

1. Recommend that the supervisory committee cause to be performed the additional necessary tests before the next examination to provide NCUA with needed assurance.

2. Recommend to the board and the supervisory committee that they include additional special procedures in the engagement letter in future audits.

3. Enforce FIRREA against the credit union, when appropriate.

If the issue cannot be resolved with the corporate and the supervisory committee, the CFS should consult with the Deputy Director, OCCU to determine how the concern should be advanced to the Office of Examination and Insurance (E&I) and the Office of General Counsel (OGC). If the examiner, CFS, and Deputy Director are in concurrence, the examiner should consider the CPA's work "pending further review" until judged to be either acceptable or unacceptable. Examiners will not require the corporate to have another CPA redo the work.

To facilitate the submission to E&I and OGC, the examiner should provide the following:

1. A memorandum summarizing the complaint along with documentation supporting the examiner's position. The memorandum should be clear, concise, and fully supported by documentation to the extent that the state licensing authority, the AICPA Ethics Division, or NCUA through an administrative proceeding process, could track the facts and successfully draw the same conclusion as the examiner.

2. A copy of the credit union's engagement letter, management representation letter, and any other contracts with the CPA firm.

3. A copy of the examination report.

4. A copy of the audit report.

5. A description of the examiner's review regarding the CPA's work, the audit report, and the CPA's working papers in determining inadequacy.

6. Documentation regarding attempts to bring resolution of the inadequacies with the CPA.

7. The listing of the examiner's findings and exceptions provided to the supervisory committee and any notes, minutes, transcripts, or recordings of the meeting held with them to discuss the same.

8. Any additional information or documentation evidencing the examiner's position, and which would persuade a reasonable person in a due process proceeding. A simple statement without documented evidence will not successfully win NCUA's case.

The prepared package will be forwarded to E&I to review, assess the merit of the case, and possibly enhance NCUA's position by adding appropriate references or language from account literature (GAAP & GAAS), if needed. In some cases, E& I has been successful in initiating renewed dialogue with the CPA which brings about resolution of the issues. However, if E&I is unsuccessful, it will then forward the package to OGC which will consider the possible courses of action, which include:

1. referral to the state licensing authority;
2. referral to the AICPA Ethics Division;
3. prohibition action (in rare cases) if OGC can prove the grounds set forth in Section 207(g) of the FCU Act in an administrative hearing;
4. cease and desist order (in rare cases) against the CPA for violation of law or regulation, or for committing an unsafe or unsound practice;
5. A civil money penalty (in rare cases) against the CPA for violating law or regulation; and/or
6. cease and desist or civil money penalty actions against the credit union or its officials for failure to obtain an "acceptable" audit.

OCCU and the central office staff must work together to advance the case through the legal system to adequate resolution. At all stages of

this process, all parties must understand the importance of good communication and feedback. Examiners should feel comfortable to raise such cases through the established channels, confident that in documented cases with merit, OCCU and central office staffs will seek out and pursue acceptable resolution.

Auditor's Review of Internal Controls

During the analysis of the auditor's work, the examiner will pay particular attention to the internal controls and operational procedures review. If the audit does not include a review of internal controls in major areas such as wire transfers and/or investments, discussion with management will emphasize the need to obtain an internal control audit. Deficiencies will be addressed in the executive summary, as appropriate.

Status of Auditor's Exceptions/Recommendations

The Corporate Examination Questionnaire - Supervisory Committee, OCCU 309Q and/or a suitable examiner designed workpaper will be used to list all exceptions/recommendations noted by the auditor in the audit report or management letter. A copy of these reports may be attached to OCCU 309Q in place of the required explanation. Steps taken by management to correct the noted exceptions and/or to implement auditor recommendations, and the current status of the corrections/recommendations must also be documented.

Internal Audit

A corporate with average daily assets in excess of $400 million for the preceding calendar year, or as ordered by NCUA, must employ or contract, on a full- or part-time basis, the services of an internal auditor. The internal auditor's responsibilities will, at a minimum, comply with the Standards and Professional Practices of Internal Auditing, as established by the Institute of Internal Auditors. The internal auditor will report directly to the chair of the supervisory committee, who may delegate administrative supervision of the internal auditor's daily activities to the corporate's CEO. The internal auditor's reports, findings, and recommendations will be in writing and will be presented to the supervisory committee not less than quarterly.

Although not required by NCUA Regulation 704.15, corporates with assets less than $400 million typically have internal audit functions. This is due to the risk posed through corporate operations (i.e. wires,

etc.), and the fact that limited internal controls are sometimes found in smaller corporates. Internal audit is not usually a major area of risk under the targeted risk examination approach. However, the existence of an internal audit function normally provides added comfort to examiners.

The supervisory committee and/or internal audit staff set the frequency and scope of each internal audit. Examiners can provide input/guidance to the supervisory committee and the internal audit staff. However, such suggestions are usually limited to situations whereby there are deficiencies in internal audit scope (i.e. the scope is not related to targeted risk areas, etc.), internal audit procedures (e.g. lack of follow-up procedures), or when the frequency of internal audits is inadequate. Internal audit scopes should be geared toward a targeted risk approach, such as NCUA's targeted risk examination approach.

Examination Objectives

The objectives of the Supervisory Committee and audit function review are to:

1. Determine whether internal and external audit functions exist.

2. Evaluate the independence and competence of those who provide the internal and external audit functions.

3. Determine the procedures performed by the internal and external auditors.

4. Evaluate the effectiveness of the supervisory committee through review of their audit implementation/oversight processes.

5. Evaluate the adequacy of the annual opinion audit and verification of member accounts.

6. Evaluate the adequacy of the internal audit function.

7. Determine that areas of concern noted during the external and/or internal audits are followed up by the supervisory committee or internal audit staff for corrective action.

8. Determine, based on the above criteria, the reliance that can be placed on the procedures performed by the internal and external auditors.

9. Initiate corrective action (issuance of an ROA) when deficiencies are identified with either the supervisory committee, the annual audit process, or the internal audit staff/processes.

Examination Procedures

See Corporate Examination Procedures - Supervisory Committee (OCCU 309P).

Examination Questionnaire

See Corporate Examination Questionnaire - Supervisory Committee (OCCU 309Q).

References

1. Federal Credit Union Act, Section 115, Supervisory committee; powers and duties; suspension of members; passbook (12 CFR Section 1761d)

2. NCUA Rules and Regulations, Section 704.15, Audit requirements

3. AICPA Audit and Accounting guide, Audits of Credit Unions

4. NCUA's Examiner's Guide, Chapter 14, Supervisory Committee

Chapter 310

BOND AND INSURANCE COVERAGE

Introduction

Obtaining insurance coverage for every insurable risk is being replaced by the risk management concept. Risk management, which includes insurance coverage, is intended to minimize the cost associated with assuming certain types of risk and providing prudent protection. It deals with pure risks that are characterized by chance occurrence and may only result in a financial loss.

Categories of Risk

Pure risk can be separated into three major categories: property, liability, and personnel. First, the most commonly known property risk relates to loss of real property from fire or other natural causes. This category also includes the loss of any corporate credit union (corporate) asset, including currency, securities, or records. Property risk also includes indirect expenses that result from property losses, such as relocating to temporary facilities or loss of business while replacing facilities. Secondly, liability risk includes suits resulting from injury or death of both employees and the public, suits alleging official misconduct, and individual or class action suits alleging mistreatment or violations of law or regulations. All phases of the corporate's operations are susceptible to liability risk. Finally, personnel risk relates to the risks associated with the loss of key personal. This risk is more pronounced in small and medium-size corporates that lack management succession plans.

Stages in Risk Management

There are three stages in risk management: risk identification and analysis, risk control, and risk treatment. Although the degree of sophistication in each of these stages will vary from corporate to corporate, the thought and decision making processes that characterize each stage must be in every corporate if cost and losses are to be minimized.

The importance of risk control is readily apparent when an uninsurable risk is involved. However, the significance of minimizing premium cost through risk controls cannot be overlooked. A corporate's primary defenses against loss are its policies, procedures, and internal controls. These systems and guidelines are integral parts of the risk and insurance management program. They must be communicated to and understood by all corporate personnel. Also, the corporate must provide audit coverage to ensure those controls are followed.

Once risks have been identified and risk controls implemented, management must decide the most appropriate method of treating a particular risk. A corporate has various options of treating a particular risk. It can implement additional controls to minimize that risk, yet still retain it. It may also transfer the risk to another party through insurance or contractual transfer, or a combination of these options. A basic concept of risk management is that those risks that carry the potential for catastrophic or significant losses should not be retained.

Board Responsibility

Section 704.18 of the NCUA Rules and Regulation requires fidelity bond requirements for all employees and officials in corporates. Also, the bond must provide coverage for the fraud and dishonesty of all employees, directors, officers, and supervisory and credit committee members. Additionally, the bond may also provide coverage for lack of faithful performance, but that coverage is not required by regulation.

The board of directors must determine the maximum loss a corporate is able and willing to assume. Additionally, Section 704.18(b) of the NCUA Rules and Regulations requires the board to (at least annually) carefully review the bond insurance coverage in force to determine its adequacy in relation to risk exposure and the minimum requirements disclosed in 704.18(d).

Fidelity Bond Insurance

Typically, fidelity bond insurance includes reimbursement for loss, not only from employee dishonesty, but also from robbery, burglary, theft, forgery, mysterious disappearance, and in specific instances, damage to

offices or fixtures of the corporate. Fidelity bond coverage applies to all corporate locations. However, automated teller machines (which are not prevalent at corporates) are not covered, but can be specifically added under a rider.

It is the standard procedure for insurance companies to write fidelity bonds on a "discovery basis." Under this method, the insurance company is liable up to the full amount of the policy for losses covered under the terms of the bond and discovered while the bond is in force, regardless of the date which the loss was actually sustained by the corporate. This applies even though lower coverage amounts or more restrictive terms might be in effect on the date the loss was sustained.

All fidelity bonds require that a loss be reported to the bonding company within a specified time after a reportable item comes to the attention of management. Therefore, management must diligently report all potential claims to the corporate's insurance company. Failure to do so may jeopardize coverage for the loss.

Some corporates may obtain excess coverage, as Section 704.18 (d)(2) of the NCUA Rules and Regulations states "it is the duty of the board of directors of each corporate to provide adequate protection to meet its unique circumstances by obtaining, when necessary, bond insurance coverage in excess of the minimum requirement."

Other Types of Insurance

Corporates may also need other specialized forms of insurance for which the fidelity bond, along with the related policies, endorsements and specific coverage previously mentioned, provide insufficient protection. The following list depicts some of those coverages:

1. automobile - public and property damage;
2. extra expense;
3. fire;
4. general liability;
5. keyman;
6. umbrella liability; and
7. valuable papers and destruction of records.

Recordkeeping

The breadth of available insurance policies and differences in the coverages, emphasize the importance of maintaining a concise, easily referenced schedule of insurance coverage. These records should include, at the minimum:

1. the coverage provided, detailing major exclusions;
2. the underwriter;
3. the deductible amounts;
4. the upper limits;
5. the term of the policy;
6. the date premium(s) are due; and
7. the premium amount.

Records of losses should also be maintained, regardless of whether or not the corporate was reimbursed. This information indicates areas where internal controls may need to be improved and is useful in measuring the level of risk exposure in a particular area.

Bidding Process for Insurance/Bonding

The bidding process for insurance/bonding coverage is the responsibility of the corporate's board. The extent of an examiner's involvement will be to ensure that the bidding process is completed in accordance with the board's polices regarding contracts. More detailed information on contracts is contained in Chapter 301, Management.

Examination Objectives

The objectives of the bond and insurance review are to:

1. Determine if the corporate's bond and insurance polices, procedures and practices, and internal controls are adequate to address risk, in relationship with capital. The procedures must, at the minimum, require annual review of the corporate's bond and insurance coverage in relationship to identified risks.

2. Determine that the corporate's risk management process adequately identifies, controls, and address risks.

3. Determine if bonding coverage meets the minimum coverage amounts in Section 704.18(d) of the NCUA Rules and Regulations.

4. Determine if the board of directors have established reasonable guidelines for the retention of risk.

5. Determine if insurance coverage adequately protects against significant or catastrophic loss.

6. Determine if recordkeeping practices are sufficient to enable effective risk and insurance management.

7. Initiate corrective action when policies, practices, procedures or internal controls are deficient or when violations of law, regulations, and rulings are noted.

Examination Procedures

See Corporate Examination Procedures - Bond and Insurance Coverage (OCCU 310P).

Examination Questionnaire

See Corporate Examination Questionnaire (OCCU 310Q).

References

1. NCUA Rules and Regulations (Section 704.18)

2. Comptroller's Handbook for National Bank Examiners

Chapter 311

CORPORATE CREDIT UNION SERVICE ORGANIZATIONS

Introduction

A corporate credit union service organization (Corporate CUSO) is an entity that:

1. is at least partly owned by a corporate credit union;
2. primarily serves credit unions;
3. restricts services to those related to the normal course of business of credit unions, and
4. is structured as a corporation, limited liability company, or limited partnership under state law.

Section 704.11 of NCUA's Rules and Regulations authorizes corporate credit unions (corporates) to invest up to 15 percent of capital in member and non member corporate CUSOs. An additional 15 percent of capital may be loaned to member and non-member corporate CUSOs if the loan is collateralized by assets in which the corporate has perfected a security interest under state law.

A corporate CUSO's organizational requirements (i.e., corporation, limited liability company, or limited partnership) limit the risk of loss to the affiliated corporate to the extent of the corporate's loan and/or investment. It should be noted, however, that the loss of a service provided by the corporate CUSO could affect the operations and financial condition of affiliated corporates beyond their 15 percent investment and/or 15 percent loan.

Corporate CUSOs, being separate legal entities neither chartered nor insured by NCUA, are not subject to NCUA regulation. Corporate CUSOs are chartered under state law and, therefore, must comply with all state laws, including state licensing and regulated activities' laws.

Under Section 704.11(d)(4), NCUA does have the contractual right to " complete access to books, records and other pertinent information." For this reason, the term "corporate CUSO examination" is used throughout this chapter. NCUA performs corporate CUSO examinations when safety and soundness concerns to affiliated credit unions may exist. Corporate CUSO examinations are performed in a consensual manner in cooperation with corporate CUSO management when NCUA deems the CUSO may pose a risk to the National Credit Union Share Insurance Fund (NCUSIF).

In instances when disputes arise between the examiner and a corporate CUSO over access to books and records or problem resolution, the examiner should look to the corporate field supervisor (CFS) and the OCCU office for guidance on resolution. It is important that examiners take a professional, reasonable approach with CUSO management and consult their CFS if they encounter circumstances that cannot be cooperatively resolved with CUSO management. Examiners should tailor review procedures according to the size and complexity of the CUSO.

Section 704.11(c) prohibits any official of a corporate, which has an investment or loan to a corporate CUSO, from receiving, either directly or indirectly, any salary, commission, investment income, or other income, compensation, or consideration from the corporate CUSO. This prohibition also extends to immediate family members of officials.

Corporate CUSOs are formed to provide a wide variety of services to both corporates and natural person credit unions. Corporate CUSOs often provide investment and ALM advisory services, broker/dealer services, shared branching networks, operational guidance such as accounting, EDP, and human resources management services, as well as other services related to corporate and natural person credit union operations. In all cases, the examiner must not only determine that the corporate's investment does not pose excessive credit risk, but also that the services provided do not pose operational risk to the corporate using the services of the CUSO. Therefore, the examiner should always perform a limited financial <u>and</u> operational review of all corporate CUSO investments/loans on the books of a corporate.

When evaluating a corporate's investment or loan to a corporate CUSO, the examiner should use a "two-tiered approach." The first tier evaluation will include a general corporate CUSO review as part of the overall examination scope. This review should determine:

1. Whether the corporate can legally be considered a separate entity from the corporate CUSO investment.

2. The overall financial condition and operating results of the corporate CUSO, and the extent of any financial risks that the investment/loan may pose to the corporate.

3. The quality of any services the corporate CUSO may provide to the corporate being examined, and any operational risks that may be incurred by the corporate as a result of those services.

If the "tier one" reviews discussed above disclose any material weaknesses (financial or operational) regarding the CUSO, the examiner will recommend to the CFS a "tier two" review of the corporate CUSO operation. A tier two review will consist of an on-site corporate CUSO examination. The examination will be coordinated with the management of the corporate CUSO, and will be undertaken in order to gain a more comprehensive understanding as to the financial condition and quality of services provided by the corporate CUSO. The major objective of the examination will be to determine the degree of risk that the corporate CUSO poses to the NCUSIF and the investing corporate.

When performing an on-site review of the corporate CUSO's operations, the examiner may inquire about the its managerial controls and working arrangements with leagues or trade associations, if applicable. The following are guidelines which may assist the examiner in the review of corporate CUSO operations and management:

1. Management - The examiner should arrange to review the Corporate CUSO's policies, procedures, budgets, business plan, goals and objectives, reporting processes, articles of incorporation, and bylaws. The examiner should discuss with management the

nature and extent of managerial planning, the overall reasonableness of the business plan, and budgetary projections.

2. Business Plan - Good business planning involves management's development of a written business plan before the organization begins doing business. A corporate CUSO's business plan, at a minimum, should include:

    a) a statement of goals (including profitability goals) and objectives;
    b) policies, procedures, and time frames for achieving the goals and objectives;
    c) budget projections demonstrating management's efforts to meet profitability and capitalization goals and achieve (and maintain) self-sufficiency; and
    d) monitoring techniques to inform management of the operation's status.

    Management should revise and update the business plan as necessary to ensure that it is current. (NOTE: a corporate CUSO's well-developed and maintained business plan provides affiliated corporates and credit unions a valuable resource for making decisions about permissible investments and lending.)

3. Managerial Personnel - An on-site corporate CUSO review provides the examiner an opportunity to observe and ascertain management's ability to effectively direct and control the corporate CUSO's operations. As part of the review of key personnel, the examiner may find it helpful to request resumes and employee evaluations and to detail, in the working papers, background information of key management officials. (Note: state laws may affect disclosure of staff evaluations.) The extent of experience and education deemed adequate for key personnel depends on the types and levels of service offered by the corporate CUSO. Observed managerial weaknesses should be noted in OCCU's CUSO examination report.

4. Minutes - The examiner should review board minutes for content, decisions, and required frequency of meetings according to the corporate CUSO's bylaws. If available, the examiner may also

request other minutes, including those of user/client meetings, special meetings, and executive committee meetings.

5. Investment/Loan Documents - The examiner should review investment and loan documents and corporate CUSO agreements of affiliated corporate and natural person credit unions.

Review of Corporate CUSO Services

The examiner should ensure that the corporate CUSO is performing permissible services and is serving primarily credit unions or their members as required by the regulation.

The corporate CUSO's quality of services provides information about the ongoing feasibility of the corporate CUSO. If available, membership surveys, complaint departments, and third party studies can assist the examiner in assessing the quality of services.

Review of Financial Performance

The examiner should evaluate the corporate CUSO's financial condition to determine its ability to meet its goals, objectives, and financial projections, analyze its prospects for future success; and assess the risk to affiliated corporate and natural person credit unions. Since financial trends for a start-up operation can be misleading, it is important that the examiner differentiate between start-up corporate CUSOs and those that have been in business for some time (e.g., cash flow projections, since start-up costs are expensed as they are incurred). Following are areas that may assist examiners in the review of financial condition:

1. Trend Analysis - The financial analysis of a corporate CUSO is similar to that performed during corporate examinations; however, some ratios used to evaluate corporate CUSOs may differ from those used for corporates. To better understand the corporate CUSO's trends and ratios, corporate examiners normally request at least three years' financial data. Comparative ratios (both over the prior three years and to industry averages) assist the examiner in determining the reasonableness of the corporate CUSO's current

financial condition. Both Dunn & Bradstreet and Robert Morris Associates publish industry averages.

2. Profitability - Because of tax consequences, corporate CUSO profitability objectives may differ from those of credit unions; however, corporate CUSOs still require sufficient cash flow to meet their objectives. The examiner should analyze earnings to ensure they are sufficient to pay for services offered, while achieving profitability and capital goals.

3. Cash Flow - Profitable corporations, including corporate CUSOs, do not always have positive cash flow. This is often true in the initial or start-up stages. But it can also be a result of mismanagement. Conversely, since corporate CUSOs hope to reduce taxes by minimizing net income without affecting cash flow, it is not uncommon for the corporate CUSO to be unprofitable but have positive cash flow.

   To analyze cash flow, the examiner may request cash flow statements. If the corporate CUSO does not prepare cash flow statements and cash flow appears to be a problem, the examiner should analyze the cash flow position to ensure that the CUSO has sufficient cash flow to maintain normal operations. Depending on its severity, negative cash flow may require the examiner to expand the scope, review the situation with management, and develop (with corporate CUSO management) a plan to reverse the trend.

4. Taxes - As taxable entities, corporate CUSOs should adjust their projections for anticipated tax liabilities. During the review, the examiner may request a copy of the corporate CUSO's IRS filings (and documentation of other local, state, or municipal taxes for which the corporate CUSO is liable) for review of proper payment and inclusion in the supporting work papers.

Review of Accounting and Audit Functions

The examiner should review the independent auditor's report, notes to the audit report, engagement letter, report of reportable conditions (if these letters are available), and other correspondence before determining the scope of the general ledger review. If the CPA's competence and independence are not in question, the examiner may place greater reliance on the CPA's work.

The examiner may determine that a comprehensive General Ledger review is not mandatory. In these instances, the examiner may limit the General Ledger review to those areas that may be of concern. For example, the examiner may choose to review only the corporate CUSO's tax filings and aging of receivable and payables, or only the appropriateness of classification of accounting information (e.g., expenses improperly capitalized or income improperly recognized). The examiner may want to pay particular attention to the collectibility of accounts receivable. (Note: if uncollectible receivables are material, NCUA may require affiliated corporate and natural person credit unions to reserve for their investments in and loans to corporate CUSOs.)

When the examiner believes reviewing the correlating audit workpapers is necessary, permission should be obtained from the corporate CUSO to review the workpapers and management should be requested to make necessary arrangements with the CPA firm. Review of audit workpapers often provides meaningful information that may not be evident from a review of the audit report (e.g., the CPA's assessment of the CUSO's internal controls and a statement regarding ongoing concern.)

The examiner should also confirm that the corporate CUSO is following GAAP, as required by Section 704.11(d)(1).

Internal Control Assessment

The examiner's scope of an on-site corporate CUSO examination may include assessing the adequacy of internal controls necessary for the corporate CUSO's business. Likewise, if the corporate CUSO has an internal audit function, the examiner will arrange to review the audit scope and procedures.

Electronic Data Processing

During an on-site review, the examiner may arrange to review the corporate CUSO's information processing system including related controls and the disaster recovery plan.

Legal Review

Section 704.11 requires that a corporate investing in or lending to a corporate CUSO take reasonable steps to ensure that a court would not "pierce the corporate veil" and hold it liable for the obligations of the corporate CUSO. This can happen when the assets of a corporation (the CUSO) are insufficient to satisfy its debts and there is a parent entity (the corporate) which is so closely identified with the corporation that justice requires holding the parent liable for those debts. Section 704.11(b) requires a written attorney's opinion stating that the corporate CUSO has been structured as a separate legal entity to limit the corporate's potential exposure to no more than the loss of funds invested in and/or loaned to the corporate CUSO. The legal opinion should address the factors discussed on page 311-9.

The examiner should review the following, evidencing that the corporate veil has not been pierced:

1. Articles of incorporation or partnership agreement filed with the state.

2. Written bylaws.

3. Minutes of the first meeting of shareholders or partners or a unanimous consent of the shareholders or partners electing the board of directors.

4. Minutes of the director's first meeting or a unanimous consent of the directors electing officers and authorizing the issuance of the shares and adoption of the bylaws.

5. Review of stock certificates.

6. Proof of capitalization and a determination that capitalization is minimally adequate to support the business plan.

7. An opinion letter from an attorney, licensed to practice in the state where the corporate CUSO principally operates, stating that the corporate CUSO is structured in such a manner as to limit the liability of the credit union to the investment in and/or loan to the corporate CUSO.

(Note: Affiliated corporates should obtain a new legal opinion if the corporate CUSO restructures its organization or if its operations raise potential credit union liability issues.)

There is usually no single controlling component that the courts examine in determining whether to pierce the corporate veil thus imposing liability on the parent organization. The factors courts have considered include inadequate capitalization of the corporate CUSO, lack of separate CUSO identity, common boards of directors, management, or employees, control of the corporate over the corporate CUSO, the use of the same or similar forms by both entities, the lack of organizational meetings by the corporate CUSO, and lack of separate books and records.

To evidence distinction in identity, the corporate CUSO must demonstrate that it operates separately from the corporate. The following can aid the examiner in determining whether the corporate CUSO is operating as a separate entity with sufficient financial resources of its own and necessary distinction in management and operations:

1. Is the corporate CUSO holding shareholder or partner meetings and board of director meetings regularly as required by the bylaws? (A corporate CUSO should hold separate board meetings from the corporate.)

2. Are payments made by the corporate CUSO to the corporate for rent, shared employee costs, etc., supported by appropriate management agreements, equipment leases, or real estate leases? (Space that a corporate CUSO rents in the corporate should be separated from the corporate operations and have a separate mailing address and telephone number, if possible.)

3. Is the corporate providing guarantees to the corporate CUSO which could cause the corporate to incur liability in excess of the permitted investment limitation in the regulation?

4. Is there a good faith attempt to separate the identities of the corporate and corporate CUSO both in operation and management? (corporate CUSO management should be separated from corporate management; however, red flags may be raised if corporate management personnel hold a majority of positions on the corporate CUSO board.)

5. Is the capitalization of the corporate CUSO adequate in relation to its business plan?

Additionally, during on-site reviews, the examiner may arrange to review the corporate CUSO's compliance with all other applicable regulations, such as consumer regulations and state laws.

Finally, corporate CUSOs are encouraged to maintain appropriate levels of liability insurance and bonding. Management should periodically review coverage to ensure adequate protection. In reviewing the adequacy of bond coverage, examiners use their professional judgment considering the CUSO's type (e.g., shared branching CUSOs would require similar coverage as credit unions), state law requirements, and insurance company recommendations.

Reserving

In the rare instance that an examiner concludes that the risk associated with a CUSO's operation necessitates reserving by the affiliated corporates, the examiner will submit, with the concurrence of the CFS, a reserve recommendation with the report but in a separate memorandum to the OCCU Director. Examples of severe unresolved problems that may result in examiners recommending reserving include:

1. material negative cash flow resulting in an inability to meet obligations;
2. continual operating losses resulting in, or leading to, a deficit in retained earnings; and/or

3. piercing of the corporate veil.

Report Format

The examiner will prepare a corporate CUSO examination report that will include, at a minimum, an executive summary as to the state of the corporate CUSO's financial and operational condition. The executive summary will outline strengths and weaknesses within the operation, and will clearly address any risks that corporate CUSO operations may pose to the investing or lending corporate.

The report will be distributed to the OCCU office, the board of the corporate CUSO, as well as the board of the corporate holding the investment or loan in the corporate CUSO. The copy of the report provided to the OCCU office will also include a "confidential section" communicating any internal comments to the OCCU office, as well as a summary as to the scope of the CUSO examination. The confidential section will outline any plans for corrective action that the examiner will recommend to the corporate credit union holding an investment in or loan to the corporate CUSO.

When the corporate CUSO poses significant risk to the corporate, the OCCU office will develop plans for action to be presented to the corporate's management. This may include, but is not limited to, reserving requirements. Whereas corporate CUSOs are not "regulated institutions," NCUA does not have the authority to provide the CUSO with records of action. However, corrective action can be facilitated by communicating the deficiencies noted to the management of the corporate holding the investment, and requiring the corporate to take action to minimize risk of loss on that investment.

Examination Objectives

The examiner will address the following main examination objectives during the review of the a corporate's investment in or loan to a corporate CUSO:

1. Determine that the corporate is in compliance with the corporate CUSO investment and loan limitations as provided in 704.11(b).

2. Determine that the corporate CUSO is structured in a manner consistent with 704.11(a)(4).

3. Determine that the corporate CUSO is operated as a separate entity from the corporate. This will include a determination that there exists an adequate "corporate veil" between the two entities.

4. Determine that the services offered by the corporate CUSO are in compliance with 704.11(a)(3).

5. Determine there are no conflicts of interest between an official of the corporate and the corporate CUSO pursuant to 704.11(c).

6. Determine that the CUSO provides the corporate with access to financial and operational information as required under 704.11(d).

7. Determine if circumstances warrant an independent corporate CUSO review.

Examination Procedures

See Corporate Examination Procedures - Credit Union Service Organizations (OCCU 311P).

Examination Questionnaire

See Corporate Examination Questionnaire - Credit Union Service Organizations (OCCU 311Q).

References

1. NCUA Rules and Regulations Part 704.11

2. NCUA Examiner's Guide, Chapter 33, Corporate Credit Union Service Organization

Chapter 401

CORPORATE RISK INFORMATION SYSTEM (CRIS)

Introduction

Corporate credit unions (corporates) are unique financial institutions. They are the only institutions, other than Federal Reserve and Federal Home Loan Banks, that exist primarily to provide financial, liquidity, and correspondent services to other financial institutions (e.g., credit unions). Accordingly, the combination of financial and operational risks managed by corporates differs significantly from the risks incurred by commercial banks, natural person credit unions, and thrifts.

The system used to detect, measure, and monitor these risks must be unique to the environment in which it will be used. Whereas the financial stability of corporates is crucial to their credit union members' success in providing services to their members, a regulatory risk rating system needs to be highly effective in identifying and measuring specific areas of risk during the supervisory process. By accurately detecting and communicating risk areas, NCUA can achieve the most effective supervisory efforts possible, and help avoid a major financial and operational crisis in the corporate credit union system (System).

The inherent operational differences between corporates and other financial service providers, coupled with the NCUA's responsibilities to effectively detect, communicate, and control risk within the System, necessitates a highly specialized and effective risk rating system. Because it was developed to evaluate financial institutions inherently different from corporates, the CAMEL rating system for corporates is considered inconsistent with the examination and supervision objectives of NCUA. CAMEL does not effectively identify, separate, and communicate, risks arising from qualitative management policies, processes, and abilities as opposed to quantitative financial factors.

NCUA considers management's role in corporates to be the major catalyst in the financial and operational success of the institutions. In order to be of benefit to NCUA, a corporate risk rating system must effectively evaluate, measure, and report the qualitative strengths and weaknesses of management personnel, practices, and policies, independent of the quantitative risk measures such as empirical levels of capital, earnings, and market risks.

CRIS is based upon the specific risk profile and practices of corporates. The system separates the assessment and communication of quantitative financial risks from qualitative operational and managerial risks and assigns individual *Financial Risk and Risk Management* composite and component ratings, respectively.

The Financial Risk Composite rating is:

> an assessment of measurable risk exposure to the corporate's capital, relative to levels of exposure to credit, interest rate, and liquidity risk as of the date of the examination.

The Risk Management Composite rating is:

> a qualitative risk assessment derived from the examiner's evaluation of management's policies, practices, and expertise in measuring, monitoring, and controlling risk, and providing effective corporate services.

Used in conjunction, the components allow NCUA to more effectively focus resources in specific areas of risk identified during the supervisory process, and develop and implement appropriate supervision strategies.

Recent studies conducted by NCUA and third parties indicate a major risk inherent within the System is an inadequate level of core capital in relation to credit, liquidity, interest rate, and operational risks incurred by the institutions. Corporate management's ability to direct the institution and measure, monitor, and control the inherent risks within corporates was also deemed paramount to the success of the System as a whole.

Part 704 of the NCUA's Rules and Regulations (Part 704) encourages the accumulation of capital and the management of balance sheet risks as its primary objectives. CRIS addresses the capital accumulation concerns cited in the studies and the supervisory objectives of the revised regulation. This focus on evaluating capital strength is reflected in the Financial Risk Composite of the CRIS rating.

NCUA's use of CAMEL historically weighed the Management component virtually equal to that of all other components. Under CRIS, management is evaluated separately from other financial measurements and risks. This separation allows the examiner to more effectively communicate those risk assessments to other NCUA staff, and develop and implement more effective supervision strategies on an ongoing basis, leading to more efficient and effective use of the Agency's resources.

Both the CRIS and CAMEL rating systems carry the same major examination and supervision objectives:

1. To detect, evaluate, and measure financial and operational risks.

2. To determine the effect that these risks may have upon the financial (capital) strength of the institutions.

3. To assess the quality of management, policies, and procedures.

4. To assess and control risk to the National Credit Union Share Insurance Fund (NCUSIF).

5. To provide a rating system, internal to the NCUA, that will be used to allocate agency resources for ongoing examination and supervision needs of corporates.

CRIS System

CRIS is based upon the premise that the risk corporates pose to their members and the NCUSIF can be identified and measured. The identification and measurement can be made by evaluating both the corporate's financial (capital) risk exposures as of the examination date and the ability of management to measure, monitor, and control risk to capital through policies and practices (i.e., Risk Management).

CRIS provides individual composite ratings for both Financial Risk and Risk Management, based upon certain components as follows:

1. The Financial Risk Composite rating is derived by the measurement and interrelationship of five quantitative components: Empirical Capital Level; Earnings; Interest Rate Risk Exposure; Liquidity Risk Exposure; and Credit Risk Exposure.

2. The Risk Management Composite rating is similarly derived through the evaluation of seven components stressing the qualitative nature of risk management. These are: Capital Accumulation Planning; Profit Planning and Control; Interest Rate Risk Management; Liquidity Risk Management; Credit Risk Management; Operations Risks; and Board Oversight, Audit & Compliance.

Disclosure of CRIS to Corporates

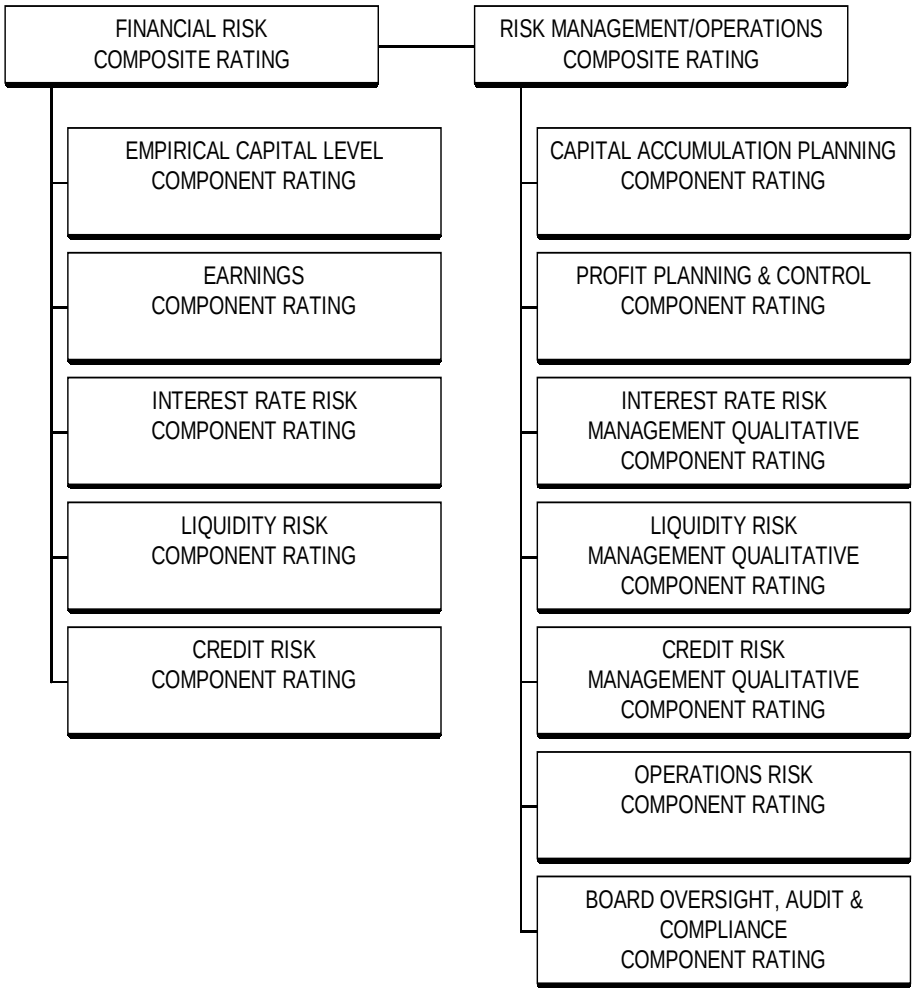
The major emphasis of the examination report will focus on the individual areas of concern identified during the examination and implementing corrective action. However, both the Financial Risk and Risk Management composite and component ratings will be disclosed in the Executive Summary section of the examination report. To eliminate the problem of officials focusing on the ratings as opposed to the issues, the ratings will not be disclosed until after the issues are discussed with a corporate's board during the joint conference.

Coordinating the disclosure of CRIS with State Supervisory Authorities

Individual SSAs have specific procedures for the disclosure of their risk rating systems to state chartered corporates. Examiners should coordinate their efforts with the SSA to ensure that the intent of the agreements reached in the Document of Cooperation and individual agreements with SSAs, as well as the conditions in Chapter 104 of this guide, are met.

The diagram on the next page provides a practical depiction of the CRIS rating system process.

CORPORATE RISK IDENTIFICATION SYSTEM (CRIS)



Interrelationship of CRIS Composites, Components and Evaluation Factors

Under CRIS the corporate will be assigned a Financial Risk and a Risk Management composite rating. The composite ratings are derived through the interrelationship between underlying component ratings. The component ratings are derived through the examination of relevant Evaluation Factors. Examiners will rate the components and composites 1 through 5;1 being best and 5 the worst. The risk rankings assigned to the Evaluation Factors will be used to determine the overall component ratings to which they relate. Definitions of component and composite ratings are defined in detail in Appendix 401A.

Assignment of separate composite ratings to Financial Risk and Risk Management provides a more effective manner of identifying immediate and potential risks to a corporate's financial strength. By providing separate ratings for quantitative financial risk factors and qualitative risk management abilities, an accurate and effective risk assessment can be made of the corporate.

Evaluation Factors

Evaluation Factors are reviewed as part of the overall examination process by the examination team. Each Evaluation Factor must be assessed by the examiner as it applies to both the corporate's scope of business and any Expanded Authorities under Part 704 (if applicable). Evaluation Factors are assigned specific risk rankings based upon the examiner's review and professional judgment.

Generally, the risk ranking assigned to each Evaluation Factor should be independent of others, and, where necessary, certain Evaluation Factors may be given more weight in determining the overall composite. For example, when deriving the interest rate sensitivity component rating, the examiner will normally place more emphasis on the corporate's NEV ratio and volatility, than on NII simulation results. While both analyses are useful in detecting, measuring, and controlling interest rate risk, the NEV measure provides a more encompassing long-term risk assessment. Therefore, the examiner would normally place more emphasis on the results of NEV simulations and management's ability to measure and monitor risk using those simulations. Examiners should use professional judgment when determining whether to place more emphasis on one Evaluation Factor over another when deriving an overall component rating.

Each Evaluation Factor is assigned a risk ranking between 1 and 5. A ranking of 1 reflects low risk, a ranking of 5 high risk. Risk rankings reflect the examiner's review of the Evaluation Factor area as follows:

Financial Risk Component	
Risk Ranking	**Degree of Risk to Capital and/or Earnings**
1	Low Risk
2	Moderate (managed) Risk
3	High Risk
4	Excessive Risk
5	Critical Risk

Risk Management Component	
Risk Ranking	**Quality of Policy or Risk Management Process**
1	Exceptional
2	Acceptable
3	Minimally Acceptable
4	Inadequate
5	Seriously Deficient

The risk rankings assigned to the Evaluation Factors must be derived based on professional judgment of the operating principles and standards in this Corporate Examiner's Guide, the Guidelines for Submission of Requests for Expanded Authority, and other industry accepted standards. The Financial Risk and Risk Management components will be derived as a result of the interrelation of the risk rankings assigned to the individual Evaluation Factors.

Composite And Component Ratings

Financial Risk Composite Rating

The Financial Risk composite rating is derived, by not only assessing the corporate's empirical level of capital and earnings, but also determining credit, interest rate, and liquidity risk exposures, and the effects these risks could have on the earnings level and capital accumulation. Individual component ratings are assigned to these areas when developing the overall composite rating.

The examiner must keep in mind that the Financial Risk Composite is a quantitative assessment of relative capital strength in relation to earnings performance and financial risks. The Financial Risk composite rating is not an arithmetic average of the individual components. The component ratings should be evaluated independently using the guidelines in Appendix A and the examiner's judgment to derive and assign the overall Financial Risk composite rating. The component ratings are similarly derived through an assessment of the individual Evaluation Factors reviewed as part of the examination scope. Guidelines for examiner assessment of the individual Financial Risk components are provided in specific sections of this chapter, and throughout the Corporate Examiner's Guide. A list of Evaluation Factors is listed in Appendix A, along with definitions of the Financial Risk component and composite ratings.

Risk Management Composite Rating

The ability of the officials and management team to develop appropriate business plans, operational policies and procedures, and risk management policies and practices is crucial to ensure the ongoing financial soundness of the institution. CRIS acknowledges the importance of management's capabilities by providing a separate and distinct composite rating in assessing the abilities and effectiveness of corporate management. The Risk Management composite should reflect the examiner's assessment of the qualitative factors that are attributable to the management of financial risk and those inherent within corporate operations (i.e., processes and results that cannot be measured on a numerical basis). The Risk Management Composite rating will be derived through the assessment of the seven individual Risk Management Component ratings, these component ratings are as follows:

1. capital accumulation planning;
2. profit planning and control;
3. interest rate risk management;
4. liquidity risk management;
5. credit risk management;
6. operations; and
7. board oversight, audit & compliance.

The Risk Management composite rating is determined based upon the examiner's review of the corporate's operational processes, policy making and planning capabilities, and risk management and reporting procedures. The Risk Management composite rating is not measured on financial results. This composite rating will be assigned as a result of the examiner's careful review of each component's Evaluation Factors as they relate to the corporate's scope of operation and Expanded Authorities granted under Part 704 (if applicable).

Assignment of Composite Ratings

The examiner will follow the composite rating definitions outlined in Appendix A to assign both the Financial Risk and Risk Management composite ratings. OCCU Form 102I will be used to facilitate this process. On OCCU 102I, the examiner in charge (EIC) will assign ratings using team member recommendations; however, the final decision as to the assignment of ratings will lie with the EIC.

Examiners have the latitude to increase or decrease any component or composite rating based on professional judgment; however, they must explain increases and decreases in the confidential section of the report. Additionally, in completing the risk rankings, the examiner should be case specific when justifying a particular rating. The examiner should try to avoid simply taking language from the examiners guide. OCCU 102I will be included with the field and office copies of the examination report. The workpaper will provide support for the component and composite ratings by listing the risk rankings assigned to the individual Evaluation Factors.

Empirical Capital Level & Capital Accumulation

The low level of RUDE Capital is considered a source of weakness in relation to the financial and operational risks taken by many corporates. Although all corporates meet minimum regulatory requirements, in general, most corporates have a relatively low RUDE capital ratio. Part 704 encourages corporates to increase their level of RUDE regardless of the level of membership capital. The regulation mandates that the capital of the System be strengthened by requiring corporates with reserve ratios less than 4 percent to perform mandatory reserve transfers. When reviewing capital, the examiner should specifically address trends and ratios regarding the level of the corporate's RUDE in relation to financial and operational risks.

Meeting minimum capital requirements is a key factor in determining capital adequacy. More importantly, the examiner must consider whether the corporate's operations and risk position, or other factors, would require additional capital beyond the minimum regulatory requirement. The examiner should also consider whether the corporate will continue to maintain adequate capital levels in light of any planned growth or other operational activities, such as Expanded Authorities.

Corporates operating at Base or Base-Plus authority must maintain a minimum capital ratio of 4 percent. However, wholesale corporates and corporates with Part I authority must maintain a minimum capital ratio of 5 percent, and corporates with Part II authority must have 6 percent. The examiner must keep in mind that these ratios are merely the minimum regulatory requirement. Given additional risks in each portfolio, these ratios may only prove to be minimally adequate or even inadequate.

As part of the risk rating process the examiner will assign a Financial Risk component rating to Empirical Capital Strength and a Risk Management component rating to Capital Accumulation Planning. The capital versus risk relationship will be reflected in the Overall Financial Risk Composite when the Empirical Capital Level component rating is evaluated in relation to the other risk related components (i.e., interest rate, liquidity, credit, earnings risks).

Empirical Capital Level

In assigning the Empirical Capital Level component rating, the examiner should consider all capital related Evaluation Factors and any additional issues that may directly or indirectly affect capital.

At a minimum, the following Evaluation Factors should be considered when assigning the overall component rating of Empirical Capital.

RUDE Ratio - The RUDE ratio is calculated by dividing the corporate's reserves and undivided earnings by the moving daily average net assets (DANA). When assigning a risk ranking to this factor, the examiner should consider the corporate's operating authorities under Part 704 and the overall level of financial and operational risks within the following guidelines. Generally, a corporate taking on higher degrees of credit, interest rate, and liquidity risk should maintain a higher level of RUDE. The following guidelines reflect this premise.

Recommended Risk Rankings for RUDE Evaluation Factor			
Risk Ranking	**Base and Base+**	**Part I**	**Part II, III, IV**
1	5.0% or greater	5.5% or greater	6.0% or greater
2	3.0 to less than 5.0%	3.5% to less than 5.5%	4.0% to less than 6.0%
3	2.0% to less than 3.0%	2.5% to less than 3.5%	3.0% to less than 4.0%
4	1.0% to less than 2.0%	1.5% to less than 2.5	2.0% to less than 3.0%
5	less than 1.0%	less than 1.5%	less than 2.0%

Reserve Ratio - The reserve ratio is the corporate's reserves, undivided earnings, and paid-in capital divided by DANA. While Section 704.3(c) requires that corporates with reserve ratios less than 4 percent

of DANA make reserve transfers, the risk ranking for this Evaluation Factor should reflect the capital accumulation intentions of the Regulations. When assigning this risk ranking the examiner will take into account the corporate's reserve transfer position, and general capital mix and trends.

Capital Ratio - Part 704 defines capital as the sum of reserves and undivided earnings, paid-in capital, and membership capital. The capital ratio is computed by dividing capital by the corporate's DANA. The regulation sets forth specific capital requirements for Base and each level of Expanded Authorities. The examiner should consider the corporate's current level, and ability to achieve future goals when assigning a risk ranking to this Evaluation Factor. The following chart sets forth recommended risk rankings based on the corporate's operating authorities and level of capital in relation to DANA.

Recommended Risk Rankings for Total Capital Ratio Evaluation Factor

Risk Ranking	Base and Base+	Part I	Part II, III, IV
1	6.0% or greater	7.0% or greater	8.0% or greater
2	5.0% to less than 6.0%	6.0% to less than 7.0%	7.0% to less than 8.0%
3	4.0% to less than 5.0%	5.0% to less than 6.0%	6.0% to less than 7.0%
4	3.0% to less than 4.0%	4.0% to less than 5.0%	5.0% to less than 6.0%
5	less than 3.0%	less than 4.0%	less than 5.0%

Capital Trends - When determining a component rating for Empirical Capital, the EIC must take into account not only the level, but also the mix, of capital as of the date of the examination. Additional analysis and evaluation must also take into account capital accumulation trends.

When determining the overall Empirical Capital Component rating, the EIC should take into account the risk rankings assigned to the Evaluation Factors above only. The overall Financial Risk Composite will reflect the relationship between Empirical Capital Strength and levels of balance sheet and operational risks.

Capital Accumulation Planning Component Rating

As part of the examination process, the examiner will evaluate and assess the strength of the corporate's capital accumulation plan, and the effectiveness with which it is implemented. The capital accumulation plan should be set forth in a manner commensurate to the current empirical capital level, balance sheet growth plans, ability to sustain earnings, current and planned balance sheet risks, and the operating authorities granted to the corporate.

Capital accumulation plans will be evaluated and assigned a component rating that will be included in the derivation of the overall Risk Management composite rating. The evaluation of capital accumulation plans will require that the examiner draw upon a variety of other financial and risk related factors surrounding the corporate. Chapter 204 provides detailed discussion as to the attributes of effective capital accumulation planning.

Earnings and Profit Planning Component

A corporate should have earnings sufficient to accumulate equity levels to meet minimum capital requirements and absorb operating losses. The minimum capital requirements will vary in relation to Expanded Authorities granted to each corporate, as well as the corporate's overall balance sheet and operational risk profiles. Examiners should use professional judgment to evaluate the adequacy of earnings in relation to the level of capital and the risks inherent in the portfolio, and off-balance sheet, when present. For example, a corporate with Part II and IV expanded authorities may be evaluated more stringently than one with Base-Plus authority because it has the ability to take a higher level of overall risk to capital and earnings stability.

When examiners assess the adequacy of corporate earnings, general economic and market related factors should also be considered. Earnings trends and balance sheet flexibility should be given equal consideration to actual financial results as of the examination date.

Given the complexity of each corporate's balance sheet, there is no easy formula for determining the adequacy of earnings. The examiner should look for earnings characteristics such as stability, trend, and composition. The level of operating expenses should be reviewed in relation to the overall earnings composition. The examiner should remember the concept of the risk/return tradeoff inherent in the management of corporate assets and liabilities. Generally, assets that carry higher risks, should provide a higher risk adjusted return to the corporate and its members. Professional judgment should indicate that

the corporate with higher risk assets and liabilities would normally receive a higher risk adjusted return in the form of interest margin, reduced fees, or other opportunities to the membership.

Although the minimum capital requirements are specifically set forth in Part 704, the adequacy of earnings is subjective based on other qualitative and quantitative measures of the corporate and the examiner's professional judgment. These qualitative and quantitative measures may relate to, but are not limited to, the current capital level, the level of interest rate risk inherent in the portfolio, the level of credit risk in the corporate, the effectiveness of management, and the level of liquidity risk. Further guidance in the evaluation of earnings should be reviewed in Chapter 302 of *the Corporate Examiner's Guide*.

When evaluating earnings, the examiner should consider a number of key factors that affect the adequacy of earnings. These key Evaluation Factors to consider when assessing the corporate's earnings are:

Quantitative Earnings Evaluation Factors (Financial Risk Composite)

1. Net Income Level
2. Earnings Trends
3. Earnings Composition
   a. Gross Income
   b. Cost of Funds
   c. Fee Income
4. Operating Expenses
5. Product Line Profitability
6. Non-Operating Income Levels

Qualitative Earnings Evaluation Factors (Risk Management Composite)

1. Net Interest Income Simulations
2. Budgeting and Reporting
3. Earnings in Relation to Capital Planning
4. Effectiveness of Cost Accounting Systems
5. Pricing Strategies and Policies

Sensitivity to Interest Rate Risk

Interest rate risk is the exposure of capital and earnings to movements in interest rates. The economic perspective, termed net economic value (NEV), focuses on the difference in the fair value of assets and the fair

value of liabilities in today's interest rate environment and the sensitivity of that NEV to changes in interest rates. The accounting perspective, referred to as net interest income (NII), focuses on the effect of interest rate changes on the corporate's projected earnings under both current and projected interest rate scenarios.

The Interest Rate Risk component rating addresses the corporate's performance in identifying, measuring, monitoring, and controlling exposures to changes in the level and volatility of interest rates. The examiner will assess quantitative and qualitative factors in order to assign an Interest Rate Risk Exposure Component rating and an Interest Rate Risk Management Component Rating, respectively.

Given the need to place reliance upon the corporate's internally generated interest rate risk measurements, qualitative factors such as the robustness of the model and validity of assumptions will be utilized in assigning both the quantitative and qualitative components.

In deriving the Interest Rate Risk component ratings, the examiner is to consider 15 evaluation factors listed in this section. The examiner should determine whether rankings for additional factors are to be documented under the "other" caption.

The examiner should assign the component rating on a case-by-case basis using professional judgment, and will consider the interrelationships of the evaluation factors in light of any expanded authority.

The long-term risk assessment objectives of NEV inherently provide a more effective risk measurement tool than the short-term risk management objectives of NII. When assigning the overall Interest Rate Risk Exposure component, the examiner should keep in mind the objectives of these simulation models, and assign the component rating to reflect the strengths of NEV over those of NII. The examiner should refer to Chapter 203 as a reference source when evaluating the risk assessments provided by the corporate's models.

When assigning the overall component rating, the EIC will consider the robustness of the risk model in considering the weight given to the NEV calculations. The examiner must evaluate the capabilities of the

model, and validity of the assumptions used by management, to place reliance on the quantitative results of the model.

The Sensitivity/IRR evaluation factors focus the examiner on the sensitivity measures, documentation, and testing that the corporate has performed, rather than on management's capabilities. The examiner's evaluation of management's effectiveness and expertise should be considered when assigning the Interest Rate Risk Management Component rating under the overall Risk Management Composite.

The following guidance includes criteria for the examiner to assign rankings to evaluation factors. Considering the interaction of evaluation factors, the examiner may assign a factor ranking at a lower or higher level than specified in the guidelines**.** The examiner's conclusions and observations regarding each individual Evaluation factor should provide a basis for such a lower or higher ranking. The examiner should consider the questions outlined in Appendix A to Chapter 203 when assessing these evaluation factors.

Qualitative Interest Rate Risk Exposure Evaluation Factors

Base Case NEV Ratio: NEV ratio is defined in Section 704.2. The *base case* NEV ratio is essentially the economic value of assets and liabilities discounted at the spot rate curve in effect as of the date of testing. Under the Base requirements of Section 704.8, a corporate must calculate the NEV ratio at least quarterly, and must calculate the NEV ratio monthly if the NEV ratio falls below 2 percent at the last testing date. The regulation identifies a minimum NEV ratio standard of 1 percent under the worst case test for parallel shocks in the Treasury yield curve. Therefore, a *base case* NEV ratio of 1 percent represents a weak capital position and excessive level of risk limiting the corporate's flexibility to respond to interest rate shocks and comply with the NEV Exposure Measure referred to in Section 704.8(d)(1)(ii). Such a corporate could not afford any interest rate risk without dropping below a 1 percent NEV ratio. The following table represents guidelines the examiner should consider when ranking this evaluation factor. While Part 704 allows paid-in capital to be considered equity under NEV simulation, the guidelines below reflect the regulatory requirements for both NEV and reserve ratios. The absence of differentiation in the evaluation guidelines for risk rankings of 4 or 5 reflects the need for regulatory intervention in corporates that present such deficient levels of Base NEV. Additionally, Part III and Part IV

institutions will be evaluated under the Part I or Part II base case NEV ratio guidelines set forth in the following table, as applicable.

BASE NEV RATIO			
Ranking	**Base, Base +**	**Part I**	**Part II**
1	5.0% or greater	5.5% or greater	6.0% or greater
2	3.0% to less than 5.0%	3.5% to less than 5.5%	4.0% to less than 6.0%
3	2.0% to less than 3.0%	2.0% to less than 3.5%	2.0% to less than 4.0%
4	1.0% to less than 2.0%	1.0% to less than 2.0%	1.0% to less than 2.0%
5	0 to less than 1.0%	0 to 1.0 percent	0 to less than 1.0%

NEV Exposure Measure (worst case NEV ratio): Section 704.8(d)(1)(ii) provides that a corporate must limit its risk exposure to a level that does not result in an NEV ratio below 1 percent (0.75 percent for wholesale corporates) under parallel shocks in the Treasury yield curve across a range of plus/minus 300 basis points. Generally, a corporate representing low risk would maintain an NEV Exposure Measure of greater than 3 percent. No differentiation is made between corporates with higher expanded authority since the exposure measure is a "completely shocked" result, and the intent of the regulation is to preclude any corporates from reaching an NEV ratio below 1 percent.

NEV EXPOSURE MEASURE	
Ranking	**All Authorities**
1	3.0% or greater
2	1.5% to less than 3.0%
3	1.0% to less than 1.5%
4	less than 1.0%
5	negative NEV

NEV Volatility Measure (post shock percentage change in NEV ratio). This factor is defined in Section 704.2. The corporate must limit its interest rate risk exposure under parallel shocks in the Treasury yield curve across a range of plus/minus 300 basis points to a level that does not result in a NEV Volatility Measure of more than 18 (Base), 25

(Base plus), 35 (Part I and wholesale corporates), or 50 (Part II) percent, as applicable.

NEV VOLATILITY MEASURE		
Ranking	**Base**	**Base Plus**
1	less than 8.0%	less than 12.0%
2	8.0% to less than 12.0%	12.0% to less than 18.0%
3	12.0% to less than 18.0%	18.0% to less than 25.0%
4	18.0% to less than 25.0%	25.0% to less than 35.0% percent
5	25.0% or greater	35.0% or greater

NEV VOLATILITY MEASURE		
Ranking	**Part I and wholesale corporates**	**Part II**
1	less than 15.0%	less than 20.0%
2	15.0% to less than 25.0%	20.0% to less than 35.0% percent
3	25.0% to less than 35.0%	35.0% to less than 50.0% percent
4	35.0% to less than 50.0%	50.0% to less than 75.0% percent
5	50.0% or greater	75.0% or greater

NII Exposure Measure (worst case scenario). It is difficult to provide uniform guidelines for the ranking of the NII Evaluation Factors because of the many variations in NII simulation methodologies; thus, the examiner must use professional judgment in ranking NII factors. NII typically is expressed as an annualized percentage return in basis points on total assets. The worst case scenario NII typically represents the lowest level calculated over a simulation period of at least 12 months under instantaneous shocks in interest rates over a range of plus/minus 100 to 300 basis points.

NII Volatility Measure (change). This evaluation factor is ranked based on the largest percentage change in the corporate's projected NII from a base scenario. The corporate should identify sources of large projected decreases in NII. Large projected increases in NII, without corresponding projected decreases under alternative scenarios, may be indicative of options purchased either outright or embedded into securities; such earnings generally are not sustainable. Also of concern, overly optimistic modeling assumptions may be the source, masking large declines under alternative scenarios.

NII VOLATILITY MEASURE	
Ranking	**All Authorities**
1	less than 25.0%
2	25.0% to less than 50.0%
3	50.0% to less than 100.0%
4	loss
5	significant loss in relation to capital

Qualitative Interest Rate Risk Management Evaluation Factors

Risk Model Capabilities. This evaluation factor reflects the examiner's conclusions regarding the capabilities of the NEV model as implemented by the corporate's management. The examiner should refer to Chapter 202, Asset/Liability Management, and to corporate staff for documentation of the fundamental characteristics of the risk model. The examiner should document any overrides of industry standard inputs indigenous to both NEV and NII models.

Modeling Assumptions-NII. This factor reflects the examiner's evaluation of the assumptions used in the NII simulations. Generally, prepayment speeds and cash flow variability for instruments with optionality will be generated by a model (and may be outsourced externally from broker-dealers as made available through information vendors). This evaluation factor also focuses on the reasonableness of assumptions regarding deposit growth and asset acquisition in light of the interest rate scenario.

Modeling Assumptions-NEV**.** This Evaluation Factor considers whether the price sensitivities are reasonable and supportable in light of any assumptions regarding prepayment speeds. For example, for those corporates that use the Bloomberg system to perform the HRST tests, the FSPM screen should be used to assess price sensitivity of floating-rate CMOs. The examiner will consider the source (such as information vendor or in-house systems) of prepayment estimates used to measure and monitor the price sensitivity of complex investments. If the model generates securities valuation output at the individual instrument level, such detail may serve as appropriate evidence of securities price sensitivity monitoring.

FAS 115 Classifications**.** The corporate's classification of investments will dictate its ability to manage interest rate sensitivity without tainting a portfolio. When assigning a risk ranking of this Evaluation Factor, the examiner should determine that the corporate's documentation of investment classifications appropriately identifies its ability and intent, and that such classifications are consistent with its risk management strategies.

Additional NEV and Stress Testing. The examiner may assess the frequency and results of additional tests which may address market factors that potentially can impact the value of instruments possessing unmatched embedded options, including those factors noted in Section 704.8(d)(2). The examiner should keep in mind that given the complexities of each individual asset/liability portfolio, management should consider running additional simulations over and above those required by regulation (i.e. rate shocks of plus/minus 400, 500 bps, ramped simulations). The examiner should consider any Expanded Authorities in assessing whether the frequency and scope of additional testing are adequate.

Modeling Process/Internal Control**.** The examiner should assess the documentation of the modeling process, including the audit trail and the change control process (for example, a change of algorithm or a change of source of volatility).

ALCO Documented Strategies**.** The examiner should review ALCO's documented strategies and should assess whether balance sheet changes have been consistent with those strategies. The examiner may consider documented changes in strategies and changes in market conditions in assigning this ranking.

Compliance, Including Internal Validation**.** The examiner should review the corporate's documentation of its compliance with internal policy limits and with the requirements of Part 704.

Third Party Validation, If Applicable. The examiner should review any third party validation for scope, methodology, and reasonableness.

Policies/Procedures**.** The examiner should review any interest rate risk policies and procedures to determine whether material omissions or deficiencies exist.

Other**.** The EIC should assign other evaluation factors in light of the circumstances and any expanded authorities.

Liquidity Risk Exposure and Management

Liquidity Risk is the exposure of capital and earnings to costs incurred by the corporate in meeting its present and anticipated cash flow needs. Liquidity Risk generally arises from potential mismatches between cash flows of assets and liabilities. The assessment of Liquidity Risk is complicated by the uncertain cash flows of assets and liabilities with embedded options or other derivatives impacting cash flows. Liquidity Risk includes the risk of early and unexpected redemptions of share accounts.

By ensuring a corporate's ability to meet its liabilities as they come due, effective Liquidity Management can reduce the probability of an irreversible adverse situation developing. Liquidity Management includes the ability of management to evaluate the needs of its membership in a variety of economic scenarios. Liquidity Management also includes the ability to react to unplanned decreases or changes in funding sources without incurring unacceptably large losses. Thus, understanding the context of Liquidity Management involves examining a corporate's managerial approach to funding and liquidity operations and its liquidity planning under alternative scenarios.

Some of the sources of liquidity include advised and committed LOCs from U.S. Central, repurchase transactions, security sales, commercial paper, and other LOCs. The examiner should assess the corporate's analysis of assets to determine the degree of marketability and potential use as collateral that could increase cash inflows. The examiner should assess the corporate's analysis of the behavior of its liabilities under

normal business conditions and under alternative economic scenarios, including under a stress ("worst-case") scenario. An examiner also should assess the corporate's analysis of the potential for substantial cash flows arising from off-balance sheet activities.

In measuring and managing net funding requirements, a corporate should prepare a schedule comparing future cash inflows to its future cash outflows over a series of specified time periods. The difference between cash inflows and cash outflows in each period, or the excess or deficit of funds, becomes a starting-point for a measure of a corporate's future liquidity excess or shortfall at a series of points in time. The corporate's assessment of different economic scenarios should provide a basis for the corporate's plans to fill any liquidity shortfalls. The examiner should assess the adequacy of the assumptions regarding behavior of cash flows under the different scenarios.

The examiner should assess the corporate's management of its access to external (market) sources of liquidity. This assessment should include a review of the diversification of its liabilities, the documented established relationships with liability-holders (e.g., commercial paper), and the corporate's asset-sales markets, if any. Building strong relationships with providers of funding can provide a line of defense in less severe liquidity problems, and can become an integral part of a corporate's liquidity management. The frequency of contact with and use of a funding source are two indicators of the strength of a funding relationship.

In assessing the corporate's contingency plans, the examiner should review management's strategy for handling a crisis and the procedures in place for accessing cash in an emergency. The examiners should consider the degree to which the strategy and procedures are realistic.

<u>Quantitative Liquidity Risk Evaluation Factors</u>

1. Significant Asset and Liability Concentrations
2. Core Funds Determination
3. Liquidity Measures - Cash Budgeting

<u>Qualitative Liquidity Management Evaluation Factors</u>

1. Policies/Procedures
    a. Objectives

   c. Contingency Plans
2. Alternative Funding Sources
   a. Development
   b. Maintaining Market Presence
   c. Testing
   d. Commercial Paper
   e. Repurchase Opportunities

   3. FAS 115
4. Disintermediation Plan (worse case)
5. Early Withdrawal Penalties
6. Compliance/Monitoring
7. Other

Credit Risk

Credit Risk is present any time a corporate extends credit, purchases investments, makes commitments and guarantees, and enters into contractual agreements, whether reflected on or off balance sheet. In other words, Credit Risk is found in all activities where success depends on counterparty, issuer, or borrower performance.

In corporates, Credit Risk encompasses more than the traditional definition related to lending activities. It arises when engaging in a broad range of activities including the selection of investment products, brokers, and counterparties. Credit Risk also arises due to country or sovereign exposure, as well as indirectly through guarantor performance. These Credit Risks are discussed in more detail in Chapters 201, Investments and 203, Loan Review.

The corporate must have a timely and effective Credit Risk management system to ensure problem credits are identified in their early stages. Workout plans to reduce the risks the problem credit represents must be developed and/or implemented timely.

When rating Credit Risk, the examiner should consider both the quantitative level of credit risk the corporate is exposed to (i.e. concentration risks, third party credit ratings of investment securities), as well as qualitative factors (i.e. credit risk management policies and practices). At a minimum, the following key factors should be evaluated when deriving Credit Risk Exposure and Credit Risk Management Component Ratings:

Quantitative Credit Risk Exposure Evaluation Factors (Financial Risk Composite)

1. Concentrations of credit by investment type.
2. Concentrations of credit by issuer.
3. Concentrations by sector or industry.
4. Diversification by credit rating.
5. Concentrations of lending, commitments, or guarantees.

Qualitative Credit Risk Management Evaluation Factors (Risk Management Composite)

1. Quality of policies (investment, loan, and credit risk management).
2. Completeness of written procedures (investment, loan, and credit risk management).
3. Quality of loan underwriting.
4. 4. Quality of credit administration, documentation, and reporting (securities, counterparties, credit ratings, watchlists, outstanding commitments, and ongoing monitoring).
5. 5. Quality of assets.
6. Other credit risk factors as applicable.

The examiner must tailor the scope of the Credit Risk management review to the corporate's operating authorities granted under Part 704, as outlined in the Guidelines for Submission of Requests for Expanded Authority. For example, a corporate with Base Case operating authority and a relatively simple investment portfolio will not be expected to have an extremely sophisticated Credit Risk management function. However, a corporate that operates under expanded authorities and can purchase investments carrying lower credit ratings would necessitate a more elaborate Credit Risk management function. Specifics related to the review required for the various operating authorities are discussed in Chapter 201, Investments.

Operations, Board Oversight, Audit and Compliance

Management consists of the board of directors, the supervisory committee, various other committees, and senior level management staff. The quality of management is the most important element in the successful operation of a corporate. The quality of this element is

normally the factor most indicative of how well risk is identified, measured, monitored, and controlled.

Strong management is a key factor in a corporate being well positioned to weather any expected or unforeseen economic instabilities and market fluctuations. The ability to promptly address existing problems and risks, and the capacity to be forward thinking, contribute to the success of the corporate, and help ensure it fulfills its present and future obligations to its membership.

The expertise of the board, its committees, and operational management must be commensurate with the level of risk taken by the corporate. Specific capabilities of officials and operating management will be evaluated and ranked when reviewing the individual Risk Management areas of Capital, Earnings, Interest Rate Risk, Liquidity Risk, and Credit Risk. When assigning the component ratings to Operations and Board Oversight, Audit & Compliance, the examiner will draw upon the analysis used during these specific qualitative risk management reviews to assess the officials overall ability to effectively identify, measure, monitor, and control each of the numerous risks inherent in daily operations. Additionally, other less tangible or measurable aspects of the management function will be reviewed and risk ranked under these components (see Evaluation Factors listed below). The examiner should refer to the *Corporate Examiner's Guide* when making an assessment of the quality of specific managerial and operational functions.

The following Evaluation Factors should be considered in conjunction with the expanded authorities under which the corporate operates (if applicable). The assessment of management's performance under each of these Evaluation Factors is used to determine the overall Operations and Board Oversight, Audit & Compliance component ratings.

<u>Operations Component Rating</u>

1. Overall completeness of documented procedures for all areas of operations.
2. Adequacy of internal controls in all areas of operations.
3. Adequacy of management of MIS systems risk including the LAN, wires, ACH, and item processing.
4. Other evaluation factors as applicable.

Board Oversight, Audit and Compliance Component

1. Management's overall strategic planning process.
2. The appropriateness and completeness of succession planning.
3. Management's ability to attract and retain sufficiently qualified and experienced personnel.
4. Overall quality of policy making activities in all areas of operations and at all levels of management.
5. Overall adequacy and effectiveness of the corporate's infrastructure.
6. Overall effectiveness of the board of directors.
7. Overall effectiveness of committees.
8. Overall effectiveness of senior management.
9. The independence and effectiveness of compliance functions.
10. Responsiveness to supervision.
11. Accuracy of financial reporting and accounting functions.
12. Sufficiency of and response to the internal audit function.
13. Sufficiency of and response to the external audit.
14. Extent of cross training and backup.
15. Adequacy of continuing education and training for officials, senior management, and staff.
16. Management's effectiveness in addressing legal matters.
17. Effective use of consultants.
18. Effective use of vendors and outsourcing.
19. Other evaluation factors as applicable.

Both the Operations and Board Oversight, Audit & Compliance component ratings are ultimately qualitative. The overall evaluation of management effectiveness and internal controls does incorporate many of the underlying quantitative factors of the other Risk Management components, as well as internal, operational, and systems controls of corporate operations.

When considering the assignment of risk rankings to the previously listed Evaluation Factors, the examiner should refer to applicable sections of the Corporate Examiner's Guide, Part 704, and The

Guidelines for Submission of Requests for Expanded Authorities for guidance.

Examination Objectives

The EIC's assignment of CRIS composite ratings culminates an examination team's review of all significant financial, operational, and compliance evaluation factors in a corporate.

The examination objectives in assigning a Corporate Risk Information System Rating are:

1. To reflect the weaknesses and corrective actions noted in the examination report.

2. To communicate the EIC's overall assessment of the corporate's condition and viability to NCUA.

3. To disclose to management NCUA's overall assessment of the corporate's Financial Risk and Risk Management ability.

Supervision

Supervision provided to individual corporates will be based upon the corporate's asset size, expanded authority level, and the CRIS composite ratings. Generally, the CRIS composite ratings will determine the frequency of on-site supervision contacts made by the EIC at Type I, Type II, and Type III corporates.

The corporate's risk rating will determine on-site supervision efforts by OCCU. Supervision plans are developed by the EIC with the concurrence of the CFS. Chapter 102 provides guidelines for the supervision of corporates.

Examination Procedures

See Corporate Examination Procedures - Corporate Risk Rating System (CRIS) (OCCU 401P).

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Appendices

Appendix 401 A - CRIS Composite and Component Rating Definitions & Evaluation Factors

CRIS COMPOSITE AND COMPONENT RATING DEFINITIONS AND EVALUATION FACTORS

FINANCIAL RISK COMPOSITE RATING

The Financial Risk Composite Rating is based on a careful evaluation of a corporate's financial performance. The five key components used to assess an institution's financial strength are empirical capital measures, credit risk exposure, interest rate risk exposure, liquidity risk exposure, and level and composition of earnings.

The composite rating scale ranges from 1 to 5, with a rating of 1 indicating the strongest level of financial performance relative to the institution's complexity, risk profile, and approved expanded authorities (as applicable); and the level of least supervisory concern. A rating of 5 indicates a critically deficient level of financial performance and an excessive risk profile given approved expanded authorities (as applicable); and the greatest supervisory concern. The composite ratings are defined as follows:

1. Corporate credit unions in this group exhibit a strong financial condition in every respect and generally have financial risk component ratings of 1 or 2. Any financial weaknesses are minor and can be corrected or improved in a routine manner by the board of directors and management. These corporate credit unions are the most capable of withstanding economic instability and market interest rate fluctuation. These corporates are in compliance with all regulations pertaining to the accumulation of capital and management of interest rate, credit, and liquidity risks. As a result, these corporate credit unions exhibit the strongest financial performance and risk profile relative to the complexity of operations and approved expanded authorities (as applicable).

2. Corporate credit unions in this group are fundamentally sound. For a corporate to receive this rating, no component rating will be more severe than 3. Only moderate financial weaknesses are present and are well within the board of directors' and management's capabilities and willingness to correct. These corporate credit unions are stable and are capable of withstanding business fluctuations. These corporate credit unions are in substantial compliance with all regulations pertaining to the accumulation of capital and management of interest rate, credit, and liquidity risks. Risk exposures are acceptable relative to the complexity of the corporate's operations and expanded authorities granted (if applicable).

3. Corporate credit unions in this group exhibit a degree of supervisory concern in one or more of the component areas. These corporate's exhibit a combination of financial

weaknesses that may range from moderate to severe; however, the individual components are not rated more severely than 4. Corporate credit unions in this group generally are less capable of withstanding business fluctuations and are more vulnerable to outside influences than those corporates rated a composite 1 or 2. These corporates may be in significant noncompliance with regulations pertaining to the accumulation of capital and management of interest rate, credit, and liquidity risks. The overall risk profile of the corporate is less than satisfactory relative to the complexity of operations, and expanded authorities granted (if applicable).

4. Corporate credit unions in this group generally exhibit serious financial deficiencies that result in unacceptable performance. The problems range from severe to critically deficient. Corporate's in this group are generally not capable of withstanding business fluctuations. There may be significant noncompliance with regulations pertaining to the accumulation of capital and management of interest rate, credit, and liquidity risks. The corporate's overall risk profile is unacceptable relative to the complexity of operations and expanded authorities granted (if applicable). Institutions in this group pose a risk to the National Credit Union Share Insurance Fund (NCUSIF).

5. Corporate credit unions in this group exhibit critically deficient performance and risk profiles relative to the complexity of operations and expanded authorities granted (if applicable). The volume and severity of problems are beyond the board and management's ability or willingness to control or correct. Immediate NCUSIF financial or other assistance is needed in order for the corporate to be viable. Continual supervisory attention is necessary. Institutions in this group pose a significant risk to the NCUSIF and failure is highly probable.

RISK MANAGEMENT COMPOSITE RATING

The Risk Management Composite Rating is based on a careful evaluation of a corporate's risk management policies, practices, and expertise. The seven key components used to assess an institution's financial strength are: Capital Accumulation and Planning, Profit Planning and Control, Interest Rate Risk Management, Liquidity Risk Management, Credit Risk Management, Board Oversight Audit & Compliance, and Operations.

The rating scale ranges from 1 to 5. A rating of 1 indicates: the highest quality risk management, operational, and supervisory practices relative to the institution's complexity, risk profile, and approved expanded authorities; and the level of least supervisory concern. A rating of 5 indicates: a critically deficient quality of risk management, operational, and supervisory practices given approved expanded authorities; and the greatest supervisory concern. Composite ratings are defined as follows:

1. A rating of 1 indicates strong performance by management and the board of directors and strong risk management practices relative to the corporate's authorities granted under Part 704. All significant risks are consistently and effectively identified, measured, monitored, and controlled. Management and the board have demonstrated the ability to promptly and successfully address existing and potential problems and risks.

2. A rating of 2 indicates satisfactory management and board performance and risk management practices relative to the corporate's authorities granted under Part 704. All operational policies and practices are deemed fundamentally sound. Minor weaknesses may exist, but are not material to the safety and soundness of the corporate and are being addressed.

3. A rating of 3 indicates management and/or board performance that requires improvement, or risk management practices that are less than satisfactory given the corporate's expanded authorities under Part 704. The capabilities of management or the board of directors may be insufficient for this corporate. Financial and/or operational problems and significant risks may be inadequately identified, measured, monitored, or controlled.

4. A rating of 4 indicates deficient management and/or board performance or risk management practices that are inadequate considering the corporate's expanded authorities under Part 704. The levels of financial and/or operational problems and risk exposures are excessive. Financial and/or operational problems and significant risks are inadequately identified, measured, monitored, or controlled and require immediate board and management action to preserve the corporate's soundness.

5. A rating of 5 indicates critically deficient management and board performance or risk management practices. Management and/or the board of directors have not demonstrated the ability to correct financial and/or operational problems and implement appropriate risk management practices. Financial and/or operational problems and significant risks are inadequately identified, measured, monitored, or controlled and now threaten the continued viability of the corporate.

INDIVIDUAL FINANCIAL RISK AND RISK MANAGEMENT COMPONENT RATINGS

Empirical Capital Measure Component Ratings

A rating of 1 indicates a strong capital level. No negative trends are apparent and no reserve transfer is required.

A rating of 2 indicates a satisfactory capital level. Some negative trends may be apparent; however, the capital ratio and reserve ratio meet or exceed the minimum regulatory requirements. Generally, the corporate is at or near a no reserve transfer position.

A rating of 3 indicates a capital ratio that meets or exceeds the minimum regulatory requirements of Section 704.3(b) and Appendix B to Part 704, as applicable; however, the rating indicates that a monthly reserve transfer under Section 704.3(c) is required and will be required for a period of time.

A rating of 4 indicates a level of total capital and reserve ratio less than the minimum regulatory requirements of Sections 704.3(b) and (c) and Appendix B to Part 704, as applicable.

A rating of 5 indicates a critically deficient level of capital such that the corporate credit union's viability is threatened.

Capital Accumulation Planning Component Ratings

A rating of 1 indicates that the corporate has set forth reasonable plans for the continued maintenance or accumulation of capital in relation to other financial and operational risks incurred by the corporate, and has consistently achieved the objectives set forth in those plans.

A rating of 2 indicates that the corporate has set forth reasonable plans for the continued maintenance or accumulation of capital in relation to other financial and operational risks incurred by the corporate, and has normally achieved the goals set forth in those plans.

A rating of 3 indicates that capital accumulation plans set forth by management are weak in relation to the financial and operating risks incurred by the corporate, and goals and objectives set forth in those plans are frequently not achieved.

A rating of 4 indicates that capital accumulation plans either are non-existent, or seriously deficient in relation to the corporate's current capital level, financial and operational risks.

A rating of 5 indicates that corporate management is either unwilling or incapable of developing and implementing effective capital accumulation plans putting the future solvency of the institution in jeopardy.

Earnings and Profitability Component Ratings

A rating of 1 indicates strong earnings. Earnings are more than sufficient to support operations and to accumulate adequate reserves and undivided earnings after considering credit risk, liquidity risk, interest rate risk, growth, composition of income and expense, and other factors affecting the quality, quantity, and trend of earnings.

A rating of 2 indicates the level of earnings is satisfactory. Earnings are sufficient to support operations and maintain the accumulation of adequate reserves and undivided earnings after considering credit risk, liquidity risk, interest rate risk, growth, composition of income and expense, and other factors affecting the quality, quantity, and trend of earnings. Earnings that are relatively static, or even experiencing a slight decline, may receive a 2 rating provided the corporate credit union's level of earnings is adequate in relation to the capital and reserve ratios.

A rating of 3 indicates a level of earnings that needs to be improved. Earnings may not fully support operations and provide for growth in reserves and undivided earnings commensurate with asset growth after considering credit risk, liquidity risk, interest rate risk, composition of income and expense, and other factors affecting the quality, quantity, and trend of earnings.

A rating of 4 indicates a level of earnings that is deficient. Earnings are insufficient to support reserve transfers and operations and maintain appropriate reserves and undivided earnings. Corporate credit unions so rated may be characterized by erratic fluctuations in net income or net interest margin, the development of significant negative trends, nominal or unsustainable earnings, intermittent losses, or a substantive drop in earnings from previous reporting periods.

A rating of 5 indicates earnings that are critically deficient. A corporate credit union with earnings rated 5 is experiencing losses that represent a distinct threat to its viability through the erosion of capital.

Profit Planning and Control Component Ratings

A rating of 1 indicates that management has set forth a reasonable and accurate budgeting and cost accounting process that allows for the effective management of fee income and operating expenses in relation to net-interest margin, asset growth, and capital accumulation objectives. Budgeted goals and objectives are consistently obtained with no major variances or revisions to projections required.

A rating of 2 indicates that management has set forth a reasonable and accurate budgeting and cost accounting process that enables the effective management of fee income and operating expenses in relation to net-interest margin, asset growth, and capital accumulation objectives. Budgeted goals and objectives are normally obtained. Minor variances and revisions are sometimes incurred.

A rating of 3 indicates that management's budgeting and cost accounting processes are weak and normally ineffective in measuring, monitoring, and controlling corporate earnings.

A rating of 4 indicates that management's budgeting and cost accounting processes are unreasonable, inaccurate, and critically deficient in measuring, monitoring, and controlling corporate earnings.

A rating of 5 indicates that management is unwilling or unable to develop and implement effective budgetary and cost accounting systems.

Interest Rate Risk Exposure Component Ratings

A rating of 1 indicates that NEV is strong and well controlled and that there is minimal potential that financial performance will be adversely affected or regulatory requirements will be violated. The level of earnings and the NEV ratio provide substantial support for the degree of market risk taken by the corporate credit union.

A rating of 2 indicates that interest rate sensitivity is acceptable and adequately controlled. There is only moderate potential that financial performance will be adversely affected or regulatory requirements will be violated.

A rating of 3 indicates that control of interest rate exposure needs improvement or that there is significant potential that the NEV ratio will be in violation of the regulatory limits of Section 704.8(d) or (e), or the applicable part of Appendix B of Part 704. The level of earnings and the NEV ratio may not adequately support the degree of NEV exposure.

A rating of 4 indicates that the corporate credit union's interest rate sensitivity is in violation of the regulatory limits of Section 704.8(d) or (e), or the applicable part of Appendix B of Part 704. NEV or NEV ratio analysis indicates an immediate need to plan and take action to restructure the balance sheet to bring the corporate credit union into compliance.

A rating of 5 indicates a corporate credit union's interest rate sensitivity is in violation of the regulatory limits of Section 704.8(d) or (e), or the applicable part of Appendix B of Part 704. The level of risk is unacceptable and/or an imminent threat to the corporate's viability.

Interest Rate Risk Management Component Ratings

A rating of 1 indicates that interest rate risk management practices are strong for the expanded authorities approved (if applicable), sophistication, and level of interest rate exposure of the corporate credit union. No weaknesses are noted, and no supervisory concerns exist.

A rating of 2 indicates that interest rate risk management practices are satisfactory for the expanded authorities approved (if applicable), sophistication, and level of interest rate exposure of the corporate credit union. Some minor weaknesses may be noted with limited supervisory concern.

A rating of 3 indicates that interest rate risk management practices need to be improved given the expanded authorities approved (if applicable), sophistication, and level of interest rate exposure of the corporate credit union. Major weaknesses are noted, and a high degree of supervisory concern exists regarding the adequacy of interest rate risk management policies and practices.

A rating of 4 indicates that interest rate risk management practices are deficient under any expanded authorities approved (if applicable). Severe weaknesses are noted. Management lacks the expertise to set forth appropriate risk management strategies and practices, and major supervisory concerns exist regarding the adequacy of interest rate risk management polices and practices and regulatory intervention may be necessary.

A rating of 5 indicates that interest rate risk management practices are wholly inadequate for the authority, sophistication, and level of interest rate exposure of the corporate credit union. Critical deficiencies are noted. Management lacks the willingness and expertise to set forth appropriate risk management strategies and practices. Supervisory intervention is required.

Liquidity Risk Exposure Component Ratings

A rating of 1 indicates strong liquidity levels and reliable access to sufficient sources of funds on favorable terms to meet present and anticipated liquidity needs.

A rating of 2 indicates satisfactory liquidity levels and funds management practices. The corporate credit union has access to sufficient sources of funds on acceptable terms to meet present and anticipated liquidity needs.

A rating of 3 indicates a weak level of liquidity in relation to short- and long-term cash funding needs. Corporate credit unions rated 3 may lack ready access to funds on reasonable terms or may evidence significant weaknesses in funds management practices.

A rating of 4 indicates deficient liquidity levels, and the need for frequent borrowing to fund daily cash needs. Corporate credit unions rated 4 may not have, or be able to obtain, a sufficient volume of funds on reasonable terms to meet liquidity needs.

A rating of 5 indicates liquidity levels or funds management practices so critically deficient that the continued viability of the corporate credit union is threatened. Corporate credit unions rated 5 require immediate external financial assistance to meet maturing obligations or other liquidity needs.

Liquidity Risk Management Component Ratings

A rating of 1 indicates that liquidity management policies and practices are strong. Management has developed and maintained reasonable and accurate processes to measure, monitor, and control short- and long-term access to funds. Effective policies have been set forth that identify effective liquidity contingency plans. No supervisory concerns are noted.

A rating of 2 indicates that liquidity management policies and practices are adequate. Management has developed and maintained processes to measure, monitor, and control short- and long-term access to funds. Liquidity contingency plans have been developed.

Some minor weaknesses in these plans, policies, and practices may be noted. Some minor supervisory concerns may be noted.

A rating of 3 indicates that liquidity management policies and practices are weak. Management's policies and processes for measuring, monitoring, and controlling short- and long-term access to funds may be unreasonable or inaccurate. There is normally a lack of sufficient liquidity contingency plans in place. A high degree of supervisory concern exists.

A rating of 4 indicates that liquidity management policies and practices are deficient. Management may lack the appropriate expertise to develop and maintain reasonable and effective processes to measure, monitor, and control short- and long-term access to funds. Major supervisory concerns exist.

A rating of 5 indicates that liquidity management policies and practices are critically deficient. Management lacks the ability and willingness to set forth appropriate liquidity management strategies, and regulatory intervention is necessary.

Credit Risk Exposure Component Ratings

A rating of 1 indicates a low level of credit risk exposure with respect to the corporate capital and regulatory requirements. No supervisory concern is noted.

A rating of 2 indicates a satisfactory level of credit risk exposure with respect to capital and regulatory requirements. Some concentrations, watchlist assets, and other credit weaknesses may exist. However, only minor supervisory concern exists.

A rating of 3 indicates a high degree of credit risk exposure. There may be a significant level of concentrations, watchlists assets, and other credit weaknesses apparent. The severity of these risks requires an elevated level of supervisory concern.

A rating of 4 indicates the corporate's assets have a deficient level of credit quality. Significant credit concentrations, watchlist assets, and other credit risks are apparent that may subject to the corporate to potential losses and threaten its viability. Major supervisory concerns exist.

A rating of 5 indicates a severely high degree of credit risk. Losses have been incurred due to these weaknesses, and the viability of the corporate is threatened. Major supervisory concern and follow up is required.

Credit Risk Management Component Ratings

A rating of 1 indicates strong credit analysis practices. The expertise of management and staff and sophistication of policies and practices are commensurate with approved expanded authorities (if applicable). Credit risk is of minimal supervisory concern.

A rating of 2 indicates satisfactory credit administration policies and practices commensurate with approved expanded authorities (if applicable). Some minor weaknesses may be noted; however, management has demonstrated the ability and willingness to correct them in an expedient and effective manner. Only limited supervisory concern is required.

A rating of 3 indicates administration practices that are less than satisfactory, considering the corporate credit union's expanded authority (as applicable). There is generally a need to improve credit administration practices, and management has been slow to initiate improvement. Moderate supervisory concern is required.

A rating of 4 indicates a corporate credit union with deficient credit administration practices under base or any expanded authority level. There is a definite need to improve credit administration practices, and management may not possess the necessary expertise to do so. Major supervisory concern and follow up is required.

A rating of 5 indicates critically deficient credit administration practices. The corporate credit union may have significant exposures that threaten viability. Management is unwilling and unable to initiate improvement and regulatory intervention is required.

Board Oversight, Audit & Compliance Component Ratings

A rating of 1 indicates strong board, committee, and management oversight. Effective managerial polices and procedures are evident in all areas of operation. Effective succession and backup plans are in place. Appropriate position descriptions and responsibilities have been set, and management and staff continually receive relevant and effective education to enable them to effectively meet the responsibilities of those positions. The corporate has an active and effective audit and compliance program, commensurate with expanded authorities granted. No supervisory concerns exist.
A rating of 2 indicates satisfactory board, committee, and management oversight. Effective managerial polices and procedures are in place for material areas of operation. Some minor weaknesses may be noted. The officials have set forth succession and backup plans that are either completely adequate or exhibit only minor weaknesses. Position descriptions and responsibilities have been set forth, and management and staff

generally receive relevant and effective education to enable them to effectively meet the responsibilities of those positions. The corporate has a satisfactory audit and compliance program, commensurate with expanded authorities granted (if applicable). In some cases only minor audit and compliance related weaknesses will be noted. Management is responsive to audit and supervision efforts and addresses any deficiencies noted in a timely and effective manner. Only minor supervisory concern exists.

A rating of 3 indicates that one or more of these weaknesses are apparent. There is generally weak board, committee, and management oversight. Managerial polices and procedures are not in place for material areas of operation. Weaknesses are noted in policies that do exist. The officials have either not set forth succession and backup plans, or the plans are considered unreasonable and ineffective. Position descriptions and responsibilities have not been set forth, and management and staff generally do not receive relevant and effective education to enable them to effectively meet the responsibilities of those positions. The corporate's audit and compliance program may be unsatisfactory commensurate with expanded authorities granted (if applicable). Management may not be responsive to audit and supervision efforts. Major supervisory concern exists.

A rating of "4" indicates serious managerial weaknesses. The board, committees, and senior management have demonstrated an inability to set forth adequate infrastructure and organizational policy and practice. Critical supervisory concern exists.

A rating of "5" indicates critically deficient management oversight. The board, committees, and senior management are unwilling and unable to address organizational weaknesses. Regulatory intervention is required.

Operations Component Ratings

A rating of 1 reflects high quality operational policies, procedures and processes. Management's abilities, procedures, and practices are of minimal supervisory concern.

A rating of 2 reflects acceptable operational policies, procedures, and processes. Some minor weaknesses may be noted that management is willing and able to correct in an effective and efficient manner. Management's abilities, procedures, and practices warrant only a limited level of supervisory attention.

A rating of 3 reflects a moderate degree of weakness. Management's abilities, operational policies, procedures, and processes are less than satisfactory. The severity of these weaknesses and risks require an elevated level of supervisory review. There is a general need to improve management infrastructure and/or operational policies and practices.

A rating of 4 reflects serious deficiencies with respect to management's abilities, operational policies, procedures, and processes. The unsatisfactory nature of abilities, polices, procedures, and practices has put the assets of the corporate, members, and NCUSIF at a high level of risk of financial loss or interruption of service. There is a definite need to improve the quality of policies and practices. Extensive supervisory attention is warranted.

A rating of 5 reflects critical deficiencies with respect to management's abilities, operational policies, procedures, and practices of management. The unsatisfactory nature of management's policies and practices may have caused financial losses and threatened the viability of the institution. Management is unwilling and unable to take effective corrective action.

CORPORATE RISK IDENTIFICATION SYSTEM (CRIS)

Listing of CRIS Evaluation Factors by Component

Empirical Capital Component Ratings

Quantitative Empirical Capital Measures
RUDE Ratio
Reserve Ratio
Total Capital Ratio
Trends
    Ratio
    Dollars
Other:

Qualitative Factors (i.e. Capital Accumulation Planning)
Reasonableness of Capital Accumulation Plan in Relation to Current Capital Levels and Financial Risk Profile.

Earnings Component Ratings

Quantitative Earnings Measures
NI Level
Trends
Composition
    Gross Income
    Cost of Funds
    Fee Income
    Operating Expenses
Other:

Qualitative Profit Planning and Management Factors
Net Interest Income Simulations
Budgeting and Reporting
Earnings in Relation to Capital Plans
Effectiveness of Cost Accounting Systems and Product Profitability
Pricing Strategies and Policies
Other:

Interest Rate Risk Component Ratings

Quantitative Interest Rate Risk Exposure Measures
NEV Base Ratio
NEV Exposure Measure (worst case scenario relative to regulatory floor)
NEV Volatility Measure (change)
NII Exposure Measure (worst case scenario)
NII Volatility Measure (change)
Other:

Qualitative Interest Rate Risk Management Evaluation Factors
Robustness of Net Economic Value Simulation Models
Robustness of Net Interest Income Simulation Models
FAS 115 Classifications
Additional NEV and Stress Testing
Expertise of Management and Staff - Interest Rate Risk Management
Modeling Process / Internal Control
ALCO Documented Strategies
Compliance Program and Third Party Validation (if applicable)
Policies/Procedures
Other:

Liquidity Component Ratings

Quantitative Liquidity Risk Exposure Evaluation Factors
Concentration Risks
Reasonableness of Core Funds Determination
Liquidity Measures - cash budgeting
Other:

Qualitative Liquidity Risk Management Evaluation Factors
Policies / Procedures
    Objectives
    Contingency Plans
Alternative Funding Sources
    Development
    Maintaining Market Presence
    Testing
    CP
    Repo
FAS 115 Classifications
HRST's - Cash Flow Projections
Existence of Disintermediation Plan
Existence and Reasonableness of Early Withdrawal Penalties
Compliance / Monitoring
Other:

Credit Risk Component Ratings

Quantitative Credit Risk Exposure Evaluation Factors
Concentrations of Credit by Investment Type
Concentrations of Credit by Issuer
Concentrations of Lending, Commitments and Guarantees
Third Party Credit Ratings
Other:

Qualitative Credit Risk Management Evaluation Factors
Quality of Credit Risk Management Policies (Investments and Loans)
Quality of Credit Risk Management Procedures (written)
Quality of Loan Underwriting Practices
Quality of Credit Administration, Documentation, and Reporting (Investments)
Quality of Assets
Other:

Board Oversight, Audit & Compliance Component Rating

Overall strategic planning process;
Appropriateness and completeness of succession planning;
Ability to attract and retain sufficiently qualified and experienced personnel;
Quality of policy making activities in all areas of operations and at all levels of management;
Overall adequacy and effectiveness of the corporate's infrastructure;
Overall effectiveness of the board of directors;
Overall effectiveness of committees;
Overall effectiveness of senior management;
Independence and effectiveness of compliance functions;
Responsiveness to supervision;
Sufficiency of and response to the internal audit function;
Sufficiency of and response to the external audit;
Extent of cross training and backup;
Adequacy of continuing education and training for officials, senior management, and staff;
Effectiveness in addressing legal matters;
Effective use of consultants,
Effective use of vendors and outsourcing; and
Other evaluation factors as applicable.

Operations Component Rating

Overall completeness of documented procedures for all areas of operations;
Accuracy of financial reporting and accounting functions;
Adequacy of internal controls in all areas of operations;
Adequacy of management of MIS systems risk including the LAN, wires, ACH, and item processing;
Other evaluation factors as applicable.